

REPORT OF THE  
CURRICULUM DEVELOPMENT CENTRE  
IN  
ECONOMICS

UNIVERSITY GRANTS COMMISSION  
NEW DELHI  
1989

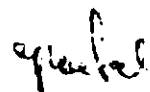
*Yash Pal*  
CHAIRMAN

विश्वविद्यालय अनुदान आयोग  
बहादुरशाह जफर मार्ग  
नई दिल्ली-११० ००२  
UNIVERSITY GRANTS COMMISSION  
BAHADURSHAH ZAFAR MARG  
NEW DELHI - 110 002

## FOREWORD

The Curriculum Development Centres Programme was taken up by the University Grants Commission in order to promote excellence in teaching at under-graduate and post-graduate level. All the Universities through their Academic bodies have been continuously doing this exercise. This one is an exercise at the national level through many experts drawn from all over India. This document prepared by distinguished academics was discussed again by a larger group in an intensive seminar, the proceedings of which are also appended at the end of this document. The document contains the course contents for each unit, lecture schedule, broad outlines of tutorials, problem solving exercises, practical and project work etc.

It is hoped that Colleges and Universities would be benefitted by this report and would discuss the same in their academic bodies for its adoption wherever appropriate. The Curriculum can never be static and must always change as the frontiers of knowledge expand with time. Update and restructuring must continue to enhance the quality and standards of education. Because of this activity, it is our hope, that all the institutions of higher education would be benefitted and helped to achieve a more exciting pattern of education. Some degree of uniformity of levels would also encourage mobility among students.



(Yash Pal)

REPORT  
ON  
**CURRICULUM DEVELOPMENT IN ECONOMICS**  
(UNIVERSITY GRANTS COMMISSION)

CURRICULUM DEVELOPMENT CENTRE (ECONOMICS)  
DEPARTMENT OF ECONOMICS  
UNIVERSITY OF BOMBAY  
BOMBAY

JANUARY 1989

COORDINATOR: PROFESSOR R. BHARADWAJ

UGC(P)  $\frac{73/1988}{1000}$

ISBN 81-85025-33-9

September **1989**

---

Printed and Published by Prof. S.K. Khanna, Secretary, University Grants Commission. Editor: V. Appa Rao; Assistant Editor: Prem Varma; Production Assistance: R.K. Saigal and Naresh Varma. Printed at Jeewan Offset Press 1781, Hauz Sui Walan, New Delhi:-110002 Tel:268265

## CONTENTS

PREFACE	(v)
INTRODUCTION: THE PHILOSOPHY, RATIONALE AND THE WHY AND HOW OF THE CURRICULUM	1
LIST OF MEMBERS/EXPERTS (UNDERGRADUATE AND POSTGRADUATE LEVELS)	16
RECOMMENDATIONS	21
ANNEXURE-I: EXISTING UNDERGRADUATE AND POSTGRADUATE CURRICULUM - A REVIEW	27
ANNEXURE-II: WHAT IS 'NEW' ABOUT THE PROPOSED CURRICULUM	59
ANNEXURE-III: A) BRIEF INFORMATION ABOUT MODEL CURRICULUM	64
B) TEXT OF THE MODEL CURRICULUM	66
ANNEXURE-IV: BLOW-UP OF THE COURSE-CONTENTS OF EACH PAPER UNIT (CORE AND OPTIONALS)	79
ANNEXURE-V: OPERATIONALISING THE CURRICULUM	283
ANNEXURE-VI: THE DRAMATIS PERSONNAE	311
<hr/>	
APPENDIX A: GUIDELINES FOR CURRICULUM DEVELOPMENT CENTRES (UGC)	318
APPENDIX B: REPORT ON THE DISCUSSION-MEETING HELD IN BANGALORE ON NOVEMBER 8, 1986	323
APPENDIX C: REPORT OF THE ULP-WORKSHOP ON CURRICULUM DEVELOPMENT IN ECONOMICS HELD IN BOMBAY ON JANUARY 15, 1987	329

## PREFACE

The Department of Economics, University of Bombay, was invited by the University Grants Commission to participate in the Curriculum Development Centre (CDC) Programme in Economics sometime in November 1985. The CDC was expected to make a critical review of the existing curriculum and courses of study in Economics, at both the undergraduate and postgraduate levels, and suggest measures for restructuring/modernising it. The idea was that the teaching-learning process in Economics at the national level should get reoriented in such a way that it becomes socially relevant from the viewpoint of human resources development. It was the desire of the Commission that this task be undertaken expeditiously and on a priority basis.

The members of the two Committees (undergraduate and postgraduate levels) set up by the CDC applied themselves earnestly to this formidable and challenging task and have devised a Curriculum in Economics as per the suggestions and guidelines given by the Commission. It is the hope of the members that their recommendations would help in making the teaching-learning process in Economics socially more relevant and fully compatible with the needs and aspirations of its beneficiaries.

Economics is one of the most popular Social Science subjects in Indian universities/colleges. It is no doubt an evolving subject, and as the perspectives tend to change in view of the rapidly emerging socio-economic environment, fresh issues arise continually at the national and global levels that require newer methods of analysis. In the light of the expanding frontiers of knowledge, we should constantly be making endeavours to review the course-curriculum so that teachers and students imbibe this impact. The teaching-learning process in Economics will not remain healthy if it becomes static, or if it gets into a set routine, unrelated to the sweeping changes all around as a consequence of the emerging dynamics of the Indian situation. Efforts should, therefore be made to go forward, and not slide back. At the same time, care has to be taken to see that there exists a proper sequencing and cohesion of courses at the undergraduate and postgraduate levels.

It is in the above spirit that the CDC (Economics) has performed the task assigned to it. It is hoped that its recommendations will find acceptance among the academic community.

In spite of our best efforts to keep up to the time schedule, there has been some delay in submitting the final Report to the Commission due to some unforeseen circumstances. Also, in the light of the new format sent to us later by the Commission, the members of the Undergraduate and Postgraduate Committees felt that two more sittings would be needed before finalising the Report. This, too, contributed to the delay in the submission of Report.

The CDC brought together a group of distinguished senior teachers and experts from different branches in Economics, hailing from different parts of the country, to form the nucleus of the two Committees (undergraduate and postgraduate levels) set up for the purpose. The group held a number of meetings and the members were kind enough to make themselves available - four to five days at a time - in spite of their busy schedules. It is a pleasure to record my gratitude to each one of them. In view of their great academic insights backed by their practical experiences, some very innovative approaches to the task were formulated. They had also held discussions with their respective economics faculties which enabled us to obtain a wider coverage and an even more enriching feedback.

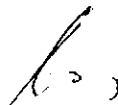
The programme drawn up could be completed satisfactorily due to the valuable assistance rendered, at every stage, by a team of teachers/researchers consisting of Drs. M.J.M. Rao, A.V. Karnik, A.M. Pethe, (Mrs.) P.V. Borwankar and Shri C.S. Deshpande. Naturally, a great deal of credit for this work goes to them. On behalf of the members of the two Committees as well as myself, I would like to express our deep sense of gratitude to them. The CDC also had the good fortune of receiving help and guidance all along from Professors P.R. Ebrahimanda, J.C. Sandesara, D.M. Nachane and other senior teachers in Economics in the Department and affiliated colleges of the University of Bombay.

I am thankful to the authorities of the University of Bombay, particularly Dr. (Miss) M.D. Bengalee, the

Vice-Chancellor as well as the staff of the Indian Statistical Institute (Bangalore Centre), particularly Professor N.S. Iyengar, Director, Economic Analysis Unit, who wholeheartedly extended all facilities to us. I also wish to express the Committees' as well as my sincere thanks to the members of the administrative staff of the Department of Economics, University of Bombay, particularly Shri K. Kuttykrishnan, Shri R.N. Desai, Shri G.M. Dwivedi, Shri M.G.K. Nair and Shri E.M. Kadam who helped us in every possible way. To Shri N.V. Ramaswamy, who typed the final manuscript neatly and with painstaking thoroughness, we owe a special note of thanks. We also wish to acknowledge with thanks the help received from Shri V.G. Kalyankar.

The Committees want to place on record its sense of appreciation of the help it has received all along from Dr. K.K. Balachandran, Secretary-Technical Coordinator (JLP), Department of Economics, University of Bombay. He was in fact the focal point of the entire activity of the CDC since he combined within himself academic, technical and administrative expertise.

Professor Richard Feynman's classic aphorism, "The frontiers of ignorance are expanding" reminds us that we have to be constantly vigilant. Any omissions, breaches and oversights that may become inevitably apparent in this Report with the passage of time, will have to be attributed to this "expanding frontier". Precisely for this, the Committees have recommended that Curriculum Development should be a continuous process requiring a permanent machinery for the task.

  
R. DHARADWAJ  
Coordinator, CDC (Economics)

Department of Economics  
University of Bombay



**INTRODUCTION:**  
**THE PHILOSOPHY, RATIONALE AND**  
**THE WHY AND HOW OF THE CURRICULUM**

## INTRODUCTION

### THE PHILOSOPHY, RATIONALE AND THE WHY AND HOW OF THE CURRICULUM

#### I

#### Historical Background

1.01 Higher education has received considerable attention since Independence in India as an important ingredient of developing human resources. The country has witnessed, over the past four decades, a phenomenal expansion of students and institutions. It now operates a higher educational system much larger than many developed and developing countries - around 150 universities and about 5500 colleges with an enrolment of nearly 3.5 million. In 1947, we had only 19 universities and 650 colleges having a student intake of about 2.5 lakhs. Now 2.5 lakhs teachers are serving in universities and colleges! Enrolment in higher education made rapid strides particularly since the beginning of the 'sixties. This was also the time when economic thought focussed on the importance of investment in education. A conviction that a country which goes farthest in having an abundant supply of skills would automatically raise itself economically (and keep itself up in the economic race) started gaining ground. The Report of the Indian Education Commission (1964-66) sums up the hopes and aspirations of most writers on education and development in the early sixties: "The destiny of India is now being shaped in her classrooms. This, we believe, is no rhetoric... it is education that determines the level of prosperity, welfare and security of the people." Alfred Marshall's observation that education is a 'national investment' appears to have lost none of its vigour. The broadening of the concept of capital has opened up the possibility of using investment in education, particularly higher education, as a parameter of growth. The goal of nationwide benefits of an educated populace seemed to justify public expenditure, on an increasing scale, for the expansion of higher education.

In the absence of a perspective such as the one given above, the expectations generated by the academic system generally get wide off the mark, thereby leading to confusion. The market, to be sure, expects from the graduate a certain return. He is asked to perform in accordance with his specialisation. The new entrant into the employment arena finds himself in an awkward position; neither can he accept defeat nor does his education help him immediately. Truly, a misfit born of misunderstanding. Through experience one gets over this trauma of mismatch of learning and doing. But an expanding industry and a nation committed to speedy economic growth cannot, naturally, wait for the attainment of intellectual maturity. The result: a damagingly disquieting disequilibrium at the market level. This could be due to a variety of reasons. Perhaps the demand for the type of skills acquired by some is yet to operate effectively in the market. May be, the market looks at the situation differently from the way the new graduate has been thinking along. What can one expect from this except frustration for both the employer and the employed?

## II

### The Teaching-Learning Process

1.04 Educational reform, as many educationists have underscored, should tackle not only the techniques to assess a student's understanding and grasp of what has been taught in the classroom, but what he learns in the process of getting educated, or the substantive content i.e. stuff of education. No meaningful reform in the education system is possible without an elaborate critique of the content of our educational process. The present system does not provide a clear idea to teachers as well as students about the aims and objectives of higher education. Though the need for socially relevant courses is repeatedly stressed, not much progress has been achieved in this direction. Arrangement for a permanent interactive mechanism to obtain continual feedback from society for updating the courses from time to time is also lacking.

The existing course-curriculum generally does not adequately acquaint the students with Indian reality and Indian ethos, nor does it equip them with the theoretical tools to analyse and solve Indian problems. Higher education is no doubt an investment in human resources, but if it is not oriented to national needs, or the course-contents have little relevance to Indian conditions, it may turn out to be an unproductive form of 'national consumption' rather than a kind of 'national investment'. A thorough understanding of the Indian economy and society, in its totality, is essential for transforming it properly and speedily. And the curriculum is the tool with which this objective can be achieved. Under the existing instructional methods, the students become passive learners; their own initiative, imagination and innovativeness seldom make any contribution. It is a one-way experience. If what is presented does not interest the students, or if its relevance is doubtful, the student will naturally switch off his mind, and thus learning gets thwarted. If the course-contents do not interest the students, it is likely that they may also develop a dislike towards the whole system and feel like escaping from the whole thing. The fault may not be on the part of only the teachers in the system, but on what is taught.\*

---

\* What Charles Carter has observed in this context is interesting. He states: "Those who say that the curriculum does not matter mean, I think, that the essence of higher education is in the quality of the relationship of master to scholar. Given good teachers, 'alive with living thoughts' (in Whitehead's words), good consequences will follow. Such an argument comes dangerously close to an assertion that only method matters, and not content. The content of what is taught is surely the principal expression of the excellence of the teachers. If the curriculum is ill-adapted to educational needs of students, it is time for the teachers to be challenged to look at the quality of their work." (Charles Carter, Higher Education for the Future, Basic Blackwell, Oxford, 1930, p.61).

Besides, extreme changes, whether purposively designed or unanticipated, are expected to dominate the international scene in the ensuing decades. The acquisition of a growing degree of dynamism by our higher educational system constitutes one of the most important challenges of the emerging era. The system is expected to be vested, increasingly, with responsibilities to create conditions for smoothly ushering in the unfolding pattern while adapting itself simultaneously to such changes. What then are the consequences of such crisscrossing interactive processes on the content, structure and function of the higher educational complex? This question acquires a sense of immediacy.

1.05 It is indeed gratifying to note that the Government of India's recent National Policy Document on Education (May 1986) considers higher education as a crucial factor for the survival of the nation and therefore would like it to be dynamic as never before, constantly entering uncharted areas, particularly in the context of the unprecedented explosion of knowledge. It has also stated that urgent steps will have to be taken to protect the system from degradation; it should provide students with an opportunity to reflect on the cultural, social, economic and moral issues facing humanity; it should contribute to national development through dissemination of specialised knowledge and skills; and being at the apex of the educational pyramid, it should play a key role in producing teachers for the education system. All efforts should be made to ensure that those at the top of the pyramid are among the best in the world. Any nation which aspires to become industrially competitive on an international standard over the coming two or three decades must surely have a depth of talent, or reservoir of latest abilities that can be relied upon and to which the nation can turn for counsel especially in moments of stress and strain. The teaching-learning process will, therefore, have to be designed in such a way that this aspect is taken into account. It certainly is an arduous task, but is operationally feasible.

## Rethinking on Curriculum in Economics

1.06 Economics has emerged as one of the most popular and important subjects of study in the social sciences in recent years. Most universities in the country have separate department/s for teaching/research in Economics, having more than one specialisation. Over the recent past, the subject of Economics has undergone significant changes on account of the vast explosion of knowledge. Development of new techniques of analysis, the refinement of concepts and the construction of suitable analytical frameworks are presently under way. It is a growing subject and the perspectives and ideologies tend to change rapidly not only in view of the new problems that arise in the economy and the new methods of analysis that are being discovered but also because of the resurgence of old ideas. This means that we should constantly be making endeavours to reassess the extent to which the syllabus needs modifications and improvements, not only in the light of experience but also in the light of latest developments in thought, technique and analysis and the rapidly changing socio-economic environment in the country. While making the necessary improvements, we have to keep in view the cohesion of the whole subject. The students should be in a position to deploy the knowledge in such a manner so as to enable them to view the subject as a whole. At the same time, care has to be taken to see that there exists a proper sequencing of courses at the undergraduate and postgraduate levels. Those students who intend joining the undergraduate and postgraduate courses in Economics should be adequately equipped to meet the new requirements.

It may be mentioned that in February 1974, the UGC had constituted Panels in various university disciplines in the Humanities and Social Sciences to advise the Commission on matters relating to the development of teaching and research in their respective areas, and Economics was one of them. The Panel on Economics had conducted regional Workshops at different university centres in the country. As a result of the deliberation of these Workshops, some concrete recommendations and guidelines were made available

indicating measures for relating Economics with social reality vis-a-vis the world in general and the country in particular. The Panel also provided some guidelines for the preparation of relevant textbooks and translation in Indian languages, teaching methods, training of teachers, methods of evaluation, etc. A strong view had also been expressed that in the revision of courses, adequate attention should be paid to make the students aware of all the different strands of thought relevant in the Indian system and wherever feasible, Indian contributions in the area should be specifically introduced.

1.07 Sometime in November 1985, the University Grants Commission (UGC) felt the need for establishing Curriculum Development Centres in different subjects for the preparation of a model curriculum in each subject. Though the universities were individually concerned with the revision and modernisation of curriculum and courses of study, it was found necessary that some work in this regard should also be done at the national level. The University of Bombay was invited by the Commission to participate in the Curriculum Development Centre programme in Economics, and the UGC guidelines for the same were provided (See Appendix A). The necessary fund for implementing the programme was sanctioned thereafter. Professor R. Bharadwaj, at present Director of the Department of Economics, University of Bombay, agreed to associate himself as the Coordinator of the above project. In July 1986, the UGC had arranged a central meet of all the Coordinators of different subjects. This enabled the Coordinators to interact with each other on the various facets of this activity. Another factor that assumed importance, in the meanwhile, was the adoption of the New National Educational Policy by the Government of India (May 1986) and the Programme of Action thereon (August 1986).

As per the UGC guidelines, the new curriculum was to be framed by a group of experts/members drawn from University Department/College faculty from different regions of the country. The CDC could also associate potential employers (like industries, commercial organisations, public bodies and various Government Departments) with first-hand knowledge of manpower needs in this regard.

In the two Committees (undergraduate and postgraduate) that were set up for the purpose, the CDC could bring together a group of distinguished senior teachers/experts from different branches of Economics, hailing from different parts of the country. Some eminent experts connected with commercial and trade organizations, banks, industrial and labour institutions, chambers of commerce, state economic development councils, etc. were also associated with the CDC and they took active part in the discussions. The Committees, after several meetings, did succeed in providing considerable academic insight, practical experience and some innovative approaches to the task assigned by the UGC. The Committees had four sittings (of three days each) in all, i.e. April 16-18, May 13-15, July 28-30 and October 23-25, 1987. The first three sittings were held in Bombay in the Department of Economics, University of Bombay, and the last in Bangalore at the Indian Statistical Institute (Bangalore Centre).

1.08 The terms of reference of the Committee, as set out by the UGC were as follows (vide UGC letter No.F.1-1/85(CDC) dated 21-11-1985):

- (i) The Committee will examine the existing curriculum in the respective subjects of different universities in the country in terms of quality as well as the workload.
- (ii) The Committee will examine how the new curriculum would promote human resource development and identify the areas which are crucial to make education meaningful in the task of national development.
- (iii) The Committee will devise a model curriculum which will be relevant to the requirements of the country.
- (iv) The Committee will suggest textual material which would be required to follow the new curriculum.
- (v) The Committee will suggest ways and means for preparing text books, teaching aids, library as well as laboratory requirements in implementing the proposed curriculum.



- (vi) It should also indicate how the teachers are to be trained in order to impart education according to the revised curriculum.

1.09 Broadly the U.G.C. had identified the following as the major tasks of the CDC in Economics:

- (i) To undertake a critical review of the existing curriculum and courses of study in Economics, and suggest measures for modernizing and restructuring the same so that teaching gets reoriented, both at the undergraduate and postgraduate levels, in such a way that it becomes socially relevant from the viewpoint of human resources development; and
- (ii) to operationalise the proposed curriculum - this is sought to be achieved by preparing the Syllabi, the textual and related reading materials and teaching aids, and training of the teachers to teach economics according to the revised curriculum.

### Curriculum

A curriculum consists of two components: (a) the course-content and (b) the approach (way or method) adopted to impart knowledge of the contents to the pupils.

#### (a) Component one: The Contents:

The first task of the Centre was, therefore, to demarcate the universe of discourse, that is, to identify the course-content in terms of concepts, doctrines and issues.

After the course-contents were broadly identified, selected portions of the overall course-content were organised in a systematic, step by step, pedagogically useful, series of smaller courses. This culminated in the formation of specific syllabi.

Once the syllabi were devised, they were further subdivided in terms of units, to be eventually selected by individual teachers or institutions depending on the need of the pupils, learning background, etc.

While devising the curriculum for the University level, i.e. for the undergraduate and postgraduate training, we began with a background where the pupils will have undergone schooling for 12 years. The target group thus consists of students who have to be prepared for professional work or for general socio-economic administration, so that the training becomes contextually relevant and the students by developing their own abilities become useful from a societal angle.

(b) Component two: The Approach:

At the University level, the training has been viewed, keeping the above objective in view, as a process involving the following basic steps:

- (i) the students should obtain an intellectual ability to perceive abstract ideas;
- (ii) as the task is one of intellectual perception, it implies an ability to reason in generalised terms and at an abstract level and obtain conceptually consistent results;
- (iii) an ability to confront such results with empirical reality; and finally
- (iv) to obtain from such exercises socially useful empirical conclusions.

It was assumed that students, in their schools, have already obtained some initiation in abstract reasoning. When students move over from arithmetic to algebra they will have already been introduced to the ideas of generalised arithmetic and also to obtain generalised results. This faculty needs to be further sharpened, deepened and widened at the undergraduate level keeping in view the requirements of the discipline. At the post-graduate level, the same process continues, deepening further the professional competence of the students.

In this context, attention was drawn to the recent discussion on the general crisis in education in India. It was observed that the methodological foundations underlying the content in education needed to be probed in depth, so as to make the process both creative and contributive to the well being of the community. Particular emphasis also needed to be given, while discussing this aspect, to the various epistemological issues that would arise while attempting to specify the various apparatus of thought employed and the concepts used in teaching as well as while applying these constructs to the actual empirical situations.

These were some of the general considerations that had been kept in view while deliberating on the first component of the task as indicated by the UGC. After obtaining the broad contours of the course-content and working out the details about the appropriate approaches to teaching, the way was clear to consider the second component of the task as approved by the UGC viz. operationalising the Curriculum through preparation of syllabi, teaching aids, textual material, teacher-training etc. The various elements involved and the modus operandi for this task were discussed threadbare at the meetings of the Committees (undergraduate and postgraduate).

Later, the following key issues were formulated to facilitate a well focussed discussion:

- A. Defining Social Relevance and Human Resource Development and formulating the aims and objectives sharply for devising curriculum.
- B. What to teach? Whom to teach? How to teach? and how to evaluate?
- C. Peculiar nature and needs of the science of Economics:
  - i) Social and historical context of theories
  - ii) Social values and norms
  - iii) Need to develop theories having relevance to planning, growth and welfare

iv) Methodological issues -

1.(a) Development of models which are relevant to existing socio-economic systems,

(b) Epistemological issues,

(c) Role of speculative thinking.

2.(a) What to teach? - Framing of Syllabus

(b) Types of students - studying for (i) general education (ii) career (iii) to become academicians

(c) Can it be job-oriented? If so, is it necessary and possible to have links with government and industries?

3. Should it reflect changing economic structure, environmental and ecological features?

4. Should it lead to quality improvements to create interest in the process of learning and better understanding of the economic system? The current system, it is felt, is geared to catering to "a mass learning clientele" and not to the development of the potential in each individual. If so, what are the alternatives?

Structure of existing syllabi: This relates to issues like

i) The Micro-Macro division. How far is it relevant?

ii) What should be the extent of emphasis on tools and quantification?

iii) What should be the emphasis in the syllabi of papers in 'Economic History' and 'History of Economic Thought?'

iv) What should be the approach to the study of the paper on 'Indian Economy?'

- (v) What additional course should be included in the new curriculum to meet the emerging requirements?
- (vi) Should project work/research be an integral part of undergraduate and postgraduate education? If so, how is it to be integrated in the new curriculum?
- (vii) Special tasks in the process of implementation of the new curriculum - suggestions for (i) Teaching methods and text-books, (ii) how to operationalise learning as a process, (iii) training of teachers, and (iv) evaluation system.

1.10 The work of the CDC in Economics began with the preparation of some Background Papers on the present state of Economics education in the country. This work was entrusted to experienced undergraduate/postgraduate teachers who were easily accessible to the Coordinator.

1.11 The CDC also had the benefit of intensive consultation and exchange of ideas with a large number of academicians/experts/employers, as it was difficult to call more than, say 24 members for meetings in Bombay. Such an exchange helped in providing the Centre with variegated viewpoints and experiences in the teaching-learning process. These were pooled and presented before the postgraduate and undergraduate committees along with the Background Papers.

1.12 A discussion was also held in Bangalore on 8th November 1986 at the Indian Statistical Institute (Bangalore Centre). Thirty teachers/academicians/research workers from Bangalore, Mysore, Mangalore and Karnatak universities/colleges, some future employers and economic journalists participated in this discussion. From the 5-hour discussions emerged many shades of viewpoints and suggestions for modernising and restructuring the curriculum and courses of study in Economics at both undergraduate and postgraduate levels. Among the several suggestions made by the participants, the one relating to the Indian Economics in an analytical framework received great emphasis. The discussion underlined also the need for developing teaching/reading materials in regional languages. (Appendix B)

1.13 A Workshop on Curriculum Development in Economics was conducted by the Department of Economics, University of Bombay, under its University Leadership Programme, on January 15, 1987, at Vidyanagari, Bombay. Forty teachers from affiliated colleges of the University of Bombay participated in the deliberation. The discussions at the Workshop centered around two areas: (a) Teaching of 'Indian economy' to students of Economics; and (b) the nature and sequencing of papers to be taught at the undergraduate level. The Workshop threw up many useful suggestions. (Appendix C)

1.14 The Committees (Undergraduate and Postgraduate) have made a sincere attempt to prepare the Curriculum in such a manner that it fits into a specific structural outline consistent, as far as possible, with the guidelines provided by the University Grants Commission as well as the general philosophy of education as enunciated by the Government of India. Courses have been given in a modular form so that the universities can decide their own programmes based on the modules suggested (Annexure IV). For each course a Preamble has been given which should facilitate effective teaching/learning and testing/evaluation. The strategies and tools for operationalising the entire programme have been recommended in Annexures V and VI.

The Report includes six Annexures: (a) A Review of the existing Undergraduate and Postgraduate Curriculum, (b) A brief Note on what is 'new' about the proposed Curriculum, (c) Scheme of Academic Programme along with the text of the new Curriculum, (d) Blow-up of the course-contents (Core and Optional Courses), references, lecture-schedules, etc., (e) Operationalizing the New Curriculum - The conceptual frame, the environment, the dramatis personae, teaching methods, evaluation, ways and means of preparing books, use of regional languages in the learning of economics, and (f) teacher-training programmes. While preparing the new Curriculum, the CDC (Economics) has tried its best to see that it reflects the changing economic reality. It has attempted to strike a healthy balance between theoretical elegance and empirical reality on the teaching-learning process in Economics with an eye on social relevance.

**LIST OF MEMBERS/EXPERTS**  
**(UNDERGRADUATE AND POSTGRADUATE LEVELS)**

CURRICULUM DEVELOPMENT COMMITTEE (ECONOMICS)

Coordinator:

Dr. R. Bharadwaj  
Director  
Department of Economics  
University of Bombay  
'Vidyanagari', C.S.T. Road  
Bombay 400 098.

Members (Postgraduate):

Dr. Alak Ghosh  
University Professor of  
Economics  
Department of Economics  
Calcutta University  
56-A Barrackpore Trunk Road  
Calcutta 700 050.

Dr. Kanta Ahuja  
Professor & Head  
Department of Economics  
University of Rajasthan  
Jaipur 302 004.

Dr. Vikas Chitre  
Director  
Gokhale Institute of  
Politics and Economics  
Pune 411 004.

Dr. Autar S. Dhesi  
Professor & Head  
Punjab School of Economics  
Guru Nanak Dev University  
Amritsar.

Members (Undergraduate):

Dr. Alak Ghosh  
University Professor of  
Economics  
Department of Economics  
Calcutta University  
56-A Barrackpore Trunk Road  
Calcutta 700 050.

Dr. Kanta Ahuja  
Professor & Head  
Department of Economics  
University of Rajasthan  
Jaipur 302 004.

Dr. D.S. Awasthi  
Department of Economics  
Christ Church College  
Kanpur 208 001

Dr. Autar S. Dhesi  
Professor & Head  
Punjab School of Economics  
Guru Nanak Dev University  
Amritsar.



Members (Postgraduate):

Dr. N.S. Iyengar  
Professor & Head  
Economic Analysis Unit  
Indian Statistical Institute  
(Bangalore Centre)  
8th Mile, Mysore Road  
Bangalore 560 059.

Dr. G.S. Kalyankar  
Head,  
Department of Economics  
Marathwada University  
Aurangabad 431 004.

Dr. K.L. Krishna  
Professor of Economics  
Delhi School of Economics  
University of Delhi  
Delhi 110 007.

Dr. T. Krishna Kumar  
Professor of Economics  
Department of Economics  
University of Hyderabad  
Golden Threshold  
Nampally Station Road  
Hyderabad 500 001

Dr. M. Madaiah  
Professor & Head  
Department of Post-graduate  
Studies & Research in  
Economics  
University of Mysore  
Mysore 570 006.

Members (Undergraduate):

Dr. Ruddar Datt  
Principal, School of Corres-  
pondence Courses & Continuing  
Education  
University of Delhi  
5, Cavalry Lines  
Delhi 110 007.

Dr. G.S. Kalyankar  
Head,  
Department of Economics  
Marathwada University  
Aurangabad 431 004.

Dr. B.V. Mehta  
Head, Department of Economics  
South Gujarat University  
University Campus  
Udhna-Magdalla, Surat 395 007

Dr. M. Madaiah  
Professor & Head  
Department of Post-graduate  
Studies & Research in  
Economics,  
University of Mysore  
Manasagangotri  
Mysore 570 006.

Dr. A.S. Nadkarni  
Director  
Indian School of Political  
Economy  
'Arthbodh'  
968/21-22, Senapati Bapat Rd.  
Pune 411 016.

Members (Postgraduate):

Dr. B.V. Mehta  
Head,  
Department of Economics  
South Gujarat University  
University Campus  
Udhna-Magdalla,  
Surat 395 007.

Dr. U. Sankar  
Professor of Econometrics &  
Coordinator,  
Madras University  
School of Economics  
Chepauk, Triplicane P.O.,  
Madras 600 005.

Dr. (Mrs.) K. Shabbir Khan  
Professor of Economics  
Department of Economics  
Aligarh Muslim University  
Aligarh

Members (Undergraduate)

Dr. R. Sankara Ramalingam  
Professor & Head  
Department of Economics  
Madurai-Kamaraj University  
Palkalai Nagar  
Madurai 625 021.

Dr. Mahender Reddy  
Professor & Head  
Department of Economics  
Osmania University  
Hyderabad 500 007.

Dr. S. Uma Devi  
Reader,  
Department of Economics  
University of Kerala  
Kariavattam  
Trivandrum 695 581.

---

Hon. Director (CDC)

Dr. K.K. Balachandran  
Secretary-Technical Coordinator  
Department of Economics  
University of Bombay  
'Vidyanagari' Kalina  
Bombay 400 098.

---

Special Invitees/Experts/Resource Persons

Dr. P.R. Brahmananda )  
ICSSR National Fellow )  
 )  
Dr. J.C. Sandesara )  
 )  
Dr. D.M. Nachare )  
 )  
Dr. M.J.M. Rao ) Department of Economics  
 ) University of Bombay  
Dr. A.V. Karnik )  
 )  
Dr. A.M. Pethe )  
 )  
Mr. C.S. Deshpande )  
 )  
Dr. Geeta Bharadwaj )

Dr. (Mrs.) P.V. Borwankar  
Ramnarain Ruia College  
Bombay 400 019.

Principal S.D. Gokhale  
Chairman, Board of Studies in Economics  
University of Bombay

---

Mr. Ramu Pandit  
Secretary-General  
Indian Merchants' Chamber  
IMC Marg, Churchgate  
Bombay 400 020.

Dr. S. Ramani  
Director,  
National Institute for Training in Industrial Engineering  
Vihar Lake, NITIE P.O.  
Bombay 400 087.

Dr. S.T. Sawant  
Director  
Ambekar Institute for Labour Studies  
Bombay 400 012.

Dr. S.B. Sakhalkar  
Executive Director  
Maharashtra Economic Development Council  
106 Nagindas Master Road  
Fort,  
Bombay 400 023.

Dr. A.C. Shah  
Executive Director,  
Bank of Baroda  
3, Walchand Hirachand Marg  
Ballard Pier  
Bombay 400 038.

---

Mr. V.G. Kalyankar (Research Scholar)  
Department of Economics  
University of Bombay.

**RECOMMENDATIONS**

## CURRICULUM DEVELOPMENT CENTRE (ECONOMICS)

### Recommendations

The University Grants Commission, in their guidelines, had specified the following terms of reference for the Curriculum Development Centre in Economics: (1) The Committee will examine the existing curriculum in the respective subjects of different universities in the country in terms of quality as well as the workload. (2) The Committee will examine how the new curriculum would promote human resource development and identify the areas which are crucial to make education meaningful in the task of national development. (3) The Committee will devise a model curriculum which will be relevant to the requirements of the country. (4) The Committee will suggest textual material which would be required to follow the new curriculum. (5) The Committee will suggest ways and means for preparing textbooks, teaching aids, library as well as laboratory requirements in implementing the proposed curriculum. (6) It should also indicate how the teachers are to be trained in order to impart education according to the revised curriculum.

After detailed deliberations the Curriculum Development Committees (Economics) for undergraduate and postgraduate studies have arrived at the following consensus regarding the New Curriculum to be introduced:

1. The Committees examined a sample of the existing curriculum in the subject of Economics of different universities all over the country in terms of quality, relevance as well as workload. There is a consensus that it needs to be revised and upgraded. In the process, the Committees examined how the new suggested curriculum will be an improvement upon the earlier existing ones in terms of the promotion of Human Resources Development. The Committees also identified the areas which, in their opinion, are crucial in making higher education meaningful to national development in general and the New Education Policy in particular.

2. To meet the above requirement, the Committees have prepared a model curriculum which, they hope, will be relevant for the requirement of the country. The Committees have suggested the relevant textual material and library requirements for implementation of the proposed curriculum. The Committees have also indicated some guidelines as to how the teachers are to be trained in order to attain the necessary level of professional competence to implement the New Curriculum.

3. In view of the fact that Economics is a rapidly evolving subject, the Committees have reassessed the extent to which the syllabus needs modifications and improvements not only with a vision of hindsight but also of latest developments in economic thought, analysis and techniques. All this have been viewed within the perspective of rapidly changing socio-economic environment in the country. So as to enable the students to deploy the knowledge that they have acquired in such a manner as to view the subject-matter as a whole, great care has been taken to ensure that there exists a proper sequencing of courses (both core and optional papers). Therefore, a curriculum consisting of two components i.e. (a) core courses and (b) optional courses have been devised.

4. Essentially three target groups have been identified: (a) Undergraduate students joining the B.A. Pass course, (b) Undergraduate students joining the B.A. Hons. course and (c) Postgraduate students joining the M.A. course in Economics. The first group will comprise of students who merely wish to obtain an understanding of the way in which an economy functions (as part of general education) with no intrinsic desire to specialise in the subject later on; the second target group has been identified as students wishing to obtain a fairly thorough understanding of the functions of an economy so that they may be able to pursue a career in Economics; and the third target group is identified as students who having decided to pursue professional/academic career in Economics, desire a very thorough understanding of the subject-matter of Economics.

5. To meet the above requirements, as characterised by the three target groups, the Committee are of the view that it is essential that the core package of these three target groups should be similar, varying only in the level of intensity and sophistication.

6. From the above point of view, it is felt that all students, regardless of target group to which they belong, should possess an essential understanding of the theoretical tools and methods of economic analysis so that they are able to discern between the various causations inherent in economic phenomena (both micro as well as macro). Moreover, all students should possess a good grasp of the various issues of the Indian economy in an analytical framework so that they can comprehend and critically appraise current Indian economic problems. The Committees also feel that as Economics has become more and more quantitative over the years a sufficient knowledge of quantitative methods is required. Therefore, to meet all the three requirements, a core-package comprising of papers on (a) Indian Economy, (b) Economic Theory and (c) Quantitative Methods has been proposed for all these three target groups.

7. Having demarcated the universe of discourse i.e. having identified the basic course-content of the core-package in terms of concepts and issues, each of the courses has been organised in a systematic step-by-step series of smaller modules, an integrated focus of which forms the specific paper under consideration. Of these divided modules, some have been marked as starred (\*) modules which imply that any university desiring to opt for such a course should integrate these starred modules into their syllabus. In the opinion of the Committees, the material covered in the starred modules are essential for a thorough understanding of the subject-matter and should not be omitted as it would entail a loss of continuity.

8. An equally important aspect of the syllabus is the allocation of specified workload (in terms of lecture hours) for each of the modules, starred as well as unstarred.

9. More important, each of these courses, core as well as optional, has been provided with a Preamble specifically written to highlight the course-content of the paper to which it pertains. The preamble identifies the interconnections that exist between the modules, the relative importance of each of the modules and, in certain cases, recommends a complementary optional paper which, if



offered, will considerably enhance the understanding of the subject. In this context these preambles should not be viewed as a mere prelude to the paper but more importantly as a guide to the instructor as to the manner in which the paper could best be taught.

10. The Committees have provided a systematic modulewise reading list, complete in all respects, and each reference has been carefully chosen to meet the requirements of the modules that have been designed. While formulating such a reading list, the Committees have kept in view the paucity of funds to purchase books in most Indian universities, and has therefore selected books that, as far as possible, cover the maximum number of topics in the module. To this extent, therefore, it is possible that the same book has been repeated as a reference across several modules.

11. The Committees have taken care to ensure that the courses designed do not come under the heavy dominance of any particular model, approach or ideology and that only academic considerations prevail. All schools of thought, therefore, have been duly emphasised in the papers. In the opinion of the Committees, such an exposure of various streams of thought will enable the students to keep in proper perspective all major internationally recognised professional schools of thinking.

12. Both theoretical and empirical issues relating to the economic status of women and their participation in the development process have been incorporated in core-courses, both at undergraduate and postgraduate levels. A special optional paper titled "Economics of Women's Studies" has been designed for the postgraduate level.

13. The Committees have given much thought to operationalising the proposed curriculum. In the view of the Committees, the competence of the teachers and their motivation levels are vital if the New Curriculum has to be properly implemented. As the new syllabus represents a quantum jump over the existing one, it is imperative that the teaching profession be respectable enough to attract the best talents in the country as well as from abroad if

possible. Immediate and extensive training facilities have to be provided so that the teachers can keep themselves abreast with the latest development in the field. The curriculum, as proposed by the Committees, can be successfully and speedily implemented only if this forms a permanent component of a university system.

14. Instructions in class could be substantially strengthened if access to official statistical information/data is improved. Professional associations should lend their good offices to fill these data gaps.

15. In the light of the guidelines of the UGC calling for a shift in emphasis from teaching to learning, classroom lectures need to be supplemented by tutorials, field visits, seminars, workshops etc. In addition, the educational infrastructure like library facilities, modern computing facilities, teaching aids like video films, overhead projectors, reprographic facilities etc. need to be strengthened.

16. The teachers should be given all incentives, including duty leave and financial assistance, to bring out reading materials/supplementary materials on specific topics in the syllabi in view of the dearth of such materials at present.

17. The Committees have given due considerations to the problem of providing instructions in regional languages. Since adequate reading materials are not available in most regional languages, the Committees are of the opinion that this deficiency could be removed gradually by encouraging teachers to write such materials. This will enable introduction of teaching in Indian languages smooth and effective at the undergraduate stage. Simultaneously, care has to be taken that quality is not sacrificed in the process. At the postgraduate level English should continue to be the medium of instruction.

18. The Committees recommend that a permanent machinery at the UGC level be set up for modernizing/upgrading the curriculum, planning new teaching/learning activities and creating and adapting innovative ideas/materials.

19. For an overall reform in the higher education system and to make it a continuous learning process internal evaluation, field work, practical exercises, project work, etc. are recommended.

20. The Committees suggest that the Report of this CDC be published and made available to all universities and colleges in the country.

24.10.1987.

Members (Postgraduate)

(Sd.) Dr. R. Bharadwaj (Coordinator)  
(Sd.) Dr. Alak Ghosh (Member)  
(Sd.) Dr. Kanta Ahuja (Member)  
(Sd.) Dr. Vikas Chitre (Member)  
(Sd.) Dr. Autar S. Dhesi (Member)  
(Sd.) Dr. N.S. Iyengar (Member)  
(Sd.) Dr. G.S. Kalyankar (Member)  
(Sd.) Dr. K.L. Krishna (Member)  
(Sd.) Dr. R. Krishna Kumar (Member)  
(Sd.) Dr. M. Madaiah (Member)  
(Sd.) Dr. B.V. Mehta (Member)  
(Sd.) Dr. U. Sankar (Member)  
(Sd.) Dr. (Mrs.) K. Shabbir Khan (Member)

Members (Undergraduate)

(Sd.) Dr. R. Bharadwaj (Coordinator)  
(Sd.) Dr. Alak Ghosh (Member)  
(Sd.) Dr. Kanta Ahuja (member)  
(Sd.) Dr. D.S. Awasthi (Member)  
(Sd.) Dr. Autar S. Dhesi (Member)  
(Sd.) Dr. Ruddar Datt (Member)  
(Sd.) Dr. G.S. Kalyankar (member)  
(Sd.) Dr. B.V. Mehta (Member)  
(Sd.) Dr. M. Madaiah (Member)  
(Sd.) Dr. A.S. Nadkarni (Member)  
(Sd.) Dr. R. Sankara Ramalingam (Member)  
(Sd.) Dr. J. Mahender Reddy (Member)  
(Sd.) Dr. S. Uma Devi (Member)

**ANNEXURE-I:**  
**EXISTING UNDERGRADUATE AND POSTGRADUATE**  
**CURRICULUM - A REVIEW**

## ANNEXURE-I

### EXISTING UNDERGRADUATE/POSTGRADUATE CURRICULUM - A REVIEW

#### I. Introduction

A.1.01 Curriculum development is an ongoing process. There is a continuous review and rethinking on the aims, content and methodology of teaching of Economics by the academic and non-academic community in most of the countries in the West. For them, this practice of review is almost as old as their discipline. The methods of evaluating the students are also subjected to scrutiny. But it appears that such efforts have been few and far between in India. The need to update the syllabi so that they conform to the emerging dynamics of the Indian situation needs to be recognised.

A.1.02 The Examination Cell of the Association of the Indian Universities had undertaken an investigative study\* about the deficiencies and inadequacies of traditional syllabi for various subjects. They found that the inadequacies, by and large, are in the areas of course-content, purpose of teaching the course, mode, media and techniques of teaching and finally, methods of checking on the learning. A very serious drawback is however related to the syllabus being silent on the intellectual abilities and skills to be developed by students as a result of teaching and in consequence of their learning. The guidelines issued by the UGC in its recent Curriculum Development Programme are, therefore, welcome.

A.1.03 The need for a re-organisation of curriculum packages is evident from the fact that education in India

---

\* Association of Indian Universities, Monograph on Syllabus Analysis and Restructuring, New Delhi, 1982.

stands at the crossroads today. Neither linear expansion nor the existing pace and nature of development can meet the needs of the situation. The human being is a positive asset and a precious national resource which needs to be developed with care. The catalytic role of education in this complex and dynamic growth process needs to be planned meticulously and executed with great sensitivity.\*

In order to achieve these objectives, the problem needs to be tackled on three levels, which are not necessarily separate.

In the first instance our attention is focussed on the structure and organisation of the courses in Economics, i.e. (a) the problem of what should an economics syllabi be concerned with? Answer to this question necessarily depends on (b) for whom are the syllabi meant - or the types of students who intend to learn Economics at various levels? Once we have information about the first two questions, the third and the equally important question is (c) how to teach and also devise the means for getting feedback from the students about what is taught i.e. devise suitable methods for evaluating students.

A.1.04 The problem of what to teach is a complicated one because of the peculiar nature of the discipline of Economics. There was a time when Economics did not have a separate existence as a science and was related to law or philosophy or history in university departments. To-day, of course, Economics has earned its rightful place in the curricula. It has, in fact, developed its own tools, and methodology and for various reasons, it happens to be the most popular subject amongst students in the arts and the commerce faculties. It has, besides, found a place in engineering and other technical institutions. It has even been extended to schools to reach the much younger all-ability range children.

A.1.05 Economics as it is taught to-day is open to attack on two counts: (1) relevance and (2) realism.

---

\* National Policy on Education-1986, Ministry of Human Resource Development, Government of India, New Delhi, p.2.

Relevance is related to the nature of the science of Economics and what it is supposed to perform. Economics is in a way result-oriented and it is imperative that it has a practical bias. A student of Economics, therefore, should develop the habit of observation, imagination and reasoning so as to make his/her education, in general, socially relevant. Marshall himself wrote that there is need for a large number of sympathetic students, who have studied working class problems in a scientific spirit and who in later years, when their knowledge of life is deeper, and their sense of proportion is more disciplined, will be qualified to go to the root of the urgent social issues of their day and to lay bare the ultimate as well as the immediate results of plausible proposals for social reforms.

Questions regarding 'relevance' were raised as early as in 1892 by Justice Mahadev Govind Ranade. However, the problem of what is relevant still occupies the foremost place in debates on economics education. There is a broad agreement that Economics, as it is taught in our universities/colleges, is neither very useful for practical purposes\* nor particularly relevant to the Indian situation. It is argued that the teaching profession, is by and large, an exclusive monopoly of only those, whose knowledge of Economics is based almost wholly on books produced in Western countries. As Joan Robinson puts it: "I am concerned particularly for India and other developing countries whose economic doctrines come to them mainly from England and in English. Is what we are giving then helpful to their development?"@ It must also be borne in mind that the question of relevance has to be seen in the context of two important factors: (i) the rapid expansion in the number of students, with different motivations, seeking higher education, and (ii) the rapid expansion in knowledge.

---

\* Karmarck states: "I also found, as have many others, that in the last generation many young economists, fresh out of the university, are ill-equipped to confront the economic problems of the real world. The brightest of these, if they wish to be effective, learn to discard as useless or misleading much of what they have been rewarded in the university for learning. Some even become inclined to go too far and discard all they have learned as useless baggage." Karmarck, Andrew, M., Economics and the Real World, Basil Blackwell, Oxford, 1983.

@ Joan Robinson - 'Teaching Economics' The Economic Weekly Annual 1960, p.173.

A.1.06 Teachers of Economics are faced with the real problem of what to teach apart from the problem of how to teach. A sincere teacher, therefore, often feels frustrated and disappointed. One is aware that Economics does not offer laws which can be accepted as established and therefore of direct practical applications. As a science, Economics has to rely on experiments thrown up by events, and are therefore uncontrolled. These events give us observed facts which are either so general as to be obvious or so particular as to be uninteresting to the laymen. It is, therefore, necessary to give serious thought to the problem of what to teach and how to teach so that a student develops a habit of observation and interpretation of economic facts, a habit which can make one's education socially relevant. He/she is then able to go to the root of the problem and develop an outlook which is not out of focus with reality. To achieve this goal, we may suggest that Economics be taught bearing in mind the interfaces with other social sciences. There is also a need for readjustment in the curriculum in order to make education a forceful tool for the cultivation of social and moral values as value education has a profound positive content.\* It must be remembered that this readjustment in the curriculum does not consist of merely providing different courses to students at varying levels nor does it consist of mindless reshuffling or tinkering with the existing curriculum. A magnificent vision which creates a new structure while retaining the positive elements of the existing curriculum is called for.

A.1.07 In the West also, there is growing discomfort regarding some of the postulates of economic theories. For us in India, many of these postulates have a new and a different context and it is better that we search for our own social philosophy on the basis of a study of our society. Writers, like Walras, balanced their theoretical study in line with the conditions of their society at that time. Every country develops its own system of education to promote and expand socio-cultural identity and also to meet the challenges of time. We should also know the changes that are taking place in the external world and their repercussions on us. This knowledge would then help us to determine where we should be going and the best way of reaching our goals. The curriculum should be such that

---

\* National Policy on Education, 1986, Ministry of Human Resource Development, Government of India, New Delhi, p.2.



even an ordinary student should be able to form judgments on economic matters. He/she must learn to develop his/her own point of view on matters of common economic interest in daily life. Our students to-day do not get adequate guidance to engage in logical, informed thinking: they are engaged in only knowing facts without seeing their relations to the world around them. It is time we realised that opportunity and time given to young students for imaginative speculation is a good investment.

1.08 There is thus a clear need for restructuring the course-content of Economics because its links with the real world often appear to be tenuous. There is no doubt that there exist different types of applications of received theories depending on differences in social reality. Unfortunately, current teaching of Economics does not adequately reflect these differences. Our students learn more about marginal analysis and equilibrium conditions than about our own structural problems. Its methodology requires a path of reasoning which can only reveal the outcome of assumptions. The validity of these assumptions e.g. rationality, normality, maximising behaviour, etc. is often suspect. The result is that the student "learns to distrust his own native commonsense, submits himself to a course of miseducation and comes out not by the same door wherein he went but by another door (and) in the wrong street".\* Reference has also been made in the literature to the bankruptcy of economic theory which has nothing to say on the questions, that to every one's mind except the economist's, appear to be most in need of an answer.@ Even in the midst of pressing socio-economic problems, economists demonstrate an amazing capacity to operate in an elegant world of their own creation where things meet things in their incessant quest for equilibrium. In contrast to the world of economics textbooks, the Indian economy is characterised by problems of a structural nature. The theories that we teach our students are far removed from these problems, not in the legitimate sense that they apply abstraction, but in the sense that they do not address themselves to these problems. The dichotomy between economic theory and the social reality is complete.

---

\* Joan Robinson - "Teaching Economics" The Economic Weekly Annual 1960, p.173.

@ Joan Robinson - "The Second Crisis of Economic Theory" The American Economic Review, May 1972, p.2.

A.1.09 Systematic teaching of economics starts with a distinction between micro and macro analysis. Theory of value and resource allocation deals with how economic activities are co-ordinated and macro economic theory deals with co-ordination failures. But the structure of the two types of models is dissimilar. In the traditional micro theory we discuss perfect competition, long-run equilibrium and optimum firm. Our text-books describe U-shaped cost curves and show the limitation on the size of firms in the perfectly competitive market - whereas we are in an age of multinational corporations who with their great concentration of power defy any prediction about the limits on the size of a firm. In fact, it is often the case that large-scale pollution in the cities and the consequent government restrictions on expansion that limit the size of firms. In such circumstances, Pigou's distinction between social cost and private cost is perhaps more relevant in the analysis of the optimum size of the firm.

A.1.10 Economic activity is described in our textbooks with the help of a four-fold division namely, consumption, production, exchange and distribution. Sometimes in the textbooks new categories like scarcity, stability, growth, etc. are imposed on the old division. Do these divisions represent the organising concepts which professional economists are actually using? Apparently not. In fact, we can identify two orders of organisation - (i) that used in textbooks and (ii) that employed at the professional level. Our students are aware only of the first one and they are loaded with a large number of concepts, techniques and theoretical constructions appropriate for the first order of organisation. They perforce live in a strange world of indifference curves, kinked demand curves, cross-elasticities, iso-quants etc. and spend much of their time gaining familiarity with these specialised concepts and techniques, and their success as students is gauged largely by the degree of mastery over them.

A.1.11 Study of development of economic institutions is also essential to make Economics effective for an objective assessment of the economy. Economic analysis, as it is evolved abroad and is made available to students in textbooks, is of little help. Students must be made aware that it is essential to view the present in the light of the historical processes which have contributed to the

development of the institutions. A knowledge of Economic History would go a long way in improving the understanding of students and make them aware of the fact that the real issues of life are mainly affected by motives that are very often non-measurable.

A.1.12 All of us are aware that Economics as a science preaches no doctrines. It is also not a body of concrete truths. We should, therefore, equip the students not only with factual knowledge of the economy but also with an analytical capacity which will help them to understand the workings of the economy. Our aim should be to enable the students to identify economic problems where they exist and to reason through them towards their solution. We therefore, need a pedagogy which is at once scientific and consistent with the philosophy of our discipline.

A.1.13 Our syllabi tend to give an impression that there exists theoretical economics that is different from Indian Economics which is viewed as a catalogue of facts devoid of any theoretical content. Classroom teaching of economics as well as the question papers set for examination tend to perpetuate this dichotomy between theoretical economics and Indian economics. Bridging this dichotomy will require a restructuring of the Economics curriculum. It is time that curriculum is so framed as to integrate the theoretical and empirical components of the subject. It is time that the Economics curriculum is brought into harmony with our aspirations for growth, with human resource development, with social justice and with our cultural identity.

A.1.14 The foregoing discussion has given ample evidence of the need for a change. Bringing about this change is going to require long and sustained efforts. This report represents the first step towards bringing about the change. The real challenge, of course, would be faced at the implementation stage. Substantial amount of unlearning on the part of teachers would be necessary before they become the agents of change, before they become effective in implementing the new curriculum.

## II. Organisation and aims of a Syllabus

A.1.15 It is commonly observed that most universities do not make sufficiently articulate the aims of their B.A./M.A. programmes. When a particular curriculum is adopted, certain aspects of knowledge are considered to be more important than others and are emphasised so that they fit in well with the broad aims of the programme. Since the decisions regarding what to include or not include in the syllabus is not value-free, it is the responsibility of those in charge of drafting the curriculum to make explicit the philosophy underlying the curriculum.

A.1.16 The job of describing and deciding upon the desirable objectives of teaching of Economics is done by the UGC in India. The UGC Report (1979) on The Modernisation of the Syllabi in Economics, for the first time, outlined, on an all-India basis, the aim of the B.A. courses as follows:\*

"It should provide a balanced education which should improve the quality of citizenship and help the student comprehend and appreciate the problems of his society".

In the U.K., the Report of the Joint Committee of the Royal Economic Society<sup>@</sup> listed the following aims of the Economics curriculum:

- (i) a capacity to understand both in theory and application the principles upon which an economy, such as that of the U.K., works;
- (ii) a general understanding of the more important economic institutions within which the national economy operates; and
- (iii) a capacity to handle, interpret and present the statistical evidence on which economic decisions are reached.

---

\* Report on Modernisation of Syllabi in Economics, UGC, 1979, p.2.

@ Report of the Joint Committee of the Royal Economic Society, the Association of the University Teachers of Economics and Economic Association, "The Teaching of Economics in Schools" (MacMillan 1973), p.11.

A.1.17 Knowledge of Economics is essential in many basic fields of learning and it is desirable that one gives a thought to differential course-contents according to the needs of the students. The number of students presently opting for Arts and Commerce courses is very large. Bearing in mind this development, as also the fact that the motivating factors of these students are extremely diverse, a major change in the form of a separation of courses according to the needs of the students is called for. The system of education has to be set up in such a way as to produce a range of outputs appropriate to the needs of the country. The question then is, should all students study the same course or would it be preferable to provide a range of courses aimed at different ability and requirement levels. Depending on the requirements, we can have the following classifications:

- (i) Economics as a part of general education;
- (ii) Economics for those who wish to pursue a professional non-academic career in the subject; and
- (iii) Economics for those who wish to be academics.

It is obvious that the quality and contents of the course-material should be different if it is to be relevant from the point of view of the respective groups of students. We may discuss the above classification in greater detail.

A.1.18 Economics as a part of general education: Most students approach their studies with the aim of passing an examination and acquiring a degree. Our system of education gives, in principle, freedom of entry to all those who desire to enter college and offer any subject they may want to specialise in. Admission is not regulated according to student ability. The examination passers among the students learn the trick of saying what is expected, without asking themselves what is meant by what they are saying. Fortunately, as a balance, there are also some serious students who are genuinely attracted by the subject. Both these types of students learn Economics as it is taught to them by their teacher. Teachers, and in turn syllabus-makers, therefore, have a heavy responsibility. Economics education, therefore, should (a) provide the student with an understanding of basic economic problems; and (b) teach him/her to acquire and

develop logical expression of ideas. The aim of teaching at this level should be to provide a balanced education which would improve the quality of citizenship, and help the student comprehend, and appreciate the problems of society. Such a point of view would have four major implications:\* (a) There should be no specialisation at the B.A. stage in the sense that the student is exposed to a broad variety of subjects; (b) these subjects should have relevance to economics; (c) as far as possible, stress should be laid on basic theories with application to Indian scene rather than on sophistication and (d) the syllabi of different universities need not be identical but still ought to have a basic common content.

A.1.19 Economics for non-academic professionals: There are many students who wish to become professional economists. Unfortunately, it is the case that the economics education that they receive is woefully inadequate to help them perform as professionals. It is also a fact that as far as work-oriented skills are concerned, students of Economics are indistinguishable from any other discipline. They do not have any specific training which is indispensable for a particular job. Moreover, the universal complaint of almost all potential employers of economic graduates and postgraduates is that such students are by and large of not much use to them. It usually requires several years of learning afresh certain additional skills hitherto unencountered in college/university curriculum before they become useful to their employers. In short, employers find them unemployable.

Given the circumstances, the twin-problem which teachers in Economics must tackle are:

- (i) improving the quality of economics teaching; and
- (ii) making the teaching of economics employment oriented.

While there does exist a potential demand for economists, it has to go largely unsatisfied because the economics graduates we produce are unsuited for the job.

---

\* Report of Modernisation of Syllabi in Economics - UGC, 1979, p.2.

To overcome this obstacle in the employability of economics students, we have to link teaching of economics with the needs of business and industry. If we can do so, then not only will we make the teaching of Economics job-oriented, but we will also satisfy a need which has very real social importance. In the opinion of some, an economist should be regarded as a trained expert or an applied technologist who is proficient in

- (i) optimisation methods and decision making,
- (ii) relating his/her expertise to the total life situation, and
- (iii) devise solutions acceptable to the clients.

The pedagogy of Economics for such a training programme is naturally different from conventional pedagogy. This may also involve giving thought to the necessity and possibility of links with government, industry and business which enables us to know their requirements. This will then offer an economist worthwhile opportunities to play a socially significant and progressive role.

An interesting approach towards making the teaching of economics employment-oriented would be to distinguish between teaching of economics and training of economists. The aim in the latter case would be to train students as practical economists who would be able to apply their expertise in an effective way. The pedagogy required for such an orientation would be in the context of a new conception of the meaning of economic knowledge. This may necessitate an integration of Robbinsian and Marshallian approaches, capable of deeper understanding of the mechanics of human relations. Economic theory would acquire a meaningful thrust if it were placed in the specific Indian context bearing in mind the institutional variables and constraints which define it. No less important would be the recognition of the spatial peculiarities of the Indian economy, knowledge of which could be passed on to students in the form of self-contained courses on the economics of different regions at an elementary level.

The basic aim of the Economics curriculum must be to provide a sufficiently comprehensive knowledge of the subject so that students can be prepared for jobs which require the use of such knowledge. A more ambitious aim would be to train students to be professional economists in the sense of being applied technologists. In that case, the emphasis should be on tool papers which would develop the expertise of students in the use of quantitative methods for the purpose of solving economic problems. By far the best preparation for a useful non-academic professional career in Economics, after university education, would be a stint in an organisation grappling with practical economic problems.

A.1.20 Economics for academic professionals: It is a common observation that a great majority of students take up employment or take to business after graduation and even those students desirous of further academic pursuits are attracted towards management and other job-oriented career courses. Hence, we do not necessarily get the best of students joining up for post-graduation courses. Of these students, an even smaller number choose to become academics. Such students need to be given a thorough grounding in economic theory and in the handling of the tools of economic analysis. Economic theory, as it is taught to this group, should not be divorced from practical applications and should be ~~allied~~ and interwoven with the study of the organisation and structure of the economic system. The National Income approach which deals, qualitatively and quantitatively, with the real causes which determine the wealth of nations, affords a good way to combine theory and reality. The prime objective here should be to cultivate the student's analytical faculty for understanding economic phenomena.

A.1.21 Restructuring and improving the syllabus is an important first step in the process of meeting the needs of the students in these different categories. In order to make a syllabus dynamic, a lot of scientific, psychological and educational thinking must go in its preparation. The main trap which a syllabus-framer must avoid is that of propagating a scissors and paste approach in which bits and pieces are stuck together to form a haphazard collection of interest-based topics. It is observed that random additions to the syllabus are



frequently made with fresh growth points of knowledge inserted here and there, and theoretical refinements added in response to the winds of fashion. Very frequently unsystematic modifications are carried out to please certain sections in the academic fields. Certainly, many existing syllabi can, with justification, be compared to a collage rather than to a work of art.

A.1.22 In modernising a syllabus, the problem of overcoming the resistance of vested interests of those who had learnt Economics the traditional way, is a real one. A syllabus is prepared by the Board of studies in the Economics discipline of the university, and is accepted and taught in all the colleges affiliated to that university. It is open to revision, from time to time. This facility far from diluting the rigour of the syllabus should be utilised to bring in quality improvements in its content.

A.1.23 The syllabus is prescribed by the university and it is implemented by the affiliated colleges. Further the prescribed syllabus is taught in the colleges by different teachers who may interpret it in a way which is at variance with the philosophy underlying it. In addition, this interpretation of the syllabus may differ from teacher to teacher and from college to college. This, it needs no emphasis, is an undesirable situation. Hence the syllabus should be worked out in careful detail along with a set of directions which are unambiguous in character. It is of vital importance that the university handles this job with all the care and responsibility it owes to the college.

A.1.24 The syllabus should provide clear guidance with respect to what, why and how the teacher should teach. The inadequacies of a traditional syllabus, as referred to above, are that the teachers very often find themselves at a loss as to how to go about teaching a syllabus that has been provided to them as a list of topics with lots of dashes in-between. No clear instructions are provided to students and teachers for using the syllabus and the students find it more convenient to follow the teacher in order to get through the examinations. The real problem arises when the paper-setter interprets the syllabus in a manner which is different from the interpretation given to it by the teacher.

A.1.25 The syllabus has to be clear, specific and should be a source of guidance to teachers, students, paper-setters and others. Restructuring and improving the syllabus to meet these needs is an important first step in the process of reform of examination as well as the education system. The analysis and restructuring of the syllabus should involve a discussion of the following three factors:

- (i) Components of a syllabus
- (ii) Skills to be developed
- (iii) Methods of evaluation of students.

The investigation by the Examination Research Cell of the Association of Indian universities revealed that the syllabus document as it obtains is precisely deficient in the three factors just listed. There is no clear specification of the sequence of topics, of the quantum of coverage and of the skills and abilities of students to be developed. The inadequacies, therefore, are in the area of content, purpose of teaching and methods of checking on learning. The Cell also developed a scale to gauge the overall coefficient of clarity of syllabi in different subjects. Their illustrative examples showed co-efficients of clarity to range between 27 per cent to 33 per cent only - clearly an undesirable state of affairs and one which calls for a major effort at rectification.

### III. Review of Syllabi (Undergraduate Level)

A.1.26 Economics is taught in more than a hundred universities in India. It was not possible for us to carry out a survey of the syllabi taught in each of these universities. We have reviewed thirty-two representative universities spread over, geographically, from Kashmir to Kerala and from Gujarat to Gauhati. Our review indicates that most universities try to duplicate the syllabi of other universities without diversifications and specialisations. Many of the syllabi are based on standard imported textbooks, with each chapter of the book included as a topic in the syllabus. In some cases, where a standard textbook is not followed, topics are chosen,

often in a haphazard manner and grouped together. This grouping is a well-arranged one in some cases, with a graduated development from simple topics to the more complex ones. In most other cases the grouping leaves a lot to be desired. A common failing of most syllabus documents is the absence of clarity and content specificity.

A.1.27 There is now a uniform three-year degree course for B.A. students in all the universities. Some universities, however, make a distinction between B.A. Pass and B.A. Honours degree where the first year syllabus is common to all and the Honours course contains extra papers in Economics at the second and third year level. Moreover, some universities offer different courses for the Honours students at an advanced level. Some other universities make a distinction between General and Special (Economics Major) Economics graduates. A student offering an Economics Major has to study some extra papers from a group of optional papers. However, the number of papers that a student is supposed to learn over a period of three years is not uniform in all the universities. For example, in South Gujarat University the distinction between Special and General starts from the first year itself, while in the University of Bombay students offer only one paper each at First Year and Second Year level and 6 papers in the Third Year for Economics Major; in some other universities like Marathwada, Karnatak, Bhopal, etc. we find 2 papers each at First Year and Second Year levels.

A.1.28 Neither the weightage attached to these papers nor the scheme of marking is uniform over universities. A few universities have partial internal evaluation scheme, whereas others have 100 marks external examinations for students at the end of each year. Except at Bombay, where First Year and Second Year examinations have been handed over to the colleges, the year-end examinations are conducted by the universities themselves. Moreover in some universities admission to the next part of the graduate/postgraduate programme is dependent on successful completion of the earlier part; in other universities a student is allowed to keep terms for the next part.

A.1.29 The medium of instruction is predominantly English. The use of regional languages for some sections of students is not uncommon. Some universities offer the facility of instruction in more than two languages. For example, at SNDT University in Bombay instruction facilities are available in Hindi and Gujarati in addition to English and the regional language (Marathi). Problems associated with the use of regional language as a medium of instruction have been discussed elsewhere. We may, however, mention the following:

- (i) the difficulties associated with availability of quality reading materials
- (ii) the transition from undergraduate instruction, which may be in a regional language, to postgraduate instruction which is, by and large, in English.

A.1.30 In spite of apparent variations between syllabi amongst universities the differences are external or superficial and all suffer from the same drawback i.e. they do not spell explicitly the aims and objectives of imparting Economics education. The problem of achieving these objectives therefore does not arise at all!

It is clear from the objectives of the syllabus, discussed in the earlier section, that, at the introductory level, the emphasis should be on the knowledge and understanding of one's own society and Economics education should help to provide the necessary analytical tools and intellectual training. The present B.A. courses hardly fulfil these objectives. To overcome the lacunae in the existing syllabi, the UGC Report on Modernisation of Syllabi in Economics (1979) had suggested the following papers for B.A. Pass [Paper (i) - (iv) below] and B.A. Honours [Papers (v) - (viii)] courses:

- (i) Economics of Government interference in a free enterprise Economy
- (ii) Elementary Statistics
- (iii) The Political Economy of Development
- (iv) Theory and Techniques of Planning

- (v) Economics of Socialism
- (vi) Models of Growth
- (vii) Theory and Techniques of Planning
- (viii) International Economics.

However, it was felt that this scheme of papers was inadequate and inappropriate and hence has not found general acceptance with the academics so far.

The scheme of papers offered by most universities is standard and consists of

- (i) Economic Theory, which includes Theory of Value and Distribution and Macroeconomics
- (ii) Development Economics which includes Growth Models, Theories and Development Experience of different countries, and
- (iii) Special papers which include Quantitative Methods, applications of theory in Banking, Agriculture, Industry etc.

A.1.31 Indian Economy does not figure prominently in most of the syllabi. Discussions on Indian economic problems is added as an afterthought to the other papers. Attempts to discuss Indian issues analytically have generally ended in failure. For example, the University of Bombay had introduced a Paper entitled 'Development Issues of Indian Economy' to be taught at Second Year level, which was ultimately reduced to a routine paper on Indian Economy with accent of factual information without pretense to any type of analysis. The real resources of India are subsumed by way of a small introduction in the syllabus of Indian Economy and such crucial topics as Green or White revolution are relegated to the category of Agriculture in India. We remain content with teaching the characteristics of under-development, and India as a case study, without bothering to analyse them in the context of changing institutions.

A.1.32 Refreshingly, in some universities special efforts are being made to make the syllabus relevant to our socio-economic historical conditions e.g. Poona University, S.Y.B.A. Special P II mentions: "It would be desirable for teachers to provide illustrations from Indian experience, whenever relevant. While doing this, limitations and relevance of the received theory may be brought to the notice of the student"; Mangalore University Part III syllabus of "Indian Economic Development and Problems" specifies a "People centres - Need based approach" while teaching.

A.1.33 'Regional Economics' as a paper (Compulsory or optional) has been introduced by a number of universities. In South Gujarat University, there is a compulsory theoretical paper on Regional Economics. New, and more relevant papers, like Theory of Co-operation, Rural Banking, National Income and Social Accounting, Rural Development, Managerial Economics, Law and Practice of Banking, etc. have also been introduced as optional papers for Honours Courses or Economics Special Courses in a few universities. Quantitative methods form an important component of the syllabus in many universities.

A.1.34 In conclusion, we can state that the effectiveness of a curriculum will remain suspended so long as we are not clear about its objectives and till we do not bring the syllabus in alignment with the motives, the aspirations and the requirements of students. These obstacles can be overcome by a major restructuring of the curriculum and not by merely tinkering with the existing one. Clarity of vision at the conceptual stage and vision plus sustained efforts at the operationalising stage are necessary to propel us out of the existing low-level equilibrium trap.

#### IV. Observations on a Typical Postgraduate Syllabus in Economics

A.1.35 Critical comments regarding the relevance, rigour et.al. are common to the postgraduate and undergraduate levels and hence the stand as made in the introduction. In this section, we look at the postgraduate syllabi from the standpoint of incorporation of information and understanding of the Indian Economy. It needs no elaboration that emphasis on the Indian reality in the teaching-learning process is hampered or facilitated by various factors which go to make the syllabi and the evaluation system. To what extent are these operative at the postgraduate level, say in the University of Bombay? This is what we have tried to find out through interviews and discussions with some of the faculty members. Our exercise has indicated that the various areas/papers offered at the postgraduate level can be grouped into about three fuzzy sets. These sets may be determined by the extent of emphasis on Indian data in the teaching of the papers. As implied by our use of the word 'fuzzy', these categories are by no means to be construed as watertight.

A.1.36 In category A we have those papers in which a high degree of integration between theory and its relevance to Indian conditions has been achieved.

Category B consists of those papers where only a partial integration has been achieved, and,

Category C includes papers which have little or no empirical content in their teaching.

A.1.37 Category A: When we speak of integration of theory with its empirical relevance, we have in mind integration at two levels. One is at level of teaching of the paper in class. The importance of this is fairly obvious. What is equally important is integration at the level of evaluation. The system of assessment should be such that the student's knowledge of Indian conditions, the relevance of theories etc. is adequately tested. To put the point forcefully, the designing of questions at the examinations (this is still the main form of evaluating

students) should compel students to answer, meaningfully, with reference to Indian conditions. The plethora of choice currently available to students in answering questions is also seen as means by which students escape studying Indian conditions. It is this type of selective studies on the part of students that the examination system should make impossible.

The papers grouped in this category have been able to achieve a high degree of integration at both levels. These papers are:

(1) Demography consisting of two papers:

(a) Demographic Analysis

(b) Economic Demography

Both the papers mentioned above are essentially data based and it would be a travesty if integration were not accomplished in their teaching. There is no partitioning of the papers into a theoretical component and a data-based component. This integration is also carried forward to the level of evaluation, and students' familiarity with Indian conditions is tested. Of course, it must be mentioned that the Internal\* scheme students fare better in this respect than their External<sup>@</sup> scheme counterparts. This difference in the levels of acquisition of knowledge could perhaps be due to the greater frequency of evaluating Internal students and the requirement that these students submit term papers/assignments. Internal scheme students, and to some extent other students, have to look up data sources on their own as well though often some prior instructions and guidance by the teacher is necessary.

---

\* The Internal Scheme consists of an internal or departmental assessment for 60 per cent of the full marks assigned to the paper and a university examination for the remaining 40 per cent of the marks to be held at the end of the year. The Internal assessment comprises two Internal tests and an assignment in each paper offered.

@ The External Scheme consists of a university examination for full marks in each paper (100).



## (2) Central Banking

This paper appears to be most favourably placed with respect to integration of theory with empirical analysis of Indian conditions, availability of data and lags in availability of data. The integrated teaching of the paper is also reflected in the examinations - the student's familiarity with Indian conditions is tested.

One of the important advantages that this paper has over other papers is the substantial amount of data/information that is available from the Reserve Bank of India. And, surprisingly, lags or delays in availability rarely exceed three months.

(3) Agricultural Economics covering broadly two aspects:

(a) The Agricultural Economy

(b) Development and Indian Agriculture.

The emphasis on Indian data is especially pronounced in the case of (b) i.e. Development and Indian Agriculture. When access to data is difficult, students are often provided with handouts. Students are expected to have a thorough knowledge of Indian conditions and this is tested at the examination. Answers written with reference to Indian conditions are better rated.

The quality of official data available has considerably improved over the last decade and a half. Definitions of most concepts have been standardised - an essential requirement to carry out inter-temporal comparisons. The data base is much wider now and good quality data/information is available on production, fertilizer usage, cost of production, etc. However, information at a disaggregated level is not easily available.

#### (4) Industrial Economics

This paper is different from the preceding ones in that integration is achieved at the level of teaching but is not carried on to the level of evaluation. The importance of Indian conditions is emphasised in class and students are made aware of the important sources of data e.g. ASI, Bombay Stock Exchange Directory etc. However, except for Internal Scheme students, others find it very difficult to look up (primary) sources of data on their own. All students are expected to look up empirical studies and secondary sources of data.

Integration at the level of evaluation is elusive in the case of this paper. Given the wide choice available to students in the examination papers, they are able to selectively omit areas of the syllabus pertaining to Indian conditions. This escape-route available to students effectively nullifies the integration between theory and empirical analysis of Indian conditions attained in classroom teaching.

A.1.38 Category B: Papers grouped in this category have managed to integrate theory with empirical analysis to a limited extent. In case of some papers, integration has been thwarted by a partitioning of the syllabus itself or by a partitioning of instruction in class into a theoretical component and a component to Indian conditions e.g. International Trade, Labour Economics, Public Finance and Fiscal Policy, Growth, Development and Planning. In the case of some other papers, Indian conditions are emphasised at both teaching and evaluating level, but integration in its true sense has not been achieved e.g. Money, Income and Employment, Macro-economics. And finally, the handling of some papers is severely affected by the paucity of available data e.g. Economics of Public Utilities and Transport, Economics of Social Infrastructure, etc.

(1) International Economics consisting of:

(a) Pure Theory of International Trade

(b) International Finance and Monetary System.

In both (a) and (b), one paragraph each in the syllabi deals with the Indian situation. It is only in the teaching of these topics that Indian data are emphasised. Other sections of the syllabi are dealt with at a theoretical level only. Students are familiarized with basic literature pertaining to India and basic data sources but meaningful integration between theory and the Indian situation is not achieved. The absence of integration at the level of teaching is also reflected at the level of evaluation. Examination question papers are often partitioned into a theoretical and an empirical component thereby enabling students to exclude topics relating to Indian conditions from their studies.

(2) Labour Economics:

Even though substantial emphasis is placed on Indian conditions, theoretical and empirical aspects are not integrated. The instruction is sequenced such that theoretical discussion is completed in the first half of the academic year to be followed by empirical discussion in the second half. The syllabus itself is not partitioned in this manner - instruction in class has been so partitioned probably because it has been found to be convenient.

(3) Public Finance and Fiscal Policy:

The syllabus of this paper is clearly partitioned into theoretical public finance and Indian public finance. Consequently, integration is virtually ruled out. The problems of integration are further compounded by the presence of different teachers in charge of different aspects of the paper.

At the level of examinations also, integration is not in evidence. Separate questions are set dealing with theoretical aspects and empirical aspects of public finance. Consequently, students are able to eliminate large chunks of the syllabus and yet score good marks at the examinations. However, merely tightening the evaluation system is unlikely to solve the problem. Its only effect would be to penalise students. A restructuring of the syllabus is essential to overcome the existing drawbacks.

#### (4) Growth, Development and Planning:

This is one more paper where integration is impeded by the partitioning of the syllabus into two components. The first component consists of development theories of Smith, Ricardo, Marx and Schumpeter and various growth models. Even though these theories and models do contain segments which are amenable to empirical investigation, integration in its true sense is difficult to achieve. More than empirical investigation, a more fruitful approach would be to test their relevance to Indian conditions. This approach is followed, to a large extent, in the case of growth models (Neo-classical, Harrodian etc.). The second component of the syllabus deals with Indian developmental and planning experience and perforce the instruction is data based.

Evaluation system is more or less on the lines of instruction in class. Students are in a position to concentrate on some aspects of the paper - theoretical or that pertaining to Indian conditions - and yet hope to do well in the examinations.

#### (5) Money, Income and Employment:

Even though class-room teaching does focus on the Indian situation, meaningful integration between theory and empirical analysis is absent. Inadequate exposure of students to quantitative methods acts as a major stumbling block in affecting the integration. Some attempt at integration is made at the examination level by designing questions which test the student's knowledge of Indian conditions.

(6) Macro-Economics:

Indian data, in the sense of providing students with facts and figures of say, money supply, prices etc., is not emphasised. In fact, it is felt that it is not even necessary to do so. Trend or other characteristic behaviour of relevant variables is provided to students, wherever appropriate. Rather than merely providing data on variables, it is considered more important to analyse their behaviour. In addition, the relevance of various theories/models to the Indian context is dealt with in class. The Indian aspect of macro-economics is emphasised at the level of evaluation also and students are expected to study it.

(7) Economics of Infrastructure and Services consisting of:

- (a) Economics of Public Utilities and Transport
- (b) Economics of Social Infrastructure.

Even though both (a) and (b) are applied areas, the level of integration is very low. The main reason for this is inadequate data availability. This is especially true of the public utilities component. The transport component is relatively better off. But even here those transport modes which are under the control of the government are better documented e.g. railways, airways. In contrast only insufficient, inaccurate and outdated information is available for road and water transport. Under (b) above only the component on education is well-documented. The examination papers do make some effort at integration, but given the paucity of data availability, its level is not satisfactory and the efforts are only half-hearted.

A.1.39 Category C: This category includes only one paper which has none or little empirical content in its teaching.

### (1) Value and Distribution:

It is clearly evident from the syllabus of this paper that there is no reference to Indian conditions at all. Of course the important question that needs to be answered, is: Can (or should) a theoretical paper like this one be expected to have an empirical component? If 'empirical component' is understood as a data-based component, the answer to this question is, perhaps, in the negative. If, however, it implies evaluating the relevance of some of the theories to the Indian situation, then, our answer should be in the positive.

A.1.40 The discussion of the various courses offered at the postgraduate level has revealed some lacunae in the integration between theory and its relevance to the Indian reality. To overcome these lacunae, corrective actions in the following areas is essential.

(a) Syllabus formulation: In the case of many of the courses that were examined above, the syllabi themselves were clearly partitioned into theoretical and empirical components. This dichotomy in the syllabus manifested itself in the class-room teaching of the course and integration was consequently the casualty. New Efforts at curriculum development will have to give careful thought to an appropriate restructuring of the syllabi.

(b) Methods of Evaluation: The best integrated syllabus will come a cropper if the integration is not carried forward to the level of evaluation. Question papers set for examinations often have separate theoretical and empirical components enabling students to concentrate on one component to the exclusion of the other. In addition, the wide choice available to students in answering questions offers another escape route. Students can and do omit from their studies topics which deal with Indian conditions. A tightening of the evaluation system is essential if the dichotomy between the theoretical and empirical components is to be closed.

(c) Data Gaps: Availability of data often acts as constraint on the extent to which theoretical discussions can be supplemented by empirical evidence. There is a crying need for substantial improvements in data availability to meet the needs of the teaching-learning process. Professional organizations can lend their good offices by compiling and furnishing statistical data useful to students/teachers - perhaps in the form of booklets.

A.1.41 We now present a resume of what are seen as data gaps in the teaching of various courses at the M.A. level. Though we have listed the data gaps according to courses, it must be pointed out that some of the gaps are common to more than one course.

(1) Demography: Adequate information is not available in the following areas:

- (a) Official information on the method employed for arriving at population projections
- (b) Data/information required for verification of population theories
- (c) Census do not provide data on employment, underemployment and disguised unemployment. Sufficient information on female participation rates is also not available.
- (d) Evaluation of population control programmes is difficult in the absence of official information.
- (e) Revised data subsequent to post-enumeration checks are not published.

(2) Central Banking: As stated earlier, sufficient information is available for teaching this course. However, teaching is constrained to an extent because of the difficulty in availability of information on Central Banks of some foreign countries. This is especially true of the Central Banks of France and West Germany.

(3) Agricultural Economics: While data availability has improved over the years, serious lacunae remain. Information collecting is often rendered very difficult because of institutional impediments and ill-kept or undisclosed records. It is fair to say that some of the information, which would be very valuable in teaching this course, is often difficult to collect because of institutional factors. In our list of data-gaps we have not indicated which gaps can be or cannot be bridged. Bearing this in mind, the following gaps can be listed:

- (a) Statewise aggregate production index is not available
- (b) Cost of production is not available at district level
- (c) Information on land holdings according to cultivators (owners/tenants), size, class (ownership/operational) is not available.
- (d) Information on labour market, land/lease market, credit market is not available.
- (e) Very little information is available on the tribal economy
- (f) Information on prices of livestock and production is inadequate and its accuracy is suspect.
- (g) Information on land reforms and redistribution of land is not available.

(4) Industrial Economics: The availability of data has improved over the last decade. There now exist more sources of data and a large amount of empirical research is being carried out. The proliferation of data sources has, naturally, led to problems of comparability of data over sources. The main problem relates to the way concepts are defined by the various data-collecting bodies. Also important is the fact that these bodies collect data for their specific purpose which may not correspond to the requirements of teachers and researchers.



Regarding specific data gaps, there is one which is felt acutely. Data on capacity and capacity utilization is neither accurate nor reliable enough. Most of the information on capacity is collected from firms and this information is often not dependable. Figures of capacity are inflated when information is sought in connection with licences to be given to competitors. On the other hand, figures are deflated when licence is sought by the firm itself.

(5) International Trade: There exist some misgivings with respect to data availability in the following areas:

- (a) Data on balance of payments, indices of quantum of imports and exports, unit value of import and export are available only with a considerable time lag - often exceeding two to three years.
- (b) Aggregation of imports by industrial category of import-using firms would be very beneficial if available.
- (c) Total trade figures in a generic group of commodities, which are available only in value terms, should also be available in quantum terms.

(6) Labour Economics: With increasing emphasis on econometric research in recent years, data availability is expected to improve over time. Presently, however, the following data gaps must be mentioned.

- (a) Very little data is available on labour markets in India.
- (b) Information on labour productivity, factors determining wages, relationship between educational qualifications and earnings of workers, is difficult to come by.

(7) Money, Income and Employment: The data gaps listed below include gaps relating to non-comparability of data over time, non-availability at sufficiently short intervals and data which are not available at all.

- (a) Whenever price indices or definition of money are changed, data for earlier years should be published immediately in a comparable form.
- (b) Important series like national income, NDP, contribution of agriculture to GDP etc. should be published officially on a quarterly or at least six-monthly basis.
- (c) Estimates of savings, especially in physical assets, originating in households are not reliable.
- (d) Input-output tables are not available after 1974.
- (e) Rural-Urban breakdown of NDP is not available.

(8) Economics of Infrastructure and Services: As mentioned earlier, teaching and research in this area is rendered very difficult because of the paucity of official data. Moreover, the lags in publication of official data are extremely long. Transport component of this paper is, perhaps, most fortunate with respect to data availability. However, even here, road transport, which is mainly in private hands, is inadequately documented. Very little information is available on the operations of public utilities, health care, ecological problems etc.

Over the last few pages we have tried to identify gaps or constraints in the availability of data/information which is essential for teaching various courses at the M.A. level. For some courses it was not possible to identify definite data gaps and these have not been discussed. In some cases, data gaps were common to two or three courses and hence it was not felt necessary to discuss each course separately.

A.J.42 There is one area of economics which we have not discussed yet, but is assuming increasing significance over the years - the area of women's studies. So far, in this and the preceding sections, we have discussed the existing syllabi only. In these syllabi very little attention has been given to the role of women in the economy; nor has a separate paper on women's studies ever

been offered. This is seen as a serious lacuna in the curriculum and efforts must be taken to rectify the situation. While the importance of focussing on women's problems is beyond doubt, it is not clear whether women's studies should constitute a separate, optional course or whether various aspects of this area should be incorporated wherever relevant in the compulsory courses. (The new curriculum, as it has been framed, has incorporated important aspects of women's studies in the core papers at the undergraduate and postgraduate levels. In addition, a rigorous, separate, optional paper in women's studies has been proposed at the postgraduate level.)

**A.1.43 Summing up:** The point to begin with is the perception of the crisis engulfing the economic profession, which has percolated down to the level of teaching/learning in a class-room situation. One of the more important facets has to do with the ability (or rather the inability) to comprehend the real problematique with the help of the idiom provided by the economics as taught in our system.

A frontal attack, which is necessarily three-pronged, needs to be launched, each taking cognizance of what we teach, and how we evaluate. In initiating remedial action, we must not lose sight of the specific and general learning objectives of the course under purview.

The syllabi need to be reviewed and revised, integrating wherever possible data, information on India. Also, attempt should be made - in case of the undergraduate courses - to make the syllabi more issue-centric rather than concept-centric. Above all, once conceived, the syllabus should be allowed to have a reasonable run before being tampered with.

Realism demands a recognition that the operationally relevant syllabus is simply that part of the syllabus which has some reasonable chance of being tested. This means that special care and efforts should be taken in the setting of examination papers. Papers where data/information is to be inducted should be identified and questions formulated with proper weightage to the 'data' part.

In the efficient work of any system, the people, their individual drives and motivations are very crucial. The government, managements, teachers and students each in their turn can materially affect the local environment for the other, and it does not always involve material costs.

The postgraduate papers are roughly segregated into three sets. The first with a complete information integration, the second with a partial and the third category of those with no information content possible. The detailed observations on these shows some data gaps, filling which would be an important and a fruitful research project. Listing of data sources reveals a plethora of high quality data though not always in a user friendly form. This is one more area where research effort would be well spent.

It should be remembered that at each level what is being administered is a package of courses or papers each with an inherent limitation or possibility vis-a-vis the Indian data. Finally, the encouraging feature of these problems is that much can be done for the better which is not really radical but only requires some boldness and the necessary will to change.

**ANNEXURE-II:**

**WHAT IS 'NEW' ABOUT THE PROPOSED CURRICULUM**

## ANNEXURE II

### WHAT IS 'NEW' ABOUT THE PROPOSED CURRICULUM

2.01 A wise old philosopher once wrote that 'science' can do with talent but 'arts' requires a genius. This comment underlines the complexity of our subject. The complex nature of the subject has been ably adumbrated by such masters as Keynes, Schumpeter, Robertson, amongst others. In our discipline, progress is not achieved by sedimentation. Thus, while it is true that new ideas continually flow in to enrich the existing corpus, the old 'concerns' and masters have an uncanny way of popping up and engaging our attention.

It is in this context that one must look at the question: as to what is 'new' about the proposed curriculum? Obviously, in quite a literal sense, the broad topics or even their grouping cannot be substantively new. Indeed one would have to be wary of such newness which prescribes a total break with the past.

What we believe to be new is the realistic approach which has resulted in delivering an integrated package. A realistic assessment of the parametric constraints as also the identification of the lacunae in the existing syllabus has been possible owing to a thorough review of the current syllabi at undergraduate and postgraduate levels.

2.02 Revision and organisation of the new curriculum in a 'modular' form, has been carried out to meet the objectives set out by the University Grants Commission in its guidelines. We have tried to bring about as much uniformity as possible without hampering the flexibility and choice of the various universities while formulating their specific courses.

2.03 There was much in the syllabi which needed to be discarded in order to make them responsive to the latest development in the profession and to maintain international standards. Our students and teachers should now be in a position to compete with the products of reputed universities of the world. An immediate and concomitant requirement of this was that adequate emphasis had to be

placed on the Quantitative Techniques. This has now been accomplished. In fact, the University Grants Commission Panel on Economics through the Workshops conducted by it at different centres, had voiced a similar opinion.

2.04 The fact that an average - even a 'good' - student knows very little about the Indian economy has been acknowledged. As a remedy, Indian conditions and information have sought to be emphasised, wherever possible. An integration of economic theory with the study of the Indian economy is attempted here. As has been made amply clear in the Report, much more needs to be done in the areas of teaching and evaluation if this is to succeed.

2.05 The concept of a 'Core' Syllabus, tailored specifically to each of the well articulated target group of students - B.A. Pass, B.A. Honours and M.A. - is developed. If this is backed by a common yardstick of evaluation, it should do much with respect to improving the motivation levels of the students. It will also facilitate smooth geographical mobility.

2.06 Women's studies have been recognised and recommended as a critical component in the designing of courses both by the U.G.C. and the Ministry of Human Resource Development. Accordingly, we have incorporated in the Core courses both theoretical and empirical issues relating to women's economic status and their participation in the development process. Also, a special optional paper on the Economics of Women's Studies has been designed for a more detailed study at the postgraduate level. This has been done with the understanding that an introduction of such a paper will instil in students a clear perception of women's economic role and also further their interest in research in this area.

2.07 Curriculum development requires an open mind and a broad outlook. The problems must be thrashed out threadbare without inhibitions or biases. Also the contents of the courses should not be under the heavy dominance of particular models, approaches or ideologies. The courses devised by the CDC have kept this objective in constant view. They reflect all major internationally recognised professional schools of thinking. It has been structured in a manner such that it provides opportunities for academic innovations in terms of sharpening existing tools of

analysis or forging new ones. Such activities require incentives, not only to write and publish, but also design new courses and run them on an experimental basis, subject to faculty scrutiny. Indeed, good graduate programmes have been the avenues for rigorously formulating many innovative ideas.

2.08 The immediate goal of the human resources development has also been given due importance. Accordingly, throughout the entire range, from B.A. (Pass) to B.A. (Honours) to M.A., we have emphasised (i) Economic Theory (ii) Indian Economy and (iii) Quantitative Techniques, so that the students acquire the ability to formulate contextually relevant testable hypotheses and empirically verify them in a scientifically satisfactory way.

2.09 Much thought, we believe fruitfully, has been given to operationalising the proposed curriculum. The competence of the teachers and their motivation levels are very vital in this respect. The teaching profession should be respectable enough to attract the best talents in the country. Suggestions have been made for improving the working conditions of the teaching community. It must be remembered that many teachers are essentially the products of the defunct syllabi of yester-years. Thus immediate and extensive training facilities will have to be provided so that the proposed changes can be operationalised. The training has to encompass not only the competence in techniques and importantly the pedagogic aspects, but also a professional update. The latter implies providing more opportunities in the system to teachers for keeping themselves on the frontiers of knowledge in the discipline, planning new teaching/learning activities and creating and adapting innovative ideas and materials. There is no use in modernising/upgrading the Curriculum without the necessary periodic inservice training to teachers. Knowledge-expansion is now a fact of life. There is no last word in knowledge - it is ever changing, ever expanding. The teacher cannot escape this reality. This means that the teaching of Economics will not remain healthy if it becomes static, or if it gets into a set routine, unrelated to the sweeping changes all round. By providing greater opportunities to teachers for keeping themselves abreast with the latest developments in the subject, not only the teachers but also the students grow with the subject, as it will be taught as an 'evolving' discipline



and not as a 'finished product'. Universities in some advanced countries have made remarkable efforts in this direction. The need for a planned programme whereby every teacher will be exposed to new ideas at regular intervals has therefore been emphasised. For this purpose, there will have to be some permanent machinery for providing the teachers with all the facilities to update and deepen their own professional competence and for curriculum updating - which will be a permanent component of a university system. If implemented properly, a system offering such assistance need not detract from the freedom that teachers now possess; on the contrary, it would encourage experiments in new directions. The University Grants Commission has designed some such programmes, keeping these objectives in view. Efforts should be made to strengthen them. This will also enable establishing a more active and meaningful channel of communication between University Departments of Economics and teachers of Economics in the colleges. And it is this kind of interactive environment that the UGC mainly desires to achieve through programmes such as University Leadership Programmes.

2.10 Above all, the effectiveness of the proposed change requires enlightened local managements and commitment on the part of the government. What this means in specific terms is also spelt out in the Report.

2.11 An often heard criticism of the Economics programmes in Universities/colleges is that our graduates are not readily employable. They have to undergo additional practical training to bring them in tune with the requirements of the job. The time and effort spent in providing practical training to economics graduates represents a drag on the system. If our university and college courses could be geared up to provide instruction in practical aspects of economics, a substantial saving of time and effort would be possible. This in itself would be a not insignificant contribution to the development process and, consequently, the proposed curriculum has emphasised the practical dimension of economics.

2.12 The linkages between requirements of students, design of courses and job requirements need to be neatly synchronised with one another. This synchronisation avoids a mis-match between requirements of students and design of

courses, between design of courses and job requirements. The CDC has taken pains to identify target groups according to aspirations and requirements of students and has designed courses accordingly. In addition, courses have been designed to make students productively employable. This, it is hoped, will eliminate a mis-match between students college/university training and job requirements. It is the fervent belief of the CDC that this is the most optimal approach to the task of human resource development and, at a wider level, national development.

2.13 The last couple of paragraphs have stressed strengthening economics education, which must be distinguished from the mere award of degrees in economics. We have in mind a relevant and robust education in economics as an avenue to productive employment - we are not advocating a linkage between degrees and jobs. Let it be stated clearly that earning degrees is different from garnering education. The mindless 'paper chase' of degrees has been the bane of education in India. It is time we moved on from the ephemeral to the ethereal.

**ANNEXURE-III:**

**A) BRIEF INFORMATION ABOUT MODEL CURRICULUM**

**B) TEXT OF THE MODEL CURRICULUM**

**ANNEXURE III (a)**

**Brief Information about the Model Curriculum**

Code Number of Unit*	Name of the Unit/Paper	Unit Full/ Half	Total Marks Allot- ted	Theory Marks	Tuto- rial/ Class- work Marks	Lect- ure Hours Per Unit	Tuto- rial Hours Per Unit	Total Learn- ing Hours Per Unit
<b><u>B.A. (Pass): Core Papers</u></b>								
BA(P): C-1/3	Economic Theory	Full	100	75	25	105	35	140
BA(P): C-2/3	Indian Economy	Full	100	75	25	105	35	140
BA(P): C-3/3	Quantitative Methods	Full	100	75	25	70	25	95
<b><u>B.A. (Hons.): Core Papers:</u></b>								
BA(H): C-1/3	Economic Theory	Full	100	75	25	210	70	280
BA(H): C-2/3	Indian Economy	Full	100	75	25	70	25	95
BA(H): C-3/3	Quantitative Methods	Full	100	75	25	105	35	140
<b><u>B.A. (Hons): Optional Papers:</u></b>								
BA(H): O-1/11	History of Economic Thought	Full	100	75	25	70	25	95
BA(H): O-2/11	Economic History	Full	100	75	25	70	25	95
BA(H): O-3/11	Development Economics	Full	100	75	25	70	25	95
BA(H): O-4/11	Advanced Quantitative Methods	Full	100	75	25	70	25	95
BA(H): O-5/11	Econometric Methods	Full	100	75	25	70	25	95
BA(H): O-6/11	Computer Applications for Economists	Full	100	75	25	70	25	95
BA(H): O-7/11	Accounting and Financial Management	Full	100	75	25	70	25	95
BA(H): O-8/11	Regional Economics	Full	100	75	25	70	25	95
BA(H): O-9/11	International Economics	Full	100	75	25	70	25	95
BA(H): O-10/11	Agricultural Marketing	Full	100	75	25	70	25	95
BA(H): O-11/11	Demography	Full	100	75	25	35	15	50
<b><u>M.A.: Core Papers</u></b>								
MA: C-1/3	Economic Theory	Full	100	75	25	210	70	280
MA: C-2/3	Indian Economy	Full	100	75	25	70	25	95
MA: C-3/3	Quantitative Methods	Full	100	75	25	105	35	140

Contd...

Annexure III(a): Contd.

Code Number of Unit*	Name of the Unit/Paper	Unit Full/ Half	Total Marks Allotted	Theory Marks	Tutorial/Class-work Marks	Lecture Hours Per Unit	Tutorial Hours Per Unit	Total Learning Hours Per Unit
<u>M.A.: Optional Papers</u>								
MA: 0-1/19	Welfare Economics	Full	100	75	25	70	25	95
MA: 0-2/19	Economic History	Full	100	75	25	210	70	280
MA: 0-3/19	Socialist Economics	Full	100	75	25	70	25	95
MA: 0-4/19	Development Economics	Full	100	75	25	105	35	140
MA: 0-5/19	Econometric Theory	Full	100	75	25	175	60	235
MA: 0-6/19	Econometric Methods and Applications	Full	100	75	25	105	35	140
MA: 0-7/19	Optimisation Techniques	Full	100	75	25	105	35	140
MA: 0-8/19	Mathematical Economics	Full	100	75	25	105	35	140
MA: 0-9/19	Money and Banking	Full	100	75	25	105	35	140
MA: 0-10/19	Public Economics	Full	100	75	25	105	35	140
MA: 0-11/19	International Economics	Full	100	75	25	105	35	140
MA: 0-12/19	Industrial Economics	Full	100	75	25	70	25	95
MA: 0-13/19	Economics of Infrastructure	Full	100	75	25	70	25	95
MA: 0-14/19	Agricultural Economics	Full	100	75	25	70	25	95
MA: 0-15/19	Labour Economics	Full	100	75	25	70	25	95
MA: 0-16/19	Demography	Full	100	75	25	70	25	95
MA: 0-17/19	Health Economics	Full	100	75	25	70	25	95
MA: 0-18/19	Economics of Women's Studies	Full	100	75	25	105	35	140
MA: 0-19/19	Urban Economics	Full	100	75	25	70	25	95

\* Explanatory Note on the Code Number

The Code Number has 3 distinct alphanumeric characteristics. The first refers to the fact whether the paper concerned pertains to the B.A. (Pass), B.A. (Hons.) or M.A. degree, denoted, respectively, in the code by BA(P), BA(H) and MA. The second refers to whether the paper is part of the Core course (denoted by C) or the Optional Course (denoted by O). The third refers to the sequencing of these core/optional papers. This sequence is based on the Journal of Economic

Literature classification system for articles and abstracts. The numerator in this sequence pertains to the order of the concerned paper while the denominator refers to the total number of papers offered in this course.

For example, BA(H): 0-3/11 suggests that this paper, i.e. Development Economics, is part of the B.A. (Hons.) course; and that it is the third optional paper in this course comprising eleven optional papers.

ANNEXURE III (b)

TEXT OF THE PROPOSED MODERN CURRICULUM

B.A. (PASS)

---

Core Paper: Economic Theory

Code Number: BA(P):C-1/3

- Module 1: Nature and Scope of Economics.
- Module 2: Demand and Supply.
- Module 3: Price Determination.
- Module 4: Theory of Income, Employment and Prices: Classics and Keynes.
- Module 5: Money, Banking and Finance.

---

Core Paper: Indian Economy

Code Number: BA(P): C-2/3

- Module 1: Nature and Main Problems of the Indian Economy.
- Module 2: Agriculture and Rural Development.
- Module 3: Industry and Trade.
- Module 4: Infrastructure.
- Module 5: Money and Public Finance.
- Module 6: Planning and Development.
- Module 7: State-level Survey of the Indian economy.

---

Core Paper: Quantitative Methods

Code Number: BA(P): C-3/3

- Module 1: Elementary Mathematical Methods.
  - Module 2: Elementary Statistical Methods (I).
  - Module 3: Elementary Statistical Methods (II).
-

B.A. (Hons.)

---

Core Paper: Economic Theory

Code Number: BA(H): C-1/3

- Module 1: Basic Concepts and Problems.
  - Module 2: Demand and Supply Analysis.
  - Module 3: Market Structures.
  - Module 4: Distribution.
  - Module 5: Welfare Economics.
  - Module 6: National Income Accounting.
  - Module 7: Money, Income and Prices: **Classical** and Neo-Classical Approaches.
  - Module 8: Keynesian Theory of Income and Employment.
  - Module 9: Money, Banking and Finance.
  - Module 10: Growth, Inflation and Unemployment.
- 

Core Paper: Indian Economy

Code Number: BA(H): C-2/3

- Module 1: Historical Perspective.
  - Module 2: Institutions, Demography and Ecology.
  - Module 3: National Income and Macro-Economic Dimensions.
  - Module 4: Sectoral Functioning and Regional Imbalances.
  - Module 5: Planning, Development and Human Resources.
  - Module 6: Money, Finance and Trade.
- 

Core Paper: Quantitative Methods

Code Number: BA(H): C-3/3

- Module 1: Mathematical Methods-I.
  - Module 2: Mathematical Methods-II.
  - Module 3: Mathematical Methods-III.
  - Module 4: Statistical Methods-I.
  - Module 5: Statistical Methods-II.
  - Module 6: Introduction to Regression Analysis.
-

**M.A.**

---

**Core Paper: Economic Theory**

**Code Number: MA: C-1/3**

- Module 1: Basic Concepts.
  - Module 2: Theory of Demand.
  - Module 3: Theory of Production.
  - Module 4: Market Structures.
  - Module 5: Theory of Pricing.
  - Module 6: Distribution.
  - Module 7: Classical Theories of Value.
  - Module 8: The Capital Controversy.
  - Module 9: General Equilibrium.
  - Module 10: Welfare Economics.
  - Module 11: The Economics of Uncertainty.
  - Module 12: Microfoundations.
  - Module 13: National Income Determination: The Static Equilibrium Model.
  - Module 14: Sectoral Demand Functions.
  - Module 15: The Supply of Money.
  - Module 16: Equilibrium and Disequilibrium Analysis.
  - Module 17: Money and the Theory of Interest Rates.
  - Module 18: Introduction to Growth Theory.
  - Module 19: Money in Growth Models.
  - Module 20: Problems of Stabilisation Policy.
  - Module 21: Macroeconomics in the Open Economy.
- 

**Core Paper: Indian Economy**

**Code Number: MA: C-2/3**

- Module 1: Determinants of Income, Employment and the Growth Rate.
  - Module 2: Money, Interest, Price Level and Relative Prices.
  - Module 3: Foreign Exchange, Balance of Payments and International Economic Policy.
  - Module 4: Public Economics.
  - Module 5: Development Process, Planning Strategies and Economic Policy.
-



Core Paper: Quantitative Methods

Code Number: MA: C-3/3

- Module 1: Introduction to Linear Programming and Game Theory.
  - Module 2: Introduction to Input-Output Analysis.
  - Module 3: Probability.
  - Module 4: Statistical Inference.
  - Module 5: Regression Analysis.
  - Module 6: Econometric Applications.
-

B.A. (Hons.)

---

Optional Paper: History of Economic Thought  
Code Number: BA(H): O-1/11

- Module I: Early Period.  
Module II: The Classical period.  
Module III: The Later Period.  
Module IV: Indian Thought.
- 

Optional Paper: Economic History  
Code Number: BA(H): O-2/11

- Module I: British Economic History.  
Module II: Selected Problems in Indian Economic History: 1850-1947 - Agriculture.  
Module III: Selected Problems in Indian Economic History: 1850-1947 - Industry.  
Module IV: The Impact of British Rule.
- 

Optional Paper: Development Economics  
Code Number: BA(H) O-3/11

- Module I: Economic Development: An Overview.  
Module II: General Theories of Development.  
Module III: Alternative Theories of Underdevelopment.  
Module IV: Factors in the Development Process.  
Module V: Savings and Investment.  
Module VI: Monetary and Fiscal Policy.  
Module VII: Development and Planning.
- 

Optional Paper: Advanced Quantitative Methods  
Code Number: BA(H) O-4/11

- Module I: Sampling Theory and Practice.  
Module II: Elements of Matrix Analysis.  
Module III: Input-Output Analysis.  
Module IV: Linear Programming and Game Theory.
-

Optional Paper: Econometric Methods

Code Number: BA(H): 0-5/11

- Module I: Basic Estimation Theory.  
Module II: Testing of Hypothesis.  
Module III: Single Equation Models: Estimation and Problems.  
Module IV: Additional Topics in Single Equation Models.
- 

Optional Paper: Computer Applications for Economists

Code Number: BA(H): 0-6/11

- Module I: Basic Familiarity with Computer Hardware and Development.  
Module II: Computer Arithmetic and Simple Fortran Programming Statements.  
Module III: Programming: Applications to Algebra and Statistics.  
Module IV: File Processing.
- 

Optional Paper: Accounting and Financial Management

Code Number: BA(H): 0-7/11

- Module I: Financial Accounting.  
Module II: Cost Accounting.  
Module III: Management Accounting.  
Module IV: Financial Management.
- 

Optional Paper: Regional Economics

Code Number: BA(H): 0-8/11

- Module I: Region and Spatial Micro-economic Theory.  
Module II: Spatial Macroeconomic Theory.  
Module III: Regional Economic Policy.  
Module IV: Regional Imbalances and Policies for Removal of Imbalances.
-

Optional Paper: International Economics

Code Number: BA(H): O-9/11

- Module I: Pure Theory of International Trade.  
Module II: Trade and Commercial Policy.  
Module III: International Trade and Economic Development.  
Module IV: International Monetary System.  
Module V: Foreign Trade of India.
- 

Optional Paper: Agricultural Marketing

Code Number: BA(H): O-10/11

- Module I: Agricultural Production and Price Policy in India.  
Module II: Mobilisation and Marketing of Agricultural Surpluses.  
Module III: Agricultural Markets.  
Module IV: State and Agricultural Marketing.  
Module V: Foodgrains Marketing.
- 

Optional Paper: Demography

Code Number: BA(H): O-11/11

- Module I: Introduction.  
Module II: Demographic Data in India.  
Module III: Analysis of Demographic Data.  
Module IV: Population Projections.  
Module V: Population Policies and Programmes in India.
-

---

Optional Paper: Welfare Economics

Code Number: MA: 0-1/19

- Module I: Measurement of Economic Welfare.  
Module II: Welfare Economics and General Equilibrium.  
Module III: Social Welfare Function.  
Module IV: Applied Welfare Economics.
- 

Optional Paper: Economic History

Code Number: MA: 0-2/19

- Module I: Selected Problems in Indian Economic History.  
Module II: 1500-1800: Administration.  
Module III: 1500-1800: Agriculture.  
Module IV: 1500-1800: Industry and Trade.  
Module V: 1800-1947: Social and Economic History of Population.  
Module VI: 1800-1947: Agrarian Structure and Property Relations.  
Module VII: 1800-1947: Growth of the Labour Market.  
Module VIII: 1800-1947: Organisation of Traditional Manufactures.  
Module IX: 1800-1947: Modern Industry and Infrastructure.  
Module X: 1800-1947: Money, Banking and Trade.  
Module XI: Issues in Economic History.
- 

Optional Paper: Socialist Economics

Code Number: MA: 0-3/19

- Module I: Socialist Economies of the Soviet Type.  
Module II: Centralised Planning Model.  
Module III: Economic Reforms in Socialist Countries.  
Module IV: Yugoslavia, a Special Case.  
Module V: Money and Banking.  
Module VI: Fiscal System.  
Module VII: Socialist Foreign Trade.  
Module VIII: Convergence of Capitalism and Socialism.
-

Optional Paper: Development Economics

Code Number: MA: 0-4/19

- Module I: Development and Underdevelopment: An Overview.  
Module II: Grand Theories of Economic Growth and Development.  
Module III: Modern Theories of Economic Growth and Development.  
Module IV: Partial Theories of Economic Growth and Development.  
Module V: Factors in the Development Process.  
Module VI: Components in the Development Process.  
Module VII: International Aspects of Development.  
Module VIII: Mobilisation of Resources.  
Module IX: Allocation of Resources.  
Module X: Development Planning.
- 

Optional Paper: Econometric Theory

Code Number: MA: 0-5/19

- Module I: Probability Theory.  
Module II: Statistical Inference.  
Module III: Multivariate Analysis.  
Module IV: Theory of Linear Inference.  
Module V: The Regression Model.  
Module VI: Introduction to Time Series Analysis.  
Module VII: Non-Linear Estimation.  
Module VIII: Qualitative Response Models.  
Module IX: Simultaneous Equation Models.  
Module X: Model Selection Procedures.
- 

Optional Paper: Econometric Methods and Applications

Code Number: MA: 0-6/19

- Module I: Review of Regression Analysis.  
Module II: Generalised Least Squares.  
Module III: Non-Linear Estimation.  
Module IV: Distributed Lag Models.  
Module V: Linear Simultaneous Equation Models.  
Module VI: Econometric Applications.
-

Optional Paper: Optimisation Techniques  
Code Number: MA:0-7/19

- Module I: Linear Programming
  - Module II: Game Theory.
  - Module III: Input-Output Analysis.
  - Module IV: Non-Linear Programming.
  - Module V: Dynamic Programming.
  - Module VI: System Theory.
  - Module VII: The Calculus of Variations.
  - Module VIII: The Theory of Optimal Control.
- 

Optional Paper: Mathematical Economics  
Code Number: MA: 0-8/19

- Module I: Consumer Theory.
  - Module II: Producers' Theory.
  - Module III: Oligopoly Theory.
  - Module IV: Investment Theory.
  - Module V: The Economics of Uncertainty.
  - Module VI: General Equilibrium Theory.
  - Module VII: Optimal Economic Growth and Stabilisation.
  - Module VIII: The Theory of Planning.
- 

Optional Paper: Money and Banking  
Code Number: MA: 0-9/19

- Module I: Basic Concepts.
  - Module II: Monetary Theory: An Overview.
  - Module III: Banks, Non-Banks and Capital Market.
  - Module IV: Central Banking System.
  - Module V: The Theory of Money Supply.
  - Module VI: The Instruments of Monetary Control.
  - Module VII: Principles of Monetary Policy.
  - Module VIII: Growth, Stability and Equilibrium.
-

Optional Paper: Public Economics

Code Number: MA: 0-10/19

- Module I: Role of Government.
  - Module II: Welfare Foundations of Public Economics.
  - Module III: Rationale for Public Policies.
  - Module IV: Public Choice.
  - Module V: Taxation.
  - Module VI: Public Expenditure.
  - Module VII: Public Enterprises.
  - Module VIII: Indian Public Finance.
  - Module IX: Public Debt.
  - Module X: Fiscal Federalism.
  - Module XI: Fiscal Policy.
- 

Optional Paper: International Economics

Code Number: MA: 0-11/19

- Module I: Pure Theory of International Trade.
  - Module II: Commercial Policy.
  - Module III: Trade and Economic Development.
  - Module IV: International Monetary Theory and System.
  - Module V: India's Foreign Trade: Problems and Policies.
- 

Optional Paper: Industrial Economics

Code Number: MA: 0-12/19

- Module I: Basic Concepts and Industrial Development of India.
  - Module II: Theory of the Firm and Pricing.
  - Module III: Industrial Organisation.
  - Module IV: Corporate Form of Organisation.
  - Module V: Location and Regional Development.
  - Module VI: Industrialisation and Economic Development.
  - Module VII: Some Issues in Indian Industry.
-



Optional Paper: Economics of Infrastructure

Code Number: MA: 0-13/19

- Module I: Pricing of Public Utilities.
  - Module II: Transport Economics.
  - Module III: Communications.
  - Module IV: Energy Economics.
  - Module V: Electricity, Gas and Water Supply.
  - Module VI: Social Infrastructure.
  - Module VII: Economics of Education.
  - Module VIII: Economics of Environment.
- 

Optional Paper: Agricultural Economics

Code Number: MA: 0-14/19

- Module I: Agriculture in a Growing Economy.
  - Module II: The Economics of Agricultural Production.
  - Module III: Agricultural Factor-Markets.
  - Module IV: Determination and Behaviour of Agricultural Prices.
  - Module V: Factors Affecting Agricultural Growth and Productivity.
- 

Optional Paper: Labour Economics

Code Number: MA: 0-15/19

- Module I: The Labour Market.
  - Module II: Employment.
  - Module III: Wage Determination: Theory and Practice.
  - Module IV: Industrial Relations and Trade Unions.
  - Module V: State and Labour.
- 

Optional Paper: Demography

Code Number: MA: 0-16/19

- Module I: Introduction.
  - Module II: Historical and Regional Trends in the Population Size of the World.
  - Module III: Sex- and Age- Structure.
  - Module IV: Fertility, Nuptiality and Mortality.
  - Module V: Migration and Urbanisation.
  - Module VI: Population Policies.
-

Optional Paper: Health Economics  
Code Number: MA: 0-17/19

- Module I: The National and the International Health Scene.
  - Module II: Resource Allocation in the Health Sector.
  - Module III: Evaluation of Benefits and Costs of Health Services.
  - Module IV: Financing of Health Services.
- 

Optional Paper: Economics of Women's Studies  
Code Number: MA: 0-18/19

- Module I: Women's Studies: Introduction.
  - Module II: Demographic Aspects.
  - Module III: Women in Decision-making.
  - Module IV: Conceptualisation of Women's Work.
  - Module V: Women and Work.
  - Module VI: Wage Differentials.
  - Module VII: Women, Technology and Modernisation.
  - Module VIII: Labour Legislation and Women.
  - Module IX: Development and Women.
- 

Optional Paper: Urban Economics  
Code Number: MA: 0-19/19

- Module I: Structure of Human Settlements.
  - Module II: Economics of City Size.
  - Module III: Urban Infrastructure and Urban Planning.
  - Module IV: Urban Finance and Urban Management.
-

**ANNEXURE-IV:**  
**BLOW-UP OF THE COURSE-CONTENTS OF EACH PAPER UNIT**  
**(CORE AND OPTIONALS)**

Preamble

The paper attempts to equip the students with the basic tools and methods of economic analysis so that they are able to possess a working knowledge of analyzing economic phenomena. This objective is attained by introducing micro as well as macroeconomic theories in a cohesive fashion such that the student is able to understand the interactions (as well as their implications) that take place at all levels of the economy because, ultimately, it is these interactions that determine the level of welfare of the individual.

Module 1 introduces the nature and scope of economics and is concerned essentially with the discussion of various concepts which figure prominently in the subsequent modules. Modules 2 and 3 deal with microeconomic theories that try to establish the link between prices, outputs and costs at the firm (industry) level under alternative market structures. The concept of distribution (so important at the macro level) is extensively dealt with here. These modules therefore lay the groundwork for the theories that follow in Modules 4 and 5 which deal with macroeconomics. These modules are primarily concerned with theories that help to determine prices and output at the macroeconomic level. The role of banks in the determination of money supply, the concepts of inflation and measures to control it (including taxation) all serve to provide the student with a fairly accurate picture of the economy.

It is hoped that by equipping the students in this manner, they will endeavour to improve upon their perceptions of the economy and to this extent this paper should be viewed only as a means towards an end.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week spread over a 35-week academic year) is provided (in brackets) for each module. It is to be noted that all modules are starred which implies that no module can be omitted without suffering a loss of continuity.

### Module 1:\* Nature and Scope of Economics (10)

Wants and resources - Basic problems of choice of production and consumption - Types of economic systems and differences in the nature of problems - Role of price mechanism in market, mixed and controlled economies - Positive and normative economics - Micro and macro economics - Circular flow of economic activities - Economic institutions related to production, consumption and exchange - Their forms and functions at the micro and macro level - Important concepts and variables in economics - Concept and components of national income - Problems associated with respect to the measure of intangibles - Physical quality of life index (POLI) - Per capita income and its limitations as an index of welfare - Poverty and (gender specific) income distribution - Concepts of social product and net economic welfare (NEW).

### Module 2:\* Demand and Supply (20)

Utility analysis - Law of demand - Own and cross price elasticities of demand - Income elasticity of demand - Engel curves.

Production - Nature of production decisions - Fixed and variable inputs - Law of variable proportions - Internal and external economies - Concept of cost (including opportunity cost) - Relationship between total average and marginal costs - Short run and long run costs - Supply curves - Equilibrium between supply and demand in the market.

### Module 3:\* Price Determination (20)

Market forms - Concept of equilibrium - Price and output determination under perfect competition and monopoly - Short period and long period analysis - Notion of controlled and administered prices.

Nature of factor markets - Pricing of factors of production - Marginal productivity theory - Distribution as allocation of the components of surplus - Concepts of rent, quasi rent and profits.

Module 4:\* Theory of Income, Employment and Prices:  
Classics and Keynes (25)

Elements of the classical model - Basic features - Say's law of markets - Quantity theory of money - Price flexibility and employment.

Simple Keynesian theory of income determination - Consumption and investment functions - The multiplier and accelerator - Demand for money - The rate of interest - Elementary analysis in terms of IS-LM curves - Relevance of classical and Keynesian models for the Indian economy.

Module 5:\* Money, Banking and Finance (30)

Role of the central bank with special reference to the RBI - The money market - Features of the Indian money market - Credit creation by commercial banks - Money supply and the money multiplier.

Inflation - Types, causes and consequences - The control of inflation.

Taxation - Principles, types (income, wealth and commodity), incidence and (distributional) effects of taxation.

REFERENCES

Module 1:

- 1) Bach, G.L. (1977), Economics, 9e, Prentice-Hall of India, New Delhi.
- 2) Lipsey, R.G. (1971), An Introduction to Positive Economics, 3e, Weidenfeld & Nicholson, London.
- 3) Lipsey, R.G. and O.P. Steiner (1969), Economics, 2e, Harper and Row Publications, New York.
- 4) Robinson, J. and J. Eatwell (1973), An Introduction to Modern Economics, McGraw-Hill, Maidenhead.
- 5) Samuelson, P.A. (1980), Economics, 11e, McGraw-Hill Kogakusha, Tokyo.

### Module 2:

- 1) Bach, G.L. (1977), Economics, 9e, Prentice-Hall of India, New Delhi.
- 2) Lipsey, R.G. and O.P. Steiner (1969), Economics, 2e, Harper and Row Publishing Company, New York.
- 3) Robinson, J. and J. Eatwell (1973), An Introduction to Modern Economics, McGraw-Hill, Maidenhead.
- 4) Samuelson, P.A. (1980), Economics, 11e, McGraw-Hill, Kogakusha, Tokyo.
- 5) Stonier, A.W. and D.C. Hague (1972), A Textbook of Economic Theory, 4e, Longman Group, London.

### Module 3

- 1) Bach, G.L. (1977), Economics, 9e, Prentice-Hall of India, New Delhi.
- 2) Lipsey, R.G. and O.P. Steiner (1969), Economics, 2e, Harper and Row Publishing Company, New York.
- 3) Robinson, J. and J. Eatwell (1973), An Introduction to Modern Economics, McGraw-Hill, Maidenhead.
- 4) Samuelson, P.A. (1980), Economics, 11e, McGraw-Hill, Kogakusha, Tokyo.
- 5) Stonier, A.W. and D.C. Hague (1972), A Textbook of Economic Theory, 4e, Longman Group, London.

### Module 4

- 1) McConnell, C.R. and H.C. Gupta (1987), Introduction to Macroeconomics, Tata-McGraw Hill, New Delhi.
- 2) Dornbusch, R. and S. Fischer (1987), Macroeconomics, 4e, McGraw-Hill Kogakusha, Tokyo.
- 3) Gupta, S.B. (1983), Monetary Economics, S. Chand & Co., New Delhi.

- 4) Samuelson, P.A. (1980), Economics, 11e, McGraw-Hill Kogakusha, Tokyo.
- 5) Stonier, A.W. and D.C. Hague (1972), A Textbook of Economic Theory, 4e, Longman Group, London.

Module 5:

- 1) Gupta, S.B. (1979), Monetary Planning for India, Oxford University Press, Delhi.
- 2) Gupta, S.B. (1983), Monetry Economics, S. Chand & Co., New Delhi.
- 3) Mitra, S. Ed. (1970), Money and Banking, Random House, New York.
- 4) Swamy, D.S. (1979), Macroeconomics: Management and Policies, MacMillan Co. of India, Delhi.
- 5) Taylor, P.E. (1963), The Economics of Public Finance, Macmillan London.



Preamble

The major purpose of the Indian economy course at the B.A. (Pass) level is to enable the student to have an essential understanding of various issues of the Indian economy, so that he is able to comprehend and critically appraise current Indian economic problems.

Module 1 introduces the nature and problems of the Indian economy thus setting the pace for the modules to follow. Modules 2, 3 and 4 are concerned with agriculture, industry and trade, and infrastructure, respectively, and are concerned with a basic understanding of these sectors and their inter-linkages. Module 5 deals with money and public finance. All these modules therefore form a prelude to Module 6 which concerned itself entirely with planning and development. Module 7 is concerned with a broad survey of the economy at a state level.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week spread over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that Modules 1, 2, 3, 5 and 6 are all starred modules, which implies that only modules 4 and 7 can be omitted without suffering a loss of continuity.

Module 1:\* Nature and Main Problems of the Indian Economy (15)

Indian Economy during the pre-Independence period - Main characteristics of the Economy - Indicators of Development - National Income - Meaning, Size, Composition, Trends and Distribution - Methods and Limitations of Measurement - Problems of non-inclusion of intangibles, e.g. unpaid work by women - Levels of Living, Poverty and Unemployment with special reference to women - Inequality and Regional Imbalance - Population Dynamics - Problems of Population Explosion - Population and Economic Development - Population Policy - Population and Labour force - Occupational structure - age, gender, rural, urban.

Module 2:\* Agriculture and Rural Development (15)

Role and Importance of Agriculture in the Indian Economy - Indian Agricultural Sector - Productivity Trends - Potential and Constraints - Factors determining Productivity: (a) Institutional land holding and land reforms, finance and marketing; (b) Technological: Inputs, Irrigation, Power, Fertilisers, Seeds, Mechanisation - Green Revolution - Rural Poverty and Unemployment - Various Rural Development Programmes with reference to their differential impact on women and weaker sections - Buffer-stocks and Public Distribution System.

Module 3:\* Industry and Trade (15)

Industrial Policy and the Plans - Growth and Problems of Large and Small Industries - Industrial Finance - Labour and Industrial Relations - Wages and Productivity - Industrial Disputes and Trade Union Movement - Trade Policy - Import Substitution and Export Promotion - Balance of Payments - Role of the EXIM Bank and IMF.

Module 4:\* Infrastructure (10)

Role of Infrastructure in Economic Development - Physical Infrastructure: Energy - Sources and Types; Transport and Communication - Social Infrastructure: Education - Health and Nutrition.

Module 5:\* Money and Public Finance (20)

Indian Monetary and Credit System - Money and Capital Market - Reserve Bank of India - Commercial Banks and other Financial Institutions - Monetary Policy - Price Trends and Price Policy - Growth of Public Expenditure - Sources and Trends in Revenue - Public Debt - Deficit Financing - Fiscal Policy of the Government: Centre-State Financial Relations - Problems of Parallel Economy.

Module 6:\* Planning and Development (20)

India's Five Year Plans - Objectives, Priorities, Achievements and Short-comings - Needs Versus Resources - Internal and External - Development Strategy in Indian Planning - Relative Importance of Public and Private Sector in the Economy.

Module 7: State Level Survey of the Indian Economy (10)

A broad survey of the State's economy with respect to the same parameters, spelt out for the Indian Economy.

REFERENCES

Module 1:

- 1) Agarwal, A.N. (1979), Indian Economy, 5e, Vikas Publishing House, New Delhi.
- 2) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 3) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 4) Hicks, J.R., M. Mukharjee and S.K. Ghosh (1984), The Framework of the Indian Economy, Oxford University Press, Delhi.
- 5) Rao, V.K.R.V. (1983), India's National Income: 1950-1980, Sage Publications India, New Delhi.

### Module 2:

- 1) Agarwal, A.N. (1979), Indian Economy, 5e, Vikas Publishing House, New Delhi.
- 2) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 3) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 4) Misra, S.K. and V.K. Puri (1985), Indian Economy, 3e, Himalaya Publishing Co., Bombay.
- 5) Wadhva, C.D. ed., (1977), Some Problems of India's Economic Development, 2e, Tata McGraw-Hill, New Delhi.

### Module 3:

- 1) Bhagwati, J. and P. Desai (1972), India - Planning for Industrialisation, Oxford University Press, London.
- 2) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 3) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 4) Misra, S.K. and V.K. Puri (1985), Indian Economy, 3e, Himalaya Publishing Co., Bombay.
- 5) Wadhva, C.D. ed., (1977), Some Problems of India's Economic Development, 2e, Tata McGraw-Hill, New Delhi.

### Module 4:

- 1) Agarwal, A.N. (1979), Indian Economy, 5e, Vikas Publishing House, New Delhi.
- 2) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 3) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 4) Misra, S.K. and V.K. Puri (1985), Indian Economy, 3e, Himalaya Publishing Co., Bombay.
- 5) Shrivastava, O.S. (1985), Advanced Economics of Development and Planning, Allied Publishers, New Delhi.

### Module 5:

- 1) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 2) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 3) Gupta, S.B. (1979), Monetary Planning in India, Oxford University Press, Delhi.
- 4) Gupta S.B. (1983), Monetary Economics, S. Chand & Co., New Delhi.
- 5) Misra, S.K. and V.K. Puri (1985), Indian Economy, 3e, Himalaya Publishing Co., Bombay.

### Module 6:

- 1) Bhagwati, J. and S. Chakravarty (1971), Contributions to Indian Economic Analysis, Lalvani Publishing House, Bombay.
- 2) Ghatak, S. (1978), Development Economics, Longman Group Ltd., New York.
- 3) Ghosh, A. and S.K. Ghosh (1983), Planning Techniques and Indian Plans, A.H. Wheeler & Co., Allahabad.
- 4) Misra, S.K. and V.K. Puri (1985), Indian Economy, 3e, Himalaya Publishing Co., Bombay.
- 5) Wadhva, C.D. ed., ed., (1977), Some Problems of India's Economic Development, 2e, Tata McGraw-Hill, New Delhi.

### Module 7:

- 1) Chopra, P.N. (1974), Development Planning, Vishal Publications, Julundur.
- 2) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 3) Roy, H. Ed. (1978), Collected Essays on Economic Problems of India, World Press, Calcutta.
- 4) Uppal, J.S. Ed. (1975), India's Economic Problems, Tata McGraw-Hill, New Delhi.
- 5) Wadhva, C.D. (1977), Some Problems of India's Economic Development, 2e, Tata McGraw-Hill, New Delhi.

CODE NO: BA(P): C-3/3

B.A. (PASS)

CORE PAPER: QUANTITATIVE METHODS

**Preamble**

Economics has become more and more analytic over the years, requiring sufficient knowledge of quantitative methods. To meet this requirement, a course in quantitative methods for B.A. (Pass) course is absolutely essential as it will enable the student to analyse and interpret data and to react in an intelligent manner to current economic events.

Module 1 deals with mathematical methods and is expected to provide an introduction to solutions of equations, functions and diagrams in economic theory, and derivatives and integrals (economic applications only). Module 2 deals with elementary statistical methods and is basically concerned with the methods of collection, presentation and analysis of data. Module 3 deals with the application of statistical methods, the construction of index numbers and elementary (classical) time series analysis.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture-hour per week spread over a 35-week academic year) is provided (in brackets) for each module. All modules are starred modules, which implies that no module can be omitted without loss of continuity.

Module 1:\* Elementary Mathematical Methods (20)

Properties of real numbers - solution of quadratic equations - solution of linear equations in two variables - Functions and diagrams in economic theory - polynomial and exponential functions - Concepts of derivatives and integrals: economic applications only (geometrical exposition).

Module 2:\* Elementary Statistical Methods-I (20)

Methods of Collection and presentation of data - Analysis of univariate data - Measures of central tendency: mean, median and mode - Measures of dispersion: range, variance, standard deviation and coefficient of variation - Concept of skewness - Analysis of bivariate data - Correlation and regression for ungrouped data - method of least squares with one independent variable.

Module 3:\* Elementary Statistical Methods-II (30)

Nature and sources of macro-economic data in India - national income, price level and money supply - population census and National Sample Survey - Index Numbers: Concepts - Laspeyres, Paasche and fixed weight formulas - Time series analysis - components of time series - determination of trend - calculation of growth rates.

REFERENCES

Module 1:

- 1) Allen, C.L. (1962), Elementary Mathematics of Price Theory, Wordsworth Publishing Company, California.
- 2) Allen, R.G.D. (1974), Mathematical Analysis for Economists, MacMillan Press, London.
- 3) Archibald, G. and R.G. Lipsey (1973), Introduction to a Mathematical Treatment of Economics, 2e, Weidenfeld and Nicolson, London.

- 4) Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, 3e, McGraw Hill, New York.
- 5) Morley, R. (1972), Mathematics for Modern Economics, Fontana, London.

Module 2:

- 1) Allen, R.G.D. (1949), Statistics for Economists, Hutchinson's University Library, London.
- 2) Croxton, F.E., D.J. Crowden & S. Klein (1973), Applied General Statistics, 3e, Prentice Hall of India, New Delhi.
- 3) Fox, K.A. (1972), Intermediate Economic Statistics, Wiley Eastern Private Ltd., New Delhi.
- 4) Nagar, A.L. and R.K.Das (1976), Basic Statistics, Oxford University Press, Bombay.
- 5) Wilks, S.S. (1948), Elementary Statistical Analysis, Princeton University Press, Princeton, New Jersey.

Module 3:

- 1) Croxton, F.E., D.J. Crowden and S. Klein (1973), Applied General Statistics, 3e, Prentice Hall of India, New Delhi.
- 2) Fox, K.A. (1972), Intermediate Economic Statistics, Wiley Eastern Pvt. Ltd., New Delhi.
- 3) Nagar, A.L. and R.K. Das (1976) Basic Statistics, Oxford University Press, Bombay.
- 4) National Income of India: Growth and Distribution, (1963) Indian Merchant's Chamber, Bombay.
- 5) Rao, V.K.R.V. (1983), India's National Income: 1950-1980, Sage Publications India, New Delhi.



Preamble

This paper attempts to equip the students with the essential tools and methods of economic analysis so that they are able to discern between the various causations inherent in economic phenomena. This objective is attained by introducing micro as well as macro-economic themes in a fairly rigorous manner such that the interactions that take place at all levels of the economy are clearly and unambiguously spelt out.

To this effect, Modules 1-5 deal with microeconomics, while modules 6-10 are concerned with macroeconomics. Module 1 is concerned essentially with introducing the concepts that shall be encountered in the next 4 modules in micro economic theory. Module 2 deals with consumer choice and production theory and introduces the concept of production functions which are essential at the macro economic level. Modules 3 and 4 are concerned with market structures and their effect on pricing policy; and the laws underlying the determination of factor shares. Module 5 deals with welfare economics which can be considered as a half-way house between micro and macro economics. Module 6 is primarily concerned with national income accounting and sets the pace for the macroeconomic concepts to follow. Modules 7 and 8 deal with alternative theories of the determination of prices, output and employment at the economy-wide level. The theories of consumption and investment behaviour that emanate are but a logical extension of the underlying assumptions of these theories. Module 9 is a digression on the role of banks in the money supply determination process which is an essential pre-requisite for understanding the modus operandi of inflation (and its impact on growth and unemployment), which is dealt with in the last module.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 6 lecture hours per week spread over a 35-week academic year) is provided (in brackets) for each module. All the modules are starred modules which implies that no module can be omitted without suffering a loss of continuity.

Module 1:\* Basic Concepts and Problems (15)

Nature and scope of economics - Wants and resources - Basic economic problems (including the problem of intertemporal choice) - Positive and normative economics - Role of price mechanism - Planning and the price mechanisms - Notion of competition - Perfect and imperfect markets - Production - Forms of organisation - Concepts of discounting - Net present value - Internal rate of return.

Module 2:\* Demand and Supply Analysis (25)

Alternative approaches to the theory of choice - Cardinal and ordinal approaches - Income and substitution effects of price changes - Elasticities: Their measurement and uses - Concept of consumer surplus and its uses.

Production - Nature of production decisions - Production functions - Specification of technology - Fixed coefficients and neo-classical forms of production functions - Cobb-Douglas and C.E.S. production functions with their properties - Concept of cost (including opportunity cost) - Derivation of cost curves - Relationship between total, average and marginal costs - Short run and long run costs - Producer's equilibrium - Supply curves - Internal and external economies - Market equilibrium of demand and supply.

Module 3:\* Market Structures (25)

Different forms of market structures - Features of competitive markets - Determinations of prices and output under competition in the short run and long run - Equilibrium under monopoly - Different types of price discrimination under monopoly - Control of monopoly - Monopolistic competition - Pricing under oligopoly - Concentration of market power - Controlled prices, Administered pricing and the question of public interest.

Module 4:\* Distribution (20)

Alternative approaches to the determination of factor shares and factor pricing - Personal and functional distribution of income - The neo-classical model of distribution - Kaldor and Kalecki - Concept and measurement of poverty with special reference to India.

Module 5:\* Welfare Economics (20)

Problems in measuring welfare and comparing alternative economic states - Two-person two-good models of exchange with the help of the Edgeworth box diagram - Notion of a contract curve - Production possibility and utility possibility curves - Pareto's criteria - Compensation tests - Concept of a social welfare function - Concepts of net economic welfare (NEW) and the measure of economic welfare (MEW) - Physical quality of life index (PQLI).

Module 6:\* National Income Accounting (15)

National income and social accounting - Concept and measurement of national income - Problems associated with respect to the measurement of intangibles - Inter-relationship between three measures of national income in the presence of the government sector and international transactions - Social accounting - U.N. system of national income accounting - National income accounting in socialist economies.

Module 7:\* Money, Income and Prices: Classical and Neo-classical approaches (25)

Classical and neo-classical approaches to the theory of price, output and employment determination - Price flexibility and full employment - Say's law of markets - Quantity theory of money - Critique of the classical approach - Demand for money and Friedman's restatement of the Quantity theory of money.

Module 8:\* Keynesian Theory of Income and Employment (25)

The Keynesian approach to the determination of prices, output and employment - Interaction between commodity, labour and money markets - Involuntary unemployment and full employment. The Consumption function - Modern theories of consumption behaviour (Duesenberry, Friedman and Modigliani) - Liquidity preference and the rate of interest - Theories of investment.

Module 9:\* Money, Banking and Public Finance (20)

Central Banking - Changing functions of the central bank - British-American model - Structure and features of money markets in developed and underdeveloped economics - Recent theories of commercial banking - Commercial banks and credit creation - Concept of money supply - "H" theory of money - Money and the credit multiplier - Commercial banks vis-a-vis non-bank financial intermediaries (NBFI) Gurley-Shaw hypothesis - Regulatory and developmental role of the RBI. Taxation - Principles, types, incidence and effects of taxation - Monetary and Fiscal Policy measures - Money supply and budget deficits - The balanced budget theorem.

Module 10:\* Growth, Inflation and Unemployment (20)

Types and theories of inflation - Inflation control - Instruments of inflation control - Phillips curve - Trade-off between inflation and unemployment - Productivity, growth and stagflation - Harrod and Domar growth models - Solow's growth model.

REFERENCES

Module 1:

- 1) Ferguson, C.E. (1968), Microeconomic Theory, Cambridge University Press, London.
- 2) Miller, R.L. and R.E. Meiners (1986), Intermediate Microeconomics, McGraw-Hill, New York.
- 3) Stigler, G. (1966), The Theory of Price, 3e, Macmillan, New York.
- 4) Varian, H. (1978), Microeconomic Analysis, W.W. Norton, New York.

Module 2:

- 1) da Costa, G.C. (1980), Production, Prices and Distribution, Tata McGraw-Hill, New Delhi.

- 2) Koutsoyiannis, A. (1979), Modern Microeconomics, 2e, Macmillan Press, London.
- 3) Leftwich, R.H. and R. Eckert (1985), The Price System and Resource Allocation, 9e, Dryden Press, Hinsdale.
- 4) Mansfield, E. (1975), Microeconomics: Theory and Applications, 2e, W.W. Norton and Co., New York.

### Module 3:

- 1) da Costa, G.C. (1980), Production, Prices and Distribution, Tata McGraw Hill, New Delhi.
- 2) Koutsoyiannis, A. (1979), Modern Microeconomics, 2e, Macmillan Press, London.
- 3) Mansfield, E. (1975), Microeconomics: Theory and Applications, 2e, W.W. Norton and Co., New York.
- 4) Means, G. (1962), Pricing Power and Public Interest, Harper & Bros., New York.

### Module 4:

- 1) American Economic Association, (1950), Readings in the Theory of Income Distribution, George Allen & Unwin, London.
- 2) Bronfenbrenner, M. (1971), Income Distribution Theory, MacMillan Press, London.
- 3) Kaldor, N. (1960), Essays on Value and Distribution, G.Duckworth and Co., London.
- 4) Weintraub, S. (1958), An Approach to the Theory of Income Distribution, Chilton and Company, Philadelphia.

### Module 5:

- 1) Graaff, J.V. de (1957), Theoretical Welfare Economics, Cambridge University Press, Cambridge, England.
- 2) Mishan, E.J. (1964), Welfare Economics, Random House, London.

- 3) Ng, Y.K. (1979), Welfare Economics, MacMillan Press, London.
- 4) Winch, D.M. (1971), Analytical Welfare Economics, Penguin Books Ltd., London.

Module 6:

- 1) Edey, M. and A.T. Peacock (1967), National Income and Social Accounting, 3e, Hutchinson Univ. Library, London.
- 2) Hicks, J.R., M. Mukharjee and S.K. Ghosh (1984), The Framework of the Indian Economy, Oxford University Press, Delhi.
- 3) Rao, V.K.R.V. (1983), India's National Income: 1950-1980, Sage Publications India, New Delhi.
- 4) Ruggles, R. and N.D. Ruggles (1956), National Income Accounts and Income Analysis, McGraw-Hill Book Company, New York.

Module 7:

- 1) Ackley, G. (1978), Macroeconomics: Theory and Policy, MacMillan Publishing Co., New York.
- 2) Crouch, R.L. (1972), Macroeconomics, Harcourt, Brace and Jovanovich, New York.
- 3) Friedman, M. (1956), Studies in the Quantity Theory of Money, University of Chicago Press, Chicago.
- 4) Gordon, R.J. (1981), Macroeconomics, 2e, Little, Brown & Co., Boston.

Module 8:

- 1) Branson, W.H. (1972), Macroeconomic Theory and Policy, Harper & Row, New York.
- 2) Dillard, D. (1948), The Economics of John Maynard Keynes, Prentice Hall, New York.

- 3) Dornbusch, R. and S. Fischer (1984), Macroeconomics, 3e, McGraw-Hill Kogakusha, Tokyo.
- 4) Keynes, J.M. (1936), The General Theory of Employment, Interest and Money, MacMillan, London.

Module 9:

- 1) Dornbusch, R. and S. Fischer (1984), Macroeconomics, 3e, McGraw-Hill Kogakusha, Tokyo.
- 2) Gupta, S.B. (1983), Monetary Economics, S. Chand & Co., New Delhi.
- 3) McConnell, C.R. and H.C. Gupta (1987), Introduction to Macro-Economics, Tata McGraw-Hill, Delhi.
- 4) Prest, A.R. (1970), Public Finance in Theory and Practice, 4e, English Language Book Society, London.

Module 10:

- 1) Branson, W.H. (1972), Macroeconomic Theory and Policy, Harper & Row, New York.
- 2) Dornbusch, R. and S. Fischer (1984), Macroeconomics, 3e, McGraw-Hill Kogakursha, Tokyo.
- 3) Gupta, S.B. (1983), Monetary Economics, S. Chand & Co., New Delhi.
- 4) Jones, H.G. (1976), An Introduction to the Modern Theories of Economic Growth, McGraw-Hill Kogakusha, Tokyo.

CODE NO: BA(H): C-2/3

B.A. (HONS.)

CORE PAPER: INDIAN ECONOMY

**Preamble**

The main objectives of the Indian Economy course at the B.A. (Hons.) level are to enable the student to (a) understand the structure and development of the economy and (b) critically analyse the approaches, forces and issues of the Indian economy.

To this end Modules 1 and 2 explain the institutional, demographic and ecological set up of the economy with a historical perspective as a backdrop. Module 3 deals with national income and problems associated with its measurement. Modules 4 and 5 are concerned with planning and development and dwell in length on sectoral linkages and imbalances. Module 6 is concerned with money, finance and trade and tries to view the economy within an international setting.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week spread over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that modules 3, 4, 5 and 6 are all starred modules, which implies that only modules 1 and 2 can be omitted without suffering a loss of continuity.



Module 1: Historical Perspective (10)

Effects of the Colonial Rule and the Explanation of Stagnation by Naoroji and Ranade - 'Effects of Partition' on the Indian Economy - Poverty, Unemployment and Inequality, with special reference to Gender-inequality - Resource-constraint in Relation to Population.

Module 2: Institutions, Demography and Ecology (10)

Institutional Arrangements - Pattern of Property and Asset-ownership, with special reference to Women - Immobilities - Segmented Markets - Types of Dualism - Demographic Dimension and its Relation to the Development Problem - Ecological Dimension - Renewable and Non-Renewable Resources - Efficiency of Resource-use and its Significance for future development.

Module 3:\* National Income and Macro-Economic Dimensions (10)

National Income - Size, Structure and Trends - Conceptual Problems of Measurement, with special reference to Women's contribution - Saving and Investment - Sources and Trends Employment and Income in the Indian Economy - The participation rates of male/female/rural/urban/problems of child labour.

Module 4:\* Sectoral Functioning and Regional Imbalances (10)

Sector-wise functioning of the Indian Economy: Agriculture, Industry and Infrastructure - Leading Issues and Implications thereof - Terms of Trade between Agriculture and Industry - Regional Imbalances and Disparities - Policies for Regional Development.

Module 5:\* Planning, Development and Human Resources (10)

Planning and Development Process in India - Objectives, Leading Issues and Controversies - Strategies of Development - The Role of Public Sector in the Economy - Human Resource Development - Education, Health and Nutrition with special reference to Women and Weaker Sections.

## Module 6:\* Money, Finance and Trade (20)

Monetary and Financial Systems - Money and Capital Markets: Leading Features, Institutions - Monetary Policy and its Efficiency - Indian Fiscal System - Major Issues in Fiscal Policy: Deficit Financing and its Implications - Problems of Parallel Economy - External Sector of the Economy - Trade and Aid, Structure of Trade - Terms of Trade and Trade Policies Balance of Payments - India in the International Setting: Problem of Internal and External Debt - Size and Implications.

### REFERENCES

#### Module 1:

- 1) Bagchi, (1982), Political Economy of Underdevelopment in India, Cambridge University Press, Cambridge.
- 2) Bardhan, P.K. (1984), Political Economy of Development in India, Oxford University Press, New Delhi.
- 3) Minhas, B.S. (1974), Planning and the Poor, S. Chand and Company, New Delhi.
- 4) Ray, S.K. (1987), Indian Economy, Prentice Hall of India, New Delhi.
- 5) Sundrum, R.M. (1986), Growth and Income Distribution in India, Sage Publications, New Delhi.

#### Module 2:

- 1) Datta, B. (1977), The Contents of Economic Growth and Other Essays, Research India Publications, Calcutta.
- 2) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 3) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 4) Roy, H. ed., (1978), Collected Essays on Economic Problems of India, World Press, Calcutta.
- 5) Uppal, J.S. ed., (1975), India's Economic Problems, Tata McGraw-Hill, New Delhi.

### Module 3:

- 1) Edey, H. and A.T. Peacock (1967), National Income and Social Accounting, 3e, Hutchinson University Library, London.
- 2) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 3) Rao, V.K.R.V. (1983), India's National Income: 1950-1980, Sage Publications India, New Delhi.
- 4) Sundrum, R.M. (1986), Growth and Income Distribution in India, Sage Publications, New Delhi.
- 5) Uppal, J.S. ed., (1975), India's Economic Problems, Tata-McGraw Hill, New Delhi.

### Module 4:

- 1) Bhagwati, J. and P. Desai (1972), India - Planning for Industrialisation, Oxford University Press, London.
- 2) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 3) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 4) Sandesara, J.C. ed., (1974), Indian Economy: Performance and Prospects, University of Bombay, Bombay.
- 5) Wadhva, C.D. ed., (1977), Some Problems of India's Economic Development, 2e, Tata McGraw-Hill, New Delhi.

### Module 5:

- 1) Ghatak, S. (1978), Development Economics, Longman Group Ltd., New York.
- 2) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 3) Ray S.K. (1987), Indian Economy, Prentice Hall of India, New Delhi.

- 4) Rudra, A. (1976), Indian Plan Models, Allied Publishers, New Delhi.
- 5) Wadhva, C.D. ed., (1977), Some Problems of India's Economic Development, 2e, Tata McGraw-Hill, New Delhi.

Module 6:

- 1) Agarwal, A.N. (1979), Indian Economy, 5e, Vikas Publishing House, New Delhi.
- 2) Chakravarty, S., Chairman (1985), Report of the R.B.I. to review the Working of the Monetary System, Reserve Bank of India, Bombay.
- 3) Dutt, R. and K.P.M. Sundaram (1987), Indian Economy, 25e, S. Chand and Company, New Delhi.
- 4) Ghosh, A. (1987), Indian Economy, 25e, World Press, Calcutta.
- 5) Gupta, S.B. (1983), Monetary Economics, S. Chand & Co., New Delhi.

Preamble

The main objective of the B.A. (Hons.) course is to prepare the student for a professional career in economics. For such a professional career, an in-depth training in quantitative methods is essential, because only then will the student be able to understand and use some of the more important techniques in economics which are, of late, being used more and more frequently.

Modules 1-3 deal with mathematical methods. Module 1 deals with some of the simpler concepts of mathematical methods like sets, functions, and diagrams. A brief introduction to limits and continuity, and the subsequent concept of derivatives are also discussed here. Module 2 is mostly concerned with differentiation and integration and their applications to economics. Module 3 deals with constrained optimisation problems and introduces the concepts of matrices and determinants. Its extension into input-output analysis is then discussed. Modules 4-6 deal with statistical methods. Module 4 deals with the methods of collection, presentation and analysis of data and discusses the techniques of correlation and regression. Module 5 is concerned essentially with the nature and sources of macroeconomic data in India, and deals with the concepts of index numbers and (classical) time series analysis. Module 6 is concerned with probability theory, sampling, and multiple regression.

The suggested number of lecture hours that ought to be devoted to each module (under assumption of 3 lecture hours per week spread over a 35-week academic year) is provided (in brackets) for each module.

It is to be noted that all modules are starred which implies that no module can be omitted without suffering a loss of continuity.

**Module 1:\* Mathematical Methods-I (20)**

Sets, relations and functions - Limits and continuity - Functions and diagrams in economic theory - Derivative and its interpretation - economic applications - maxima and minima.

**Module 2:\* Mathematical Methods-II (10)**

Logarithmic derivation and evaluation of elasticities - Partial derivatives and their economic applications - homogeneous functions and Euler's theorem - Concept of integration - application in the analysis of consumer surplus.

**Module 3:\* Mathematical Methods-III (15)**

Constrained optimisation: concept and simple economic applications - Introduction to matrix algebra and determinants: Applications in basic static input-output analysis - introduction to linear programming.

**Module 4:\* Statistical Methods-I (20)**

Methods of collection and presentation of data - Analysis of univariate data: Measures of central tendency - mean, median, mode - Measures of dispersion - range, variance, standard deviation and coefficient of variation - Concept of skewness - Analysis of bivariate data: Correlation and regression for ungrouped data - method of least squares with one independent variable.

**Module 5:\* Statistical Methods-II (20)**

Nature and sources of macro-economic data in India: national income, price level and money supply - population census and National Sample Survey - Index Numbers: concept - Laspeyres, paasche and fixed weight formula - Time series analysis: components of time series - determination of trend - calculation of growth rates.

**Module 6:\* Introduction to Regression Analysis (20)**

Elementary probability theory - concept of random variable - binomial and normal probability distributions -

Concept of sampling distribution and uses - standard error  
- Multiple regression with two independent variables:  
concept - calculation and interpretation of regression  
coefficients.

#### REFERENCES

##### Module 1:

- 1) Allen, R.G.D. (1974), Mathematical Analysis for Economists, MacMillan Press, London.
- 2) Archibald, G. and R.G. Lipsey (1973), Introduction to a Mathematical Treatment of Economics, 2e, Weidenfeld and Nicolson, London.
- 3) Baumol, W.J. (1965), Economic Theory and Operations Analysis, 2e, Prentice Hall, Englewood Cliffs, New Jersey.
- 4) Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, 3e, McGraw Hill, New York.
- 5) Yamane, T. (1968), Mathematics for Economists, 2e, Prentice Hall, Englewood Cliffs, New Jersey.

##### Module 2:

- 1) Allen, R.G.D. (1974), Mathematical Analysis for Economists, MacMillan Press, London.
- 2) Archibald, G. and R.G. Lipsey (1973), Introduction to a Mathematical Treatment of Economics, 2e, Weidenfeld and Nicolson, London.
- 3) Baumol, W.J. (1965), Economic Theory and Operations Analysis, 2e, Prentice Hall, Englewood Cliffs, New Jersey.
- 4) Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, 3e, McGraw Hill, New York.
- 5) Yamane, T. (1968), Mathematics for Economists, 2e, Prentice Hall, Englewood Cliffs, New Jersey.

### Module 3:

- 1) Allen, R.G.D. (1974), Mathematical Analysis for Economists, MacMillan Press, London.
- 2) Archibald, G. and R.G. Lipsey (1973), Introduction to a Mathematical Treatment of Economics, 2e, Weidenfeld and Nicolson, London.
- 3) Baumol, W.J. (1965), Economic Theory and Operations Analysis, 2e, Prentice Hall, Englewood Cliffs, New Jersey.
- 4) Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, 3e, McGraw Hill, New York.
- 5) Yamane, T. (1968), Mathematics for Economists, 2e, Prentice Hall, Englewood Cliffs, New Jersey.

### Module 4:

- 1) Croxton, F.E., D.J. Crowden & S. Klein (1973), Applied General Statistics, 3e, Prentice Hall of India, New Delhi.
- 2) Fox, K.A. (1972), Intermediate Economic Statistics, Wiley Eastern Pvt. Ltd., New Delhi.
- 3) Kenney, R. and L. Keeping (1954), Mathematics of Statistics, Vol.I, 3e, D. Van Nostrand and Co., Princeton.
- 4) Nagar, A.L. and R.K. Das (1976), Basic Statistics, Oxford University Press, Bombay.
- 5) Theil, H. (1981), Introduction to Econometrics, Prentice-Hall of India, New Delhi.

### Module 5:

- 1) Croxton, F.E., D.J. Crowden & S. Klein (1973), Applied General Statistics, 3e, Prentice Hall of India, New Delhi.
- 2) Fox, K.A. (1972), Intermediate Economic Statistics, Wiley Eastern Pvt. Ltd., New Delhi.
- 3) Kenney, R. and L. Keeping (1954), Mathematics of Statistics, Vol.I, 3e, D. Van Nostrand and Co., Princeton.



- 4) Nagar, A.L. and R.K. Das (1976), Basic Statistics, Oxford University Press, Bombay.
- 5) Theil, H. (1981), Introduction to Econometrics, Prentice-Hall of India, New Delhi.

Module 6:

- 1) Croxton, F.E., D.J. Crowden & S. Klein (1973), Applied General Statistics, 3e, Prentice Hall of India, New Delhi.
- 2) Fox, K.A. (1972), Intermediate Economic Statistics, Wiley Eastern Pvt. Ltd., New Delhi.
- 3) Kenney, R. and L. Keeping (1954), Mathematics of Statistics, Vol.I, 3e, D. Van Nostrand and Co., Princeton.
- 4) Nagar, A.L. and R.K. Das (1976), Basic Statistics, Oxford University Press, Bombay.
- 5) Theil, H. (1981), Introduction to Econometrics, Prentice-Hall of India, New Delhi.

B.A. (HONS.)

OPTIONAL PAPER: HISTORY OF ECONOMIC THOUGHT

**Preamble**

The paper is recommended as an essential input into the training of a student specialising in Economics. Its purpose is not merely to acquaint the student with economic ideas and how they developed over time; but also to provide the student with training in the evolution of social thought in which economic thought is only a part. It would also enable students to obtain an introduction to economic history in a general way, and help them in developing their own ideas and in articulating them.

The suggested number of lecture-hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

### Module 1:\* Early Period (10)

Greek and Roman Writers: Plato and Aristotle - Roman Philosophers, Jurists and Agricultural writers; Middle Ages: The Doctrines of the Church: St. Thomas Aquinas - Qualified Acceptance of Trade - Just Cost and Just Price Doctrines - Views on Interest; Mercantilism: Main Principles - Thoman Mun - Earlier and Later Mercantilists; Adam Smith's Forerunners: (a) Petty, Locke, Hume, Cantillon, Stuart (b) Physiocracy: Natural Order - Agriculture and Net Product - Social Classes - Tableau - Taxation - Turgot.

### Module 2:\* The Classical Period (30)

General: Adam Smith as Father of Economic Science - The Classical School - Points of Similarity and Difference on main Ideas; Adam Smith: Division of Labour - Theory of Value - Paradox, Substance and Measure - Distribution - General and Individual - Productive and Unproductive Labour - Economic Progress - Natural and Contrieved - Critique of Mercantilism - Laissez faire - Public Finance; Ricardo: Value-Distribution - Economic Development - Views on Machinery - Comparative Advantage; Malthus: The Principle of Population - Proposals to check Population Growth - Ricardo-Malthus Controversy on Say's Law of Markets; German Romantics and Socialists: Critiques of the classical thought - Sismondi; Marx: Method - Stages of Society - Theories of Value, Surplus and Competition - Accumulation and crises - Breakdown of the Capitalist System - Marx as a classical writer and as a critic; Other Contributions: (a) The Historical School: The Battle of Methods and Differences in the School (b) Say, Cournout, Thunen, James Mill, McCulloch, Senior, John Stuart Mill; An Over-view: Thought as it was between 1780 and 1870.

### Module 3:\* The Later Period (20)

General: Principal contributions - Utility, Margin, Value, Distribution, Economic Policy - Similarities and Differences with the Previous Thought - The Problem of Naming - Evolution/Revolution, Post-Classical/Neoclassical, English/Austrian School; Founders: Gossen, Jevons, Menger, Walras; Other Writers: Weiser, Bohm-Bawerk, Pareto, Wicksell, Clark, Fisher; Marshall: As a Synthesiser - Method - Value and Role of Time - Consumer's Surplus - Distribution - Marshallian Concepts - Elasticity,

Substitution, Prime and Supplementary Costs, Representative Firm, External/Internal Economies, Quasi-rent, Real Cost and Expenses of Production, Organization as a Factor of Production, Nature of Profits; Pigou, Keynes and Schumpeter: Basic thoughts; Veblen: Institutionalism.

Module 4:\* Indian Thought (10)

Kautilaya; Economic Thought during the medieval period - Naoroji, Ranade, R.C. Dutt, M.N. Roy (Democratic Decentralisation), Valluvar, National Planning Committee (Population, Development, Planning); Gandhi: Wants and Austerity - 'Sarvodaya' - Village 'Swaraj': Full Employment - Place of Machines - 'Swadeshi', Self-sufficiency - Khadi and Village Industries - Cooperation - Trusteeship.

REFERENCES

Modules 1, 2 & 3:

- 1) Backhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.
- 2) Blaug, M. (1978), Economic Theory in Retrospect, 3e, Cambridge University Press, Cambridge.
- 3) Dasgupta, A.K. (1985), Epochs of Economic Theory, Oxford University Press, Delhi.
- 4) Ekelund R.B. and R. Hebert (1983), A History of Economic Theory and Method, 2e, McGraw-Hill, London.
- 5) Gide, C. and G. Rist (1956), A History of Economic Doctrines, 2e, George Harrop and Company, London.
- 6) Gray, A. and A.E. Thompson (1980), The Development of Economic Doctrine, 2e, Longman Group, London.
- 7) Rima, I. (1978), Development of Economic Analysis, 3e, R.D. Irwin, Homewood.
- 8) Roll, E. (1973), A History of Economic Thought, Faber, London.
- 9) Schumpeter, J.A. (1954), History of Economic Analysis, Oxford University Press, New York.

10) Schumpeter, J.A. (1951), Ten Great Economists, Oxford University Press, New York.

Module 4:

- 1) Gandhi, M.K. (1938), Economics of Village Industries, Navjivan Publishing House, Ahmedabad.
- 2) Gandhi, M.K. (1947), India of My Dreams, Navjivan Publishing House, Ahmedabad.
- 3) Ganguli, B.N. (1977), Indian Economic Thought: A 19th Century-Perspective, Tata McGraw-Hill, New Delhi.
- 4) Gupta, J.N., ed., (1971), R.C. Dutt - Life and Works, London.
- 5) Kautilya (1951), Arthashastra, tr. by R. Shama Sastry, Remond Printing Press, Mysore.
- 6) Roy, M.N. (1964), Memoirs, Allied Publishers, Bombay.

CODE NO: BA(H): 0-2/11

B.A. (HONS.)

OPTIONAL PAPER: ECONOMIC HISTORY

Preamble

Logic, history and mathematics are the three distinct tools needed in the study of economics. The German Historical School is known for its realism and has demonstrated how powerful the Historical method can be. A course in economic history should serve this purpose. This optional paper would enable a student to gain insight into the historical method.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module. All modules are starred (essential) modules.

Module I:\* British Economic History (20)

Agrarian Revolution - Industrial Revolution - Growth and Fluctuations in British Economy.

Module II:\* Selected Problems in Indian Economic History: 1850-1947 - Agriculture (20)

Land Tenures and the Agrarian Economy - Commercialisation of Agriculture.

Module III:\* Selected Problems in Indian Economic History 1850-1947 - Industry (20)

Railways - The Growth of Modern Industries, Tea, Cotton Textiles and Iron & Steel - Protection - Currency Problems.

Module IV:\* The Impact of British Rule (10)

Drain Theory - Deindustrialisation - Swadeshi Movement - Effect of World Depression and The Second World War on Indian Economy.

REFERENCES

Module I:

- 1) Ashton, T.S. (1924), Iron and Steel in the Industrial Revolution, Manchester University Press, Manchester.
- 2) Dean, P. and W.A. Cole (1966), British Economic Growth, Cambridge University Press, Cambridge.
- 3) Mingay, G.E. and J.D. Chambers (1966), The Agricultural Revolution: 1750-1880, Oxford University Press, Oxford.
- 4) Presnell, L.S. (1960), Studies in the Industrial Revolution, University of London, London.

### Module II:

- 1) Baden Powell, B.H. (1974), Land System of British India, Vols. I-II, Oriental Publications, Delhi.
- 2) Kumar, Dharma (1965), Land and Caste in South India, Cambridge University Press, Cambridge.
- 3) Neale, W.C. (1962), Economic Change in Rural India: Land Tenure and Reform in Uttar Pradesh 1800-1955, Yale University Press, New Haven.
- 4) Stokes, E. (1959), The English Utilitarians and India, Clarendon Press, Oxford.

### Module III:

- 1) Buchanan, D.H. (1934), The Development of Capitalist Enterprise in India, MacMillan, New York.
- 2) Gadgil, D.R. (1971), The Industrial Revolution of India in Recent Times: 1860-1919, 5e, Oxford University Press, Bombay.
- 3) Griffiths, P. (1967), History of the Indian Tea Industry, Weidenfeld and Nicholson, London.
- 4) Mehta, S.D. (1953), The Cotton Textile Industry in India, Textile Association, Bombay.

### Module IV:

- 1) Buchanan, D.H. (1934), The Development of Capitalist Enterprise in India, MacMillan, New York.
- 2) Gadgil, D.R. (1971), The Industrial Evolution of India in Recent Times 1860-1919, 5e, Oxford University Press, Bombay.



B.A. (HONS.)

OPTIONAL PAPER: DEVELOPMENT ECONOMICS

Preamble

Current academic interest in development economics, and the study of development economics as a separate subject are relatively recent phenomena. What accounts for this sudden change in interest and attitude on the part of the economic practitioner? Two major stimuli can be pinpointed, which interrelate with each other. First, there has been a renewed interest amongst professional economists in the process of growth and the theory and practice of planning. Second, the LDCs themselves have become increasingly aware of their own backwardness, which has led to a natural desire for rapid development. Thus, the demand for the services of development economists has encouraged this sudden spurt of interest in development economics which is the prime reason as to why this paper has been introduced at the undergraduate level.

Module I provides an overview of the concept of economic growth and development. Module II introduces the general theories of development, while Module III discusses, in great detail, the alternative so-called "partial" theories of development, which are essential for understanding the paradoxical concept that "countries are poor because they are poor". Module IV deals with the factors underlying the development process and highlights the nexus between agriculture and industry - an understanding of which is essential before one can begin to prescribe development policies. Module V dwells upon the concept of mobilisation and allocation of resources. Module VI, by discussing monetary and fiscal policies, provides the necessary prelude to Module VII which is an in-depth study of development planning.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hour per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that all modules are starred (essential) modules.

Module I:\* Economic Development: An Overview (6)

Meaning and measurement of economic development - Characteristics of LDCs - Measures of development - Difficulties of measurement and comparison - Distinction between economic growth and economic development - Understanding underdevelopment - Characteristics of underdevelopment.

Module II:\* General Theories of Development (12)

The Classical Theories of development: Smith and Ricardo - The Malthusian Version - The Marxist model - Cumulative movement away from equilibrium: Harrod - Steady-state growth: Solow.

Module III:\* Alternative Theories of Underdevelopment (8)

The vicious circle theory - Dualistic economics - Rostow and the stages of growth - The Lewis model of unlimited supplies of labour - Rosenstein Rodan and the three indivisibilities - The Leibenstern theory - The low level equilibrium trap - Balanced versus unbalanced growth.

Module IV:\* Factors in the Development Process (8)

Natural resources: Renewable and non-renewable - Population and labour supply - Theory of optimum population - Capital accumulation - Technical progress - Employment of human resources - The complementary roles of agriculture and industry in the development process.

Module V:\* Savings and Investment (12)

The comparative cost doctrine - Present versus future consumption - The choice of techniques - Techniques of production in practice - The role of savings in economic development - Investment criteria - Capital/Output ratios and ICORs.

Module VI:\* Monetary and Fiscal Policy (12)

Domestic monetary policy - Fiscal policy - Pump-priming - Tax revenues, taxable capacity and the incidence of taxation - Deficit financing - Inflation and growth - Exchange controls and devaluation - Foreign aid - Physical versus financial planning.

Module VII:\* Development Planning (12)

Arguments for and against planning - Types of planning - Need for development planning - Development planning models: The Harrod-Domar model and the Mahalanobis model - Limitations of Planning.

REFERENCES

Module I:

- 1) McConnel, C.R. and H.C. Gupta (1987), Introduction to Macroeconomics, Tata McGraw-Hill, Delhi.
- 2) Salvatore, D. and E. Dowling (1977), Development Economics, Schaum's Outline Series in Economics, McGraw-Hill, New York.
- 3) Todaro, M.P. (1978), Economic Development in the Third World, Longman, New York.

Module II:

- 1) Higgins, B. (1959), Economic Development, Norton, New York.
- 2) Kindleberger, C.P. (1977), Economic Development, 3e, MacGraw-Hill, New York.
- 3) Meier, G.M. and R.E. Baldwin, (1964), Economic Development, Asian Publishers, Delhi.

Module III:

- 1) Agarwala, A.N. and S.P. Singh, eds., (1963), Economics of Underdevelopment, Oxford University Press, London.
- 2) Bhagwati, J. (1967), The Economics of Underdeveloped Countries, Weidenfeld and Nicholson, London.
- 3) Higgins, B. (1959), Economic Development, Norton, New York.
- 4) Meier, G.M., ed., (1984), Leading Issues in Economic Development, 4e, Oxford University Press, New York.
- 5) Myrdal, G. (1958), Economic Theory and Underdeveloped Regions, Vora and Publishers, Bombay.

#### Module IV:

- 1) Blanchfield, W.C. (1976), Economic Development, Grid, Inc., Columbia.
- 2) Hagen, E.F. (1975), The Economic Development, R.D.Irwin and Company, Homewood.
- 3) Thilwall, A.P. (1978), Growth and Development, 2e, Mac-Millan, New York.

#### Module V:

- 1) Higgins, B. (1959), Economic Development, Norton, New York.
- 2) Meier, G.M., ed., (1984), Leading Issues in Economic Development, 4e, Oxford University Press, New York.
- 3) Thilwall, A.P. (1978), Growth and Development, 2e, Mac-Millan, New York.

#### Module VI:

- 1) Higgins, B. (1959), Economic Development, Norton, New York.
- 2) McConnel, C.R. and H.C. Gupta (1987), Introduction to Macroeconomics, Tata McGraw-Hill, Delhi.
- 3) Thilwall, A.P. (1978), Growth and Development, 2e, Mac-Millan, New York.

#### Module VII:

- 1) Salvatore, D. and E. Dowling (1977), Development Economics, Schaum's Outline Series in Economics, McGraw-Hill, New York.
- 2) Thilwall, A.P. (1978), Growth and Development, 2e, Mac-Millan, New York.
- 3) Todaro, M.P. (1971), Development Planning - Models and Methods, Oxford University Press, Nairobi.

Preamble

The main objective of this course is to train the student for further specialization in quantitative economics. The contents of this paper are expected to train students in sampling theory and to introduce them to certain quantitative techniques usually encountered in economic analysis like matrix analysis, input-output analysis, linear programming and game theory.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Sampling Theory and Practice (20)

Census Vs. Sampling - Planning of Sample Surveys - Role of Sampling Theory - Probability sampling - National Sample Survey in India - Simple random sampling with and without replacement.

$$E(\bar{y}) = \bar{Y}, V(\bar{y}) = \frac{N-n}{N} \cdot \frac{s^2}{n} \text{ (with proof)}$$

Formula for Estimated Variance  $V(\bar{y})$  (Without proof).

Confidence limits for mean and total - Estimation of sample size - Sampling for proportions and percentages.

$$\text{Proofs of } E(p) = P \text{ and } V(p) = \frac{PQ}{n} \cdot \frac{N-n}{N-1}$$

Formula for Estimate Variance  $V(p)$  (Without proof).

Confidence limits for proportion and total - Stratified Random Sampling: Properties of the estimates - Formula for estimated variance - Confidence interval - Results on optimum and proportional allocation and relative precision (without proof) - Ratio and regression estimates - Formula for variance (without proof) - Concepts of other methods of sampling - two stage sampling - Double sampling and systematic sampling.

Module II:\* Elements of Matrix Analysis (15)

Vectors - Orthogonality - Matrices - Matrix operations - Symmetric matrices - Hermitian matrices - Orthogonal matrices - The solution of linear homogeneous equations - Characteristic roots and vectors Diagonal Forms - Positive definite quadratic forms and matrices - Linear dependence - Gram Schmidt Orthogonalization - The Cayley Hamilton theorem for symmetric matrices.

Module III:\* Input-Output Analysis (15)

Open and closed Leontief models - Components of final demand and value added - A and B Matrices - determining capacity levels and hence investment requirements to produce a given bill of final demand - balances-growth path - prices in an input-output system - Indian input-output tables.

Module IV:\* Linear Programming and Game Theory (20)

Linear programming - Graphical solution - The simplex method - Solution using the simplex method - The transshipment problem - Duality and shadow prices - Linear programming and the theory of the firm - Game theory - The zero sum two person game - Maximin and minimax strategies - Saddle points - Geometry of equilibrium points - Pay off matrices without equilibrium points - Mixed strategies.

REFERENCES

Module I:

- 1) Cochran, W.G. (1977), Sampling Techniques, 3e, John Wiley, New York.
- 2) Murty, M.N. (1967), Sampling Theory of Surveys, Statistical Publishing Society, Calcutta.
- 3) Sukhatme, P.V. (1977), Sampling Methods, Asia Publishing House, Bombay.
- 4) Yates, Francis (1960), Sampling Methods for Census and Surveys, 3e, Charles Griffin Company, London.

Module II:

- 1) Bellman, R.E. (1970), Introduction to Matrix Analysis, RAND Corporation, Saita Monika.
- 2) Green, H.S. (1965), Matrix Mechanics, Erven P.Noordhoff Limited, Netherlands.
- 3) Johnston, J. (1985), Econometric Methods, 3e, McGraw-Hill Kogakusha, Tokyo.
- 4) Mirsky, L. (1955), Introduction to Linear Algebra, Oxford University Press, New York.

### Module III:

- 1) Baumol, W.J. (1977), Economic Theory and Operations Analysis, Prentice-Hall, Englewood Cliffs, NJ.
- 2) Dorfman, R., P.A. Samuelson and R. Solow (1958), Linear Programming and Economic Analysis, McGraw-Hill Kogakusha, Tokyo.
- 3) Ghosh, A. and S.K. Ghosh (1983), Planning Techniques and Indian Plans, Wheeler, Allahabad.
- 4) Mathur, P.N. and R. Bharadwaj, eds., (1967), Economic Analysis in an Input-Output Framework, Input Output Research Association of India, Poona.

### Module IV:

- 1) Baumol, W.J. (1977), Economic Theory and Operations Analysis, Prentice-Hall, Englewood Cliffs, N.J.
- 2) Dorfman, R., P.A. Samuelson and R. Solow (1958), Linear Programming and Economic Analysis, McGraw-Hill Kogakusha, Tokyo.
- 3) Hadley, G. (1962), Linear Programming, Addison-Wesley, Mass.
- 4) Wagner, H.M. (1969), Principles of Operations Research, Prentice Hall, Englewood Cliffs, N.J.



B.A. (HONS.)OPTIONAL PAPER: ECONOMETRIC METHODSPreamble

The explosive growth in econometric literature in the last few years hardly needs any emphasizing. Keeping in view Nobel Laureate Richard Feynman's classic aphorism "...that the frontiers of ignorance are expanding", the introduction of this paper at the B.A. level can be viewed as an attempt to expose the students to the basic concepts of econometrics and thereby try and limit (from the student's viewpoint) the rate of growth of this 'expanding frontier'. Keeping this in mind, the focus of this paper will be on a meaningful interface between theory and application - the emphasis being more on empirical analysis rather than theoretical rigour. As far as possible, the "number crunching" aspect of applied econometrics should be emphasised and the actual solution of numerical problems should be de rigour.

This paper builds upon the core paper on quantitative methods. It can be conveniently split up into 4 modules. Module I would introduce the concept of probability distributions and comprise of basic estimation theory (including the properties of estimators). Module II would introduce some of the tools most commonly used by social scientists, including those of hypothesis testing, principal components, discriminant and factor analysis. Econometric estimation (as is generally understood) per se would be introduced in Module III, which would deal with the general linear model as well as the problems encountered during the estimation of single equation models, principally those of multicollinearity, heteroscedasticity and serial correlation. In Module IV, we discuss certain additional topics such as dummy variables, lagged variables and partial adjustment models, all of which play prominent roles in the science of econometric modelling.

Students wishing to specialise in quantitative methods should be encouraged to take the optional papers - (i) Econometric Methods, (ii) Advanced Quantitative Methods and (iii) Computer Applications for Economists.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Basic Estimation Theory (10)

Random variables and probability distributions - Definition and scope of econometrics - The methodology of econometric research - Specification and estimation of an econometric model - Evaluation of the parameter estimates - Basic concepts of estimation - Unbiasedness, efficiency and consistency - Maximum likelihood estimation.

Module II:\* Testing of Hypothesis (10)

Basic concepts - Type I and type II errors - Simple and composite hypotheses - Neyman - Pearson Lemma - Likelihood Ratio Test.

Module III:\* Single Equation Models: Estimation and Problems (30)

The general linear model in matrix form - Testing the significance of individual coefficients and groups of coefficients - ANOVA tables - Partial correlation coefficients - Multicollinearity - Its detection and solution - Heteroscedasticity - Grouped data and the use of deflators - Autocorrelation - Estimation procedure in the presence of first order autocorrelation.

Module IV:\* Additional Topics in Single Equation Models (20)

Dummy variables - The dummy variable trap - Interpretation of slope and intercept dummies - Lagged variables - Lagged dependent variables - Partial adjustment models - Koyck transformation - Statistical estimation of demand and supply curve - Statistical estimation of production functions - Statistical estimation of some macroeconomic functions: like the consumption function, investment function and the demand for money function.

## REFERENCES

### Module I:

- 1) Hogg, R.V. and A.T. Craig (1970), Introduction to Mathematical Statistics, 3e, Macmillan, New York.
- 2) Kmenta, J. (1986), Elements of Econometrics, 2e, Macmillan, New York.
- 3) Malinvaud E. (1970), Statistical Methods in Econometrics, North-Holland, Amsterdam.

### Module II:

- 1) Kmenta, J. (1986), Elements of Econometrics, 2e, Macmillan, New York.
- 2) Lehmann, E.L. (1959), Testing Statistical Hypotheses, John Wiley, New York.
- 3) Press, S.J. (1972), Applied Multivariate Analysis, Holt Rinehart and Winston, New York.

### Module III:

- 1) Johnston, J. (1985), Econometric Methods, 3e, McGraw-Hill New York.
- 2) Kmenta, J. (1986), Elements of Econometrics, 2e, Macmillan, New York.
- 3) Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

### Module IV:

- 1) Intriligator, M.D. (1978), Econometric Models, Techniques and Applications, Prentice Hall, Englewood Cliffs, N.J.
- 2) Johnston, J. (1985), Econometric Methods, 3e, McGraw-Hill New York.
- 3) Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

Preamble

Given the highly quantitative aspect of economic research being currently conducted in India, it becomes imperative for students to equip themselves with a basic knowledge of computer hardware as well as software if they are to keep abreast of the explosive growth of knowledge in this rapidly developing area. This is essential for anyone intending to specialize in applied economics as computers are the only interface between data and their meaningful analysis, especially if this data collection is done at a substantially sophisticated level. This paper is basically tailored to meet this current lacuna in the syllabi of most economics courses in the country.

Module I deals with basic computer hardware and developments therein. Module II is concerned with computer arithmetic and Fortran programming. The application of programming to solve research problems in algebra and statistics is dealt within Module III. The last module is focussed on file processing.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Basic Familiarity with Computer Hardware and Development (12)

Computer organisation: sample model of a computer to illustrate how it executes algorithms, CPU, memory, I/O units, data representation - integer, real binary, octal, hexadecimal - Algorithm development: problem analysis, flow charts, decision tables - fields, records and files - programming language (Fortran).

Module II:\* Computer Arithmetic and (Simple) Fortran Programming Statements (18)

Programming: representation of integers, reals, characters, constants and variables, arithmetic expressions and their evaluation using rules of hierarchy: assignment statements, logical constants, variables and expressions - Central structures, sequencing, alternation, arrays.

Module III:\* Programming: Applied to Algebra and Statistics (20)

Programming: Manipulating series - polynomials - quadratic equation - measures of central tendency - frequency distribution - method of least squares and curve fitting - correlation and regression, tests of significance - vectors - matrices - subroutine and linkages and data management - simple I/O statements.

Module IV:\* File Processing (20)

File processing - sorting - searching - merging - summarizing - direct access - storage - retrieval - file organisation techniques - Documentation debugging storage and time execution estimation - system security.

REFERENCES

Module I:

- 1) Lipschutz, M.M. and S. Lipschutz (1982), Theory and Problems of Data Processing, Schaum's Outline Series, McGraw-Hill, New York.

- 2) Lipschutz, S. and A. Poe (1982), Theory and Problems of Programming with Fortran IV, Schaum's Outline Series, McGraw-Hill, New York.
- 3) Scheid, F. (1983), Theory and Problems of Computers and Programming, Schaum's Outline Series, McGraw Hill, New York.
- 4) Sharma, K.D. (1976), Programming in Fortran IV, Affiliated East-West Press, Delhi.

#### Module II:

- 1) Lipschutz, S. and A. Poe (1982), Theory and Problems of Programming with Fortran IV, Schaum's Outline Series, McGraw-Hill, New York.
- 2) Rajaraman, V. (1973), Computer Programming in Fortran IV, Prentice Hall of India, Delhi.
- 3) Rajasekaran, S. (1986), Numerical Methods in Science and Engineering, A.H. Wheeler, Allahabad.
- 4) Sharma, K.D. (1976), Programming in Fortran IV, Affiliated East-West Press, Delhi.

#### Module III:

- 1) Dorn, W.S. and D.D. McCracken (1972), Numerical Methods with Fortran IV - Case Studies, John Wiley, New York.
- 2) Gillett, B.F. (1979), Introduction to Operations Research: A Computer-Oriented Algorithmic Approach, McGraw-Hill, New Delhi.
- 3) Rajaraman, V. (1973), Computer Programming in Fortran IV, Prentice Hall of India, Delhi.
- 4) Rajaraman, V. (1980), Computed Oriented Numerical Methods, Prentice Hall of India, Delhi.

Module IV:

- 1) Levin, R.I. and C.A. Kirkpatrick (1975), Quantitative Approaches to Management, 3e, McGraw-Hill, New York.
- 2) Lipschutz, S. and A. Poe (1982), Theory and Problems of Programming with Fortran IV, Schaum's Outline Series, McGraw-Hill, New York.
- 3) McCloskey, J.F. and F. Tregethen, eds., (1954), Operations Research for Management, The John Hopkins University Press, Baltimore.
- 4) Wood, M.B. (1983), Introducing Computer Security, Broadman Associates, Delhi.

Preamble

Graduate students in economics are basically trained to understand and analyze the causes and impact of policy issues and problems especially at the macroeconomic level. It is necessary to supplement this type of training by providing the students with an understanding of the basic tools of economic decision making at the level of business enterprise, which is where the student would probably be employed in the future. Such an understanding assumes great importance because this level of activity forms the cornerstone of most of applied microeconomics.

The inclusion of such a paper at the undergraduate level is bound to enhance the utility value of the economic courses in Indian Universities and perceptibly improve the employment prospects of graduates in Economics, as they would be competing for position in business enterprises with a distinct advantage of knowing how important decisions are carried out in the most important area of an industry, i.e. finance.

This paper is included therefore with the aim of acquainting the students with the basic principles and practices of accounting, including Financial Accounting (Module I), Cost Accounting (Module II) and Management accounting (Module III), as well as providing them with a definitive idea of the tools of decision making frequently encountered in Financial Management (Module IV).

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.



### Module I:\* Financial Accounting (20)

Accounting concepts - Fundamental concepts governing financial statements - Accounting of fixed assets, current assets, prepayments, long term liabilities, short term liabilities, provisions, reserves, outstandings etc. - Accounting of incomes and expenses: Capital income, operating income, capital expenditure, revenue expenditure, accounting of depreciation, depletion and amortisation - Accounting of fictitious assets - Mechanics of Accounting: Books of original entry and subsidiary books based on double entry system, journal, ledger, cash book, purchases book, sales book, purchases return book, sales return book, bills receivable book, bills payable book, preparation of profit and loss account, income and expenditure account, receipts and payments accounts and balance sheet.

### Module II:\* Cost Accounting (20)

Elements of cost: Material, labour, direct expenses, overheads - Accounting of cost: Material purchasing procedures, stores organisation, stores records, stores control, valuation of inventory - Labour: Time keeping, time booking, remuneration of labour - Overheads: Classification, distribution, allocation, absorption of overheads - Methods of costing: Job costing, process costing, contract costing, operation costing, standard costing.

### Module III:\* Management Accounting (15)

Cost and management decision: Cost concepts influencing short-run and long-run decision - Budgeting: Key factors, periodic and continuous budgeting, master budget, functional budget - Break-even analysis: Cost-profit-volume relationships - An overview of management control system.

### Module IV:\* Financial Management (15)

Nature and scope of business finance: Financing decision, investment decision and dividend decisions - Tools of financial analysis: ratios, funds flow, cash flow, proforma, Profit & Loss Account - Proforma Balance

Sheet - Sources of finance: External and internal  
Financial planning: Relation between financial policies  
and financial planning - Capital Structure - Cash  
management: Factors determining cash needs, cash budget,  
tools of cash management - Tools of investment decision:  
Pay back period, accounting rate of return, discounted  
cash flow techniques, internal rate of return, net present  
value.

#### REFERENCES

##### Module I:

- 1) Dowidson, M.P. and J.S. Schindler (1961), Fundamentals of Accounting, 4e, Holt, Rhinetart & Winston, New York.
- 2) Glautier, M.F.W., B. Underwood, and A.C. Clark (1980), Basic Accounting, Pitman Publ. Co., London.
- 3) Terry, L.A. and W.T. Smith (1969), Business Accounts, Pitman Publ. Co., London.
- 4) Williams, R.G. (1981), Elementary Book-Keeping, 11e, Cassel & Co., New York.

##### Module II:

- 1) Batty, J. ed., (1968), Cost and Management Accountancy for Students, Heinman, London.
- 2) Horngren, C.T. (1983), Cost Accounting, 5e, Prentice-Hall of India, New Delhi.
- 3) Owler, L.W.J. and J.L. Brown, (1975), Wheldon's Cost Accounting Methods, McCdonald and Evans, London.
- 4) Shillinglaw, G., (1977), Managerial Cost Accounting, 4e, R.D. Irwin, New York.

##### Module III:

- 1) Anthony, R.N. and J.S. Reece, (1975), Management Accounting Principles, Taraporewala, Bombay.
- 2) Batty, J. (1982), Management Accountancy, 5e, E.L.B.S., Plymouth.

- 3) Hingorani, N.L. and O.P. Chawla, (1984), Management Accounting, Himalaya Publishing House, Bombay.
- 4) Horngren, C.T. (1984), Introduction to Management Accountancy, 6e, Prentice-Hall of India, New Delhi.

#### Module IV

- 1) Basantraj, A.C., (1978) Corporate Financial Management, Tata McGrawHill, Delhi.
- 2) Droms, W.G., (1979), Finance and Accounting for Non-Financial Managers, Addison-Wesley, New York.
- 3) Foulke, R.A. (1961), Practical Financial Statement Analysis, 5e, McGraw-Hill, New York.
- 4) Wright, M.G. (1978), Financial Management, Tata McGraw-Hill, Delhi.

Preamble

The object of teaching this course on Regional Economics is to enable the students to analyse the regional problems of growth and development within India within the theoretical framework of regional development, planning and policy.

Modules I and II deal with spatial microeconomic and spatial macroeconomic theory, respectively. Module III deals with regional economic policy while regional imbalances and policy remedies for overcoming these imbalances is dealt with in Module IV.

The suggested number of lecture hours that ought to be devoted to each module (under the assumptions of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Region and Spatial Micro-Economic Theory (20)

The concept of a region - Time and Space as variables in economic analysis of a Region - Spatial micro-economic theory - theory of location - price equilibrium in geographically separated and inter-linked markets - spatial monopolistic competition - spatial price discrimination - Alternative objectives of the firm with regard to locational choice - locational interdependence - Hotelling formulation and its critique - economies and diseconomies of agglomeration - transport cost in location - decision - Weber and Isard's theory of location - general equilibrium approach of Lesch and Lesch to location.

Module II:\* Spatial Macro-Economic Theory (20)

Spatial macro-economics - Regional Social accounting theory - short-run regional income determination - interregional income - multiple income determination in a multi-regional economic system - marginal growth - theories - difference in regional income growth - inter-regional business cycle - convergence - divergence trends in per capita income - survey of recent techniques for regional analysis.

Module III:\* Regional Economic Policy (15)

Regional Economic policy - formulation of inter-regional objectives - consistency between national and regional objectives - channelisation approach towards backward regions - Levelling of interregional disparities - the role of Finance Commission in regional financial allocation.

Module IV:\* Regional Imbalances and Policies for Removal of Imbalances (15)

Regional characteristics in India and Imbalances - Regional development programmes of policies to reduce regional imbalances in India - policies to reduce regional imbalances in india - Dandekar Committee on regional imbalances.

## REFERENCES

### Module I:

- 1) Isard, W. (1956), Location and Space Economy, John Wiley, New York.
- 2) Isard, W. (1960), Methods of Regional Analysis, MIT Press, Cambridge, Mass.
- 3) Isard, W. and J.H. Cumberland, eds., (1960), Regional Economic Planning, O.E.C.D., Paris.
- 4) Richardson, H.W. (1969), Elements of Regional Economics Penguin, Harmondsworth.

### Module II:

- 1) Chenery, H.B. (1953), "Regional Analysis", in H.B. Chenery et al, eds., The Structure and Growth of Italian Economy, U.S. Mutual Security Agency, Rome.
- 2) Meyer, J.R. (1963), "Regional Economics: A Survey", American Economic Review, Volume 53.
- 3) N.B.E.R. (1957), Regional Income, Princeton University Press, Princeton.
- 4) Siebert, H. (1969), Regional Economic Growth: Theory and Policy, International Textbook Company, Scranton.

### Module III:

- 1) Bhat, L.S. (1972), Regional Planning in India, Statistical Publishing Society, Calcutta.
- 2) Friedman, J. and W. Alonso, eds. (1975), Regional Policy: Reading in Theory and Application, MIT Press, Cambridge, Mass.
- 3) Misra, R.P. et al, (1978), Regional Development Planning in India, Vikas Publishing House, New Delhi.
- 4) Misra, R.P. et al, eds., (1978), Regional Planning and National Development, Vikas Publishing House, New Delhi.

Module IV:

- 1) Dandekar, V.M. et al (1984), Fact-Finding Report on Regional Imbalances in Maharashtra, M.E.D.C., Bombay.
- 2) Nair, K.R.G. (1986), Regional Disparities in India, 2e, Agricole Publishing Academy, New Delhi.
- 3) Rao, Hemlata (1984), Regional Disparities and Development in India, Ashish Publishing House, New Delhi.

**Preamble**

The paper on International Economics is specially recommended to the students interested in pursuing further study in this very important branch of economics. The paper enables the students to familiarise themselves with theory, policy as well as the working of the international trade and payments system.

Module I introduces the various 'pure theories' of international trade, in a historical perspective. Module II deals with the problems of trade and commercial policies. Module III discusses the important topic of trade and economic growth, along with the role of the international agencies therein. Module IV deals with the monetary aspect of international trade, giving a brief idea of the features of the different exchange-rate systems. Module V focuses on the trends, composition, problems and policies of India's foreign trade.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week, over a 35-week academic year), is provided (in brackets) for each module.

All modules are starred (essential) modules.



Module I:\* Pure Theory of International Trade (15)

The Pure Theory of International Trade - The Theory of Comparative Advantage - General Equilibrium Approach - Heckscher-Ohlin Trade Theory and Factor-price Equalization Theorem - Terms of Trade.

Module II:\* Trade and Commercial Policy (10)

Theory of Trade Policy - protectionism versus Free Trade - Tariffs - Quotas and other Quantitative Restrictions - EEC and the theory of Customs Union - GATT.

Module III:\* International Trade and Economic Development (15)

Trade and Economic Development of Underdeveloped countries - secular trend in terms of trade and prospects of Export Earnings of Underdeveloped countries - UNCTAD - Role of Foreign Capital - IBRD and Asian Development Bank - Multinational Corporations.

Module IV:\* International Monetary System (20)

International Monetary Theory - The market for Foreign Exchange - Balance of payments - Equilibrium and Disequilibrium in balance of payments - Adjustment Mechanism - Fixed versus Flexible Exchange Rates - Contemporary International Monetary system - the IMF.

Module V:\* Foreign Trade of India (10)

India's foreign trade, Trends, composition and direction - Major problems of trade and balance of payments.

REFERENCES

Module I:

- 1) Ellsworth, P.T. (1969), The International Economy; 4e, Macmillan, London.
- 2) Haberler, G. (1935), The Theory of International Trade, W. Hodge Company, London.

- 3) Kindleberger, C.P. (1976), International Economics, R.D. Irwin, Homewood.
- 4) Salvatore, D. (1983), International Economics, Macmillan, New York.

Module II:

- 1) Ellsworth, P.T. (1969), The International Economy; 4e, Macmillan, London.
- 2) Kindleberger, C.P. (1976), International Economics, R.D. Irwin, Homewood.
- 3) Salvatore, D. (1983), International Economics, Macmillan, New York.
- 4) Sodersten, B. (1980), International Economics, 2e, St. Martin's Press, New York.

Module III:

- 1) Haberler, G. (1935), The Theory of International Trade, W. Hodge Company, London.
- 2) Johnson, H.G. (1969), International Trade and Economic Growth, 4e, Allen and Unwin, London.
- 3) Salvatore, D. (1983), International Economics, Macmillan, New York.
- 4) Sodersten, B. (1980), International Economics, 2e, St. Martin's Press, New York.

Module IV:

- 1) Salvatore, D. (1984), Theory and Practice of International Economics, 2e, McGraw-Hill, New York.
- 2) Schaum's Outline Series (1984), International Economics 2e, McGraw-Hill, New York.
- 3) Sodersten, B. (1980), International Economics, 2e, St. Martin's Press, New York.
- 4) Yeager, L.B. (1981), International Monetary Relations, 2e, Harper and Row, New York.

Module V:

- 1) Bhagwati, J. and P. Desai (1972); India: Planning for Industrialisation, Oxford University Press, London.
- 2) Dutt, R. and Sundaram (1984), Development Issues of the Indian Economy, S. Chand Company, New Delhi.
- 3) Panchamukhi, V.R. (1978), Trade Policies of India: A Quantitative Analysis, Concept Publishing Company, New Delhi.

CODE NO: BA(H): 0-10/11

B.A. (HONS.)

OPTIONAL PAPER: AGRICULTURAL MARKETING

**Preamble**

The objective of this course is to give the students a good understanding of the theoretical issues relating to agricultural production, mobilisation of surplus and its marketing. The paper also examines the impact of state intervention on product-mix and marketing efficiency.

The suggested number of lecture-hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Agricultural Production and price Policy in India (15)

Farm size, land utilization and cropping pattern - characteristics of producers and product - variations in production - seasonal, annual, geographic and quality - terms of trade between agriculture and industry - agricultural price policy - price policy and shifting the cropping mix.

Module II:\* Mobilisation and Marketing of Agricultural Surpluses (15)

Marketing definition and scope - marketed and marketable surplus - factors influencing marketable surplus - size distribution of marketable surplus - mobilization of agricultural surplus - Nature of Demand for and supply of agricultural commodities - income and price elasticities of agricultural commodities - Cob-Webb model.

Module III:\* Agricultural Markets (10)

Agricultural markets - structure and functioning - output margins - marketing efficiency - measures to improve marketing efficiency - finance of agricultural marketing.

Module IV:\* State and Agricultural Marketing (15)

Rationale of State intervention in agricultural marketing and its impact on marketing efficiency - marketing of major agricultural commodities in India (foodgrain and commercial crops) price expectation and price uncertainties - price stabilization measures.

Module V:\* Foodgrains Marketing (15)

Foodgrains marketing in India - State intervention in foodgrains marketing - role of different agencies (FCI, State agencies, state departments) - public distribution system of essential commodities - rationale and functioning.

## REFERENCES

### Module I:

- 1) Alagh, Y.K. and G.S. Bhalla (1979), Performance of Indian Agriculture, A Districtwise Study, Sterling Publishers, New Delhi.
- 2) Kahlon, A.S. and D.S. Tyagi (1983), Agricultural Price Policy in India, Allied Publishers, New Delhi.
- 3) Kaur, Rajbans (1975), Agricultural price Policy in Economic Development, Kalyani Publishers, New Delhi.
- 4) Mitra, A. (1971), Terms of Trade and Class Relations, Frank Cass, London.
- 5) Sau, Ranjit (1974), "Some Aspects of Inter-Sectoral Resource Flow", Economic and Political Weekly, Special Number.

### Module II:

- 1) Chaudhari, P. (1972), Readings in Indian Agricultural Development, George Allen and Unwin, London.
- 2) Moore, J.R., S.S. Johl and A.M. Khusro (1973), Indian Foodgrains Marketing, Prentice-Hall of India, New Delhi.

### Module III:

- 1) Modi, A. (1982), "Growth, Distribution and the Evolution of Agricultural Markets - Some Hypotheses", Economic and Political Weekly, January, Nos. 1 & 2.
- 2) Moore, J.R., S.S. Johl and A.M. Khusro (1973), Indian Foodgrains Marketing, Prentice-Hall of India, New Delhi.

### Module IV:

- 1) Chaudhari, P. (1972), Readings in Indian Agricultural Development, George Allen and Unwin, London.
- 2) Moore, J.R., S.S. Johl and A.M. Khusro (1973), Indian Foodgrains Marketing, Prentice-Hall of India, New Delhi.

Module V:

- 1) Lele, Uma (1973), Foodgrains Marketing in India, Popular Prakashan, Bombay.
- 2) Moore, J.R., S.S. Johl and A.M. Khusro (1973), Indian Foodgrains Marketing, Prentice-Hall of India, New Delhi.

CODE NO: BA(H): 0-11/11

B.A. (HONS.)

OPTIONAL PAPER: DEMOGRAPHY

**Preamble**

The contents of this course aim at providing a basic understanding of population data according to standard statistical norms with the help of Indian data. In the process, the student is acquainted with the relevant aspects of population problems, policies and programmes in India.

The paper comprises of 5 modules. Module I introduces the subject. Module II highlights the relevant aspects of demographic data in India, while Module III presents methods suitable for their analysis. Module IV is concerned with populations projections and the methods of doing so. Module V is concerned with population policies and programmes in India.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 1 lecture hour per week over a 35 week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.



Module I:\* Introduction (5)

Population Studies and Demography - Its relation to other disciplines.

Module II:\* Demographic Data in India (5)

Censuses, Civil Registration System and Sample Surveys (Demographic Surveys) and Sample Registration Systems - A brief description of each method and its drawbacks.

Module III:\* Analysis of Demographic Data (15)

Evaluation and adjustment of age data from census - Population growth, population characteristics and composition - Vital rates: Measures of Fertility and Mortality - Standardise birth and death rates - Concept of a life table - Meaning of its columns - Its Uses - Population distribution - Migration and urbanisation.

Module IV:\* Population Projections (5)

Component method of projection - Concepts of Stable, Stationary and Quasistable Population - Ageing and younging of population.

Module V:\* Population Policies and Programmes in India (5)

An analysis of population policies and population programmes for the Indian economy.

REFERENCES

Module I:

- 1) Agarwala, S.N. (1985), India's Population Problem, Tata McGraw-Hill, Bombay.
- 2) Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.
- 3) Census of India, Government of India, New Delhi.
- 4) Misra, B.D. (1980), An Introduction to the Study of Population, South Asian Publishers, New Delhi.

Module II:

- 1) Agarwala, S.N. (1985), India's Population Problem, Tata McGraw-Hill, Bombay.

- 2) Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.
- 3) Census of India, Government of India, New Delhi.
- 4) Misra, B.D. (1980), An Introduction to the Study of Population, South Asian Publishers, New Delhi.

Module III:

- 1) Agarwala, S.N. (1985), India's Population Problem, Tata McGraw-Hill, Bombay.
- 2) Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.
- 3) Census of India, Government of India, New Delhi.
- 4) Misra, B.D. (1980), An Introduction to the Study of Population, South Asian Publishers, New Delhi.

Module IV:

- 1) Agarwala, S.N. (1985), India's Population Problem, Tata McGraw-Hill, Bombay.
- 2) Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.
- 3) Census of India, Government of India, New Delhi.
- 4) Misra, B.D. (1980), An Introduction to the Study of Population, South Asian Publishers, New Delhi.

Module V:

- 1) Agarwala, S.N. (1985), India's Population Problem, Tata McGraw-Hill, Bombay.
- 2) Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.
- 3) Census of India, Government of India, New Delhi.
- 4) Misra, B.D. (1980), An Introduction to the Study of Population, South Asian Publishers, New Delhi.

M.A.

CORE PAPER: ECONOMIC THEORY

Preamble

The main objective of this paper is to train the students in a fairly rigorous manner in economic theory - both, micro as well as macro. Such a training is absolutely imperative if the student is to grasp the essential interconnections that underlie most of observed economic behaviour. The theme of this paper will therefore be to ground the student in the so-called "microfoundations of macroeconomics", emphasizing, in no-uncertain manner the (micro) foundations as well as the (macro) structure. The tone of this entire paper, viewed in totality, will be to stress that both; microeconomics as well as macroeconomics, are complementary to each other, and that they provide powerful 'externalities' in understanding one another.

To this end, Modules 1-11 deal with microeconomics while Modules 12-21 deal with macroeconomics. Module 1 is concerned with the basic concepts that underlie microeconomic theory. Modules 2 and 3 deal with the theories of demand and production, respectively. Market structures are dealt with in Module 4. The theories of pricing and distribution are taken up in Modules 5 and 6 respectively. The classical theories of value, discussed in Module 7, provide the necessary historical backdrop for understanding current developments in this area. The entire controversy surrounding capital theory is dealt with in Module 8. The mathematically sophisticated concept of general equilibrium is discussed in Module 9. Module 10 discusses welfare economics, while Module 11 is concerned with a highly topical area of ongoing research that is being currently conducted in the area of economics of uncertainty.

Module 12 deals with the microfoundations of macroeconomics. Module 13 is concerned with the determination of national income within a static equilibrium model. The

logical extension of this module into sectoral demand functions follows in Module 14. The theory underlying the supply of money is dealt with in Module 15. Equilibrium and disequilibrium analysis is taken up in Module 16. Money and the theory of interest rates follows in Module 17. This, along with Module 18, wherein we discuss growth models, provide the necessary prelude to Module 19 wherein the theory of money in growth models is discussed. We are now therefore in a position to "combine forces" and deal with the problems of stabilization policy in Module 20. The last module generalizes most of the earlier findings within an open economy, thereby providing a proper perspective to the entire paper.

The suggested number of lecture hours that ought to be devoted to each module under the assumption of 6 lecture hours per week spread (in brackets) for each module.

It needs to be noted that in Microeconomics, (i.e. Modules 1-11), only Modules 7, 8 and 11 are unstarred, which implies that only these three modules can be omitted without suffering a loss of continuity.

Similarly, it needs to be noted that in Macroeconomics (i.e. Modules 12-21), only Modules 16, 17 and 19 are unstarred, which implies that only these three modules can be omitted without suffering a loss of continuity.

### Module 1:\* Basic Concepts (7)

Value judgements in economics - Role and significance of assumptions in economic analysis - Economic models - The role of time in various models - The concept of equilibrium - The use of data and the empirical estimation of models - The conditional nature of statistical testing.

### Module 2:\* Theory of Demand (12)

Consumer Preferences - Demand curves - Utility analysis of demand - The cardinal utility theory - The indifference curves theory - Violation of the premises about indifference curves: Satiation and lexicographical orderings - Income and Substitution effects: The Slutsky theorem - Compensated demand curves - The revealed preference theory - Indirect utility functions - Duality theory - Dual properties of utility and expenditure functions - Shephard's lemma - Recent developments in the theory of market demand: A pragmatic approach to demand analysis and Linear expenditure systems (LES).

### Module 3:\* Theory of Production (10)

The concept of production - Laws of production - Laws of returns to scale - The law of variable proportions - Internal and external economies - The production function: Its form and underlying assumptions - Classification of inputs - Substitution between inputs - Elasticity of substitution - The substitution curve - The Cobb Douglas production function - The C.E.S. production function - The fixed coefficients production function - The translog production function - Technical progress and the production function - Disembodied and embodied technical progress - Equilibrium of the firm - Choice of optimal combinations of factors of production - Single decision of the firm - Choice of optimal expansion path - Derivation of cost functions from production functions - The production function of a multiproduct firm - The production possibility curve of the firm - The isorevenue curve of the multiproduct firm - Equilibrium of the multiproduct firm.

### Module 4:\* Market Structures (12)

Perfect competition: Short-run and long-run equilibrium of the firm and industry - Market demand and industry equilibrium - Monopoly: Definition - Demand and

Revenue - Costs - Short-run and long-run equilibrium the monopolist - Bilateral monopoly - Monopolistic competition: Assumptions - Costs - Product differentiation and the demand curve - The concepts of the "industry" and the "group" - Equilibrium of the firm - Non price competition Non-Collusive Oligopoly: The duopoly models of Cournot, Bertrand and Stackelberg - Chamberlin's oligopoly model - The 'Kinked-demand' curve model - Collusive Oligopoly: Price leadership models - The models of the low-cost and dominant-firm price leader - Barometric price leadership - Concept of joint-profit-maximization and market-sharing cartels - Extensions: Baumol's sales maximization hypothesis - Static and dynamic models - Maximum rate of growth and profits hypothesis of Marris - The managerial discretion model of Williamson - The behavioural model of Cyert and March - Goals of the firm - Satisficing behaviour - Concept of workable competition.

#### Module 5:\* Theories of Pricing (8)

The basic assumptions of the neoclassical theory of pricing - The Hall and Hitch report and the "Full Cost" pricing principle - The attack on marginalism - Price determination - The mark up rule - Predictions and critique of average cost pricing - Bain's limit-pricing theory - Recent developments in the theory of limit pricing - Models of Sylos-Labini and Franco Modigliani - Baumol's Theory of contestable markets - Price discrimination and its effects - Public sector pricing - Marginal cost pricing and problems of its applicability to public utilities.

#### Module 6:\* Distribution (8)

Classical Approach: Ricardo's theory of distribution - Marxian theory of distribution - "Degree of monopoly" theory of Kelecki - Neo-Keynesian model of Kaldor - The modified model of Pasinetti - The widow's cruse models of Joan Robinson and Kalecki - Technical progress and distribution - Neo-Classical Approach: Marginal productivity theory - factor prices and factor shares - The "adding-up" problem - Euler's theorem - Relations between capital per head, real wage rate and the rate of profit - Technical progress and factor shares - Neutral and biased technical progress - Hicks and Harrod - A comparison with respect to their effects on factor shares - Limitations of the marginal productivity theory.

## Module 7: Classical Theories of Value (8)

Adam Smith: Market price - Natural price - labour theory of value - Mechanism of adjustment of market and natural prices - David Ricardo: Ricardo's theory of value - Wages and profits - Ricardo effect - Invariant measure of value - Labour theory of value - Karl Marx: Marx's concepts - Unequal exchange and surplus value - The transformation problem - Marx's solution - The irrelevance of the transformation problem - The internal inconsistencies of the value system - Piero Sraffa: Sraffa's approach - Basic and non-basic commodities - invariant measure of value - "standard" commodity.

## Module 8: The Capital Controversy (8)

Central issues in capital theory - Problems of capital measurement - Technological progress and vintage models - "Putty-clay" and non-malleable capital - The basic neoclassical propositions - Switching of techniques - A General equation of the factor-price frontier - Economic significance of reswitching - Wicksell effects - Surrogate production function - Hicks' constant factor proportions, heterogeneous capital goods model - The rate of return.

## Module 9:\* General Equilibrium (12)

Meaning of general equilibrium - Partial equilibrium versus general equilibrium approach - Walrasian general equilibrium model - Tatonnement - Existence, uniqueness and stability of equilibrium - A graphical treatment of the 2-factor, 2-commodity, 2-consumer general equilibrium system (2 x 2 x 2 model) - Fixed point theorems (elementary concepts only) - Duality principle - Introduction to the contributions of Arrow and Debreu - Critique of the general equilibrium theory - Non-tatonnement process.

## Module 10: Welfare Economics (10)

Criteria of social welfare - Value judgements in welfare economics - Utility and welfare - Community indifference curves - Basic theorem of New Welfare Economics - Pareto optimality and the necessary conditions to achieve it - Market forms and welfare - Theory of the second best

- Welfare frontier and the social optimum - Problem of welfare maximization - Compensation principles - Social welfare function - Arrow's impossibility theorem - Rawlsian concept of justice - Concepts of fairness, and Altruism - Equity-efficiency trade off - Intertemporal and intratemporal equity.

#### Module 11: The Economics of Uncertainty (10)

Introduction and overview - Expected utility and certainty equivalence - Measures of risk and risk aversion - Sensitivity analysis - The economics of insurance - Optimal consumption under uncertainty - Multiperiod models - Competitive firm under uncertainty - Factor demand under price uncertainty - The economics of search - The elementary search model - Variations of the basic model - Adaptive search - Alternatives to the expected utility hypothesis - The competitive industry under uncertainty - The efficient market hypotheses - Stochastic models of inventory demand - Markets with incomplete information.

#### Module 12:\* Microfoundations (7)

Microfoundations of Macroeconomics.

#### Module 13:\* National Income Determination: The Static Equilibrium Model (10)

The basic Keynesian model - Equilibrium in the product and money markets - Adjustment towards equilibrium - Fiscal policy effects on demand - Taxes as automatic stabilizers - The balanced budget theorem - The full employment budget surplus - Monetary policy effects on demand - Portfolio disequilibrium and the transmission mechanism - The liquidity trap - The basic classical model - The demand for and supply of labour - Equilibrium in the labour market - Labour supply and the money wage - Unemployment and wage rigidity - Overall Equilibrium in the basic static model (Goods, money and labour markets).

#### Module 14:\* Sectoral Demand Functions (15)

Consumption demand: The consumption function puzzle - The relative income hypothesis - The permanent income hypothesis - The life cycle hypothesis - The wealth effect - Front loaded fiscal policy - The dynamics of adjustment



- Investment demand: The Keynesian approach - The post Keynesian approach - The neo Keynesian approach - The neo-classical approach - Lags in investment demand - Stability and slope of the IS curve and consequences for policy - Financial theory of investment determination - The demand for money: The classical approach - The Keynesian approach - Friedman's contribution - The approaches of Baumol and Tobin - The portfolio balance approach - The shifting money demand function - Velocity and the demand for money - Velocity, interest rates and (expected) inflation.

Module 15:\* The Supply of Money (10)

Definitions of money supply - Inside and Outside money - The neutrality of money - The money multiplier - Highpowered money - Budget deficits and money supply - Money supply: Endogenous or exogenous? - The instruments of monetary control - Equilibrium in the money market - Accommodating monetary policy - Interest rate or money supply targets? - Monetary planning and credit planning.

Module 16: Equilibrium and Disequilibrium Analysis (10)

Walrasian General equilibrium models - The problem of consistency and the invalid dichotomy - The real balance effect - Assessment of the significance of the real balance effect - Effective demand, notional demand and involuntary unemployment - Price and quantity flexibility - Source of noninstantaneous price adjustment - New Keynesianism and the theory of unemployment - Money and general disequilibrium in a monetary economy - The existence of money.

Module 17: Money and the Theory of Interest Rates (8)

A Real model of the interest rate - A monetary loanable funds model - Liquidity Preference theory - A general equilibrium view of real and monetary theories - "Pure" expectational theory of the term structure - "Pure" segmentation theory - Liquidity Preference and intermediate models of the term structure.

Module 18:\* Introduction to Growth Theory (10)

The stylized facts of growth - Basic assumptions of sector growth models - The Harrod-Domar conditions for equilibrium growth - Equilibrium growth in the neoclassi-

cal model with and without technical progress - Multiple equilibria in the neoclassical model - Savings and consumption in growth equilibrium - The golden rule of accumulation - Optimal growth turnpikes - Growth accounting: Kendrick, Dennison, Solow, Griliches and Jorgenson.

Module 19: Money in Growth Models (8)

A neoclassical growth model with money - Keynes-Wicksell monetary growth model - The non-neutrality of money - Disequilibrium and inflation - Comparison of the neoclassical and Keynes-Wicksell monetary growth models.

Module 20:\* Problems of Stabilization Policy (15)

Lags in the effects of policy - The role of expectations - Uncertainty and economic policy - Rules versus discretion - The Phillips curve and the aggregate supply curve - Expectations and short run Phillips curves - The Friedman-Phelps argument - The shifting short-run Phillips curve - The long-run Phillips curve - Money and Inflation in the long-run - Expectations, interest rates and inflation - The Fischer equation - The trade-off between inflation and unemployment - The natural rate of unemployment - Okun's Law - Budget deficits and inflation - The mechanics of financing the budget - Income policies - The Laffer curve - Monetarist and Keynesian models - The portfolio approach - Crowding out and the Government budget constraint - Rational expectations and the short-run ineffectiveness of stabilization policy - Criticisms of the rational expectation policy - Criticisms of the rational expectations hypothesis.

Module 21:\* Macroeconomics in the Open Economy (12)

IS-LM analysis for an open economy - The foreign trade multiplier - Fixed and flexible exchange rates - Internal and external balances - The policy dilemma with a trade deficit - Expenditure switching or expenditure reducing policies? - Relative growth and the current account - External balance, money and prices - The adjustment process - The monetary approach to the balance of payments and sterilisation.

## REFERENCES

### Module 1:

Backhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.

Baumol, W.J. (1982), Economic Theory and Operations Analysis, 4e, Prentice-Hall of India, New Delhi.

Friedman, M. (1953), Essays in Positive Economics, Chicago University Press, Chicago.

Koutsoyiannis, A., (1979), Modern Microeconomics, 2e, Macmillan, London.

Robbins, L. (1935), An Essay on the Nature and Significance of Economic Science, Macmillan, London.

### Module 2:

Baumol, W.J. (1982), Economic Theory and Operations Analysis, 4e, Prentice-Hall of India, New Delhi.

Deaton, A.S. and J. Muellbauer (1980), Economics and Consumer Behaviour, Cambridge University Press, Cambridge.

Gravel, H. and R. Rees (1981), Microeconomics, Longman, London.

Koutsoyiannis, A., (1979), Modern Microeconomics, 2e, Macmillan, London.

Varian, H. (1978), Microeconomic Analysis, W.W. Norton, New York.

### Module 3:

da Costa, G.C. (1980), Production, Prices and Distribution, Tata McGraw-Hill, New Delhi.

Ferguson, C.E. (1968), Microeconomic Theory, Cambridge University Press, London.

Jones, H.G. (1976), An Introduction to the Modern Theories of Economic Growth, McGraw-Hill Koga-Kusha, Tokyo.

Koutsoyiannis, A., (1979), Modern Microeconomics, 2e, Macmillan, London.

Stigler, G. (1966), The Theory of Price, 3e, Macmillan Company, New York.

Module 4:

Archibald, G.C., Ed. (1971), Theory of the Firm, Penguin Books, Harmondsworth.

da Costa, G.C.(1980), Production, Prices and Distribution, Tata McGraw-Hill, New Delhi.

Kamerschen, D.R., Ed. (1969), Readings in Microeconomics, John Wiley and Sons, New York.

Kogiku, K.C. (1971), Microeconomic Models, Harper and Row, New York.

Koutsoyiannis, A., (1979), Modern Microeconomics, 2e, Macmillan, London.

Module 5:

American Economic Association (1950), Readings in Price-Theory, George Allen and Unwin, London.

Bain, J. (1956), Barriers to New Competition, Harvard University Press, Harvard.

da Costa, G.C.(1980), Production, Prices and Distribution, Tata McGraw-Hill, New Delhi.

Koutsoyiannis, A., (1979), Modern Microeconomics, 2e, Macmillan, London.

Townsend, H. Ed., (1971), Price Theory, Penguin Books, Harmondsworth.

Module 6:

American Economic Association (1950), Readings in the Theory of Income Distribution, George Allen and Unwin, London.

Bronfrenbrenner, M. (1971), Income Distribution Theory, Macmillan, London.

da Costa, G.C.(1980), Production, Prices and Distribution, Tata McGraw-Hill, New Delhi.

Dobb, M. (1973), Theories of Value and Distribution Since Adam Smith, Cambridge University Press, Cambridge.

Koutsoyiannis, A., (1979), Modern Microeconomics, 2e, Macmillan, London.

#### Module 7:

Backhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.

Blaug, M. (1970), Economic Theory in Retrospect, Heineman, London.

da Costa, G.C.(1980), Production, Prices and Distribution, Tata McGraw-Hill, New Delhi.

Dobb, M. (1973), Theories of Value and Distribution Since Adam Smith, Cambridge University Press, Cambridge.

Sraffa, P. (1960), Production of Commodities by Means of Commodities, Cambridge University Press, Cambridge.

#### Module 8:

Backhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.

da Costa, G.C.(1980), Production, Prices and Distribution, Tata McGraw-Hill, New Delhi.

Harcourt, G.C. (1972), Some Cambridge Controversies in the Theory of Capital, Cambridge University Press, Cambridge.

Harcourt, G.C. and N.F. Laing, Eds. (1971), Capital and Growth, Penguin, Harmondsworth.

Jones, H.G. (1976), An Introduction to Modern Theories of Economic Growth, McGraw-Hill - Koga Kusha, Tokyo.

#### Module 9:

Arrow, K.J. and F. Hahn (1971), General Competitive Analysis, North-Holland, Amsterdam.

Arrow, K.J. and M.D. Intrilligator, Eds. (1981), Handbook of Mathematical Economics, Vol. I, North-Holland, Amsterdam.

Debreu, G. (1959), The Theory of Value, Wiley, New York.

Hansen, B. (1970), A Survey of General Equilibrium Systems, McGraw-Hill, New York.

Weintraub, E.R. (1974), General Equilibrium Theory, Macmillan, London.

#### Module 10:

American Economic Association (1969), Readings in Welfare Economics, R.D. Irwin and Co., Homewood.

Bruce, N. and R. Boadway (1984), Welfare Economics, Basil-Blackwell, Oxford.

Mishan, E.J. (1969), Welfare Economics: An Assessment, North-Holland, Amsterdam.

Quirk, J. and R. Saposnick (1968), Introduction to General Equilibrium and Welfare Economics, McGraw-Hill, New York.

#### Module 11:

Arrow, K.J. (1971), Essays in the Theory of Risk-Bearing, North-Holland, Amsterdam.

Arrow, K.J. and M.D. Intrilligator, Eds. (1981), Handbook of Mathematical Economics, Vol. I, North-Holland, Amsterdam.

Balch, M.S., D.L. McFadden and S.Y. Wu, Eds. (1974), Essays in Economic Behaviour under Uncertainty, North-Holland, Amsterdam.

Borch, K.H. (1968), The Economics of Uncertainty, Princeton University Press, Princeton.

Diamond, P. and M. Rothschild, Eds. (1978), Uncertainty in Economics, Academic Press, New York

Hirschleifer, J. (1978), Investment, Interest and Capital, Printice-Hall, New York.

Module 12:

Boland, L. (1982), The Foundations of Economic Method, George Allen and Unwin, London.

Hall, R.E. and J.B. Taylor (1986), Macroeconomics, WW Norton, New York.

Negishi, T. (1979), Microeconomic Foundations of Keynesian Macroeconomics, North-Holland Company, Amsterdam.

Phelps, E.S., Ed., (1970), Microeconomic Foundations of Employment and Inflation Theory, Macmillan, London.

Weitraub, E.R. (1979), Microfoundations, Cambridge University Press, Cambridge.

Module 13:

Branson, W.H. (1972), Macroeconomic Theory and Policy, Harper and Row, New York.

McConnell, C.R. and H.C. Gupta (1987), Introduction to Macroeconomics, Tata-McGraw Hill, Delhi.

Dernberg, T. (1985), Macroeconomics, 7e, McGraw-Hill KogaKusha, Tokyo.

Dornbusch, R. and S. Fischer (1987), Macroeconomics, 4e, McGraw-Hill, KogaKusha, Tokyo.

Edgmond, M.R. (1983), Macroeconomics: Theory and Policy, Prentice-Hall of India, New Delhi.

Module 14:

Branson, W.H. (1972), Macroeconomic Theory and Policy, Harper and Row, New York.

Dornbusch, R. and S. Fischer (1987), Macroeconomics, 4e, McGraw-Hill, KogaKusha.

Junankar, P.N. (1972), Investment: Theories and Evidence, Macmillan, London.

Laidler, D. (1972), Demand for Money: Theories and Evidence, Allied Publishers, New Delhi.

Surrey, M.J.C., ed. (1976), Macroeconomic Themes, Oxford University Press, Oxford.

Module 15:

Branson, W.H. (1972), Macroeconomic Theory and Policy, Harper and Row, New York.

Chakravarty, S. (1985), Report of the Reserve Bank of India Committee to Review the Monetary System, Reserve Bank of India, Bombay.

Dornbusch, R. and S. Fischer, (1987), Macroeconomics, 4e, McGraw-Hill, Kogakusha.

Gupta, S.B. (1983), Monetary Economics, S. Chand & Co., Delhi.

Surrey, M.J.C. ed., (1976), Macroeconomic Themes, Oxford University Press, Oxford.

Module 16:

Clower, R.W., Ed. (1969), Monetary Theory, Penguin, Harmondsworth.

Davidson, P. (1972), Money and the Real World, MacMillan, London.

Harris, L. (1985), Monetary Theory, McGraw-Hill, New York.

Leijonhufvud, A. (1968), On Keynesian Economics of Keynes, Oxford University Press, Oxford.

Patinkin, D. (1965), Money, Interest and Prices, 2e, Harper and Row, London.

Module 17:

Hahn, F.H. and F.P.R. Brechling, Eds. (1965), The Theory of Interest Rates, Macmillan, London.

Harris, L. (1985), Monetary Theory, McGraw-Hill, New York.

Malkiel, B.G. (1966), The Term Structure of Interest Rates; Expectations and Behaviour Patterns, Princeton University Press, Princeton.

Meiselman, D. (1962), The Term Structure of Interest Rates, Prentice Hall, Englewood Cliffs.



Michaelson, J.B. (1973), The Term Structure of Interest Rates, Intext Educational Publ., New York.

Module 18:

Branson, W.H. (1972), Macroeconomic Theory and Policy, Harper and Row, New York.

Jones, H.G. (1976), An Introduction to Modern Theories of Economic Growth, McGraw Hill KogaKusha, Tokyo.

Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw-Hill, New York.

Sen, A.K. Ed. (1970), Growth Economics, Penguin, Harmondsworth.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

Module 19:

Harris, L. (1985), Monetary Theory, McGraw-Hill, New York.

Johnson, H.G. Ed. (1967), Essays in Monetary Economics, Allen & Unwin, London.

Scarfe, B.L., (1977), Cycles, Growth and Inflation, McGraw-Hill, New York.

Stein, J.L. (1970), 'Monetary Growth in Perspective', American Economic Review, Vol.60, pp. 85-106.

Tobin, J. (1965), 'Money and Economic Growth', Econometrica, Vol.33, pp. 671-684.

Module 20:

Dernberg, T. (1985), Macroeconomics, 7e, McGraw-Hill KogaKusha, Tokyo.

Dornbusch, R. and S. Fischer (1987), Macroeconomics, 4e, McGraw-Hill KogaKusha, Tokyo.

Evans, M.K. (1969), Macroeconomic Activity, Harper and Row, New York.

Hall, R.E. and J.B. Taylor (1986), Macroeconomics, WW Norton, New York.

Turnovsky, S.J. (1977), Macroeconomic Analysis and Stabilisation Policy, Cambridge University Press, Cambridge.

Module 21:

Dernberg, T. (1985), Macroeconomics, 7e, McGraw-Hill KogaKusha, Tokyo.

Dornbusch, R. and S. Fischer (1987), Macroeconomics, 4e, McGraw-Hill KogaKusha, Tokyo.

Gordon, R.J. (1981), Macroeconomics, 2e, Little Brown and Company, Boston.

Hall, R.E. and J.B. Taylor (1986), Macroeconomics, WW Norton, New York.

Turnovsky, S.J. (1977), Macroeconomic Analysis and Stabilisation Policy, Cambridge University Press, Cambridge.

M.A.

CORE PAPER: INDIAN ECONOMY

Preamble

The chief objective of the course content at the postgraduate level would be to sharpen the analytical faculty of the student, by highlighting an integrated approach to the functioning aspects of the Indian economy from a theoretical as well as applied angles, keeping in focus, the scope for alternative approaches. Such an analysis is essential, because the Indian economy is a unique amalgam of alternative competing (and often conflicting) theories, and a proper understanding of its working is imperative if the student is to comprehend, in a meaningful manner, the ramifications that underlie most of the observed phenomena in the Indian economic set-up.

To develop all these themes, Module 1 starts off with the determinants of income, employment and the growth rate within the Indian macroeconomic system. The emphasis in Module 2 is on money, interest rates and the price level. In Module 3, India is placed and compared within an international setting, by discussing foreign exchange and balance of payments aspects. Module 4 dwells upon public economics, which under any circumstances sets the pace for the rest of the economy. All these modules are placed in a proper perspective in Module 5 which discusses the development process of the Indian economy with special emphasis on planning strategies and macroeconomic policies.

The suggested numbers of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week spread over a 35-weeks academic year) is provided (in brackets) for each module.

It needs to be noted that all modules are starred modules, which implies that no module can be omitted without suffering a loss of continuity.

Module 1:\* Determinants of Income, Employment and the Growth Rate (14)

Determination of National Income in India - Flow of Funds Analysis - Problems of Measurement - Determination of Employment - Nature of Unemployment - Factors Determining the Demand for and the Supply of Labour, with special reference to Women - wage-rate and wage-differentials - Factors determining the Growth Rate in India - Relative Role of Supply and Demand Factors - Saving and Investment Patterns - Capital-output Ratio and its Implications - Productivity Growth.

Module 2:\* Money, Interest, Price Level and Relative Prices (14)

Factors determining the Demand for and Supply of Money - Relationship between Monetary and Real Factors - Money, Liquidity and Finance - Factors determining the Interest Rate - Relation between short-run and long-run Rates - Real and Nominal Rates - Portfolio Analysis - Factors determining the Price Level - Causes and consequences of Inflation - the various approaches thereof - The fixation and behaviour of Relative Prices - Inter-relations among the leading categories.

Module 3:\* Foreign Exchange, Balance of Payments and International Economic Policy (14)

Determination of Exchange Rates - the Demand for and the Supply of Foreign Exchange - Exchange Rate Policy of India - Theory of Commercial Policy - Factors determining the Balance of Payments - Components of Current Account and Capital Account - International Economic Policy of India and the Effects of International Development on the Indian Economy - Trade and Exchange Gap.

Module 4:\* Public Economics (14)

The Indian Tax System - Incidence of taxation on various sections of the society - Analysis of the Union Budget - Public Expenditure - Public Debt - Public Investment and Pricing - Centre-State Financial Relations.

Module 5:\* Development Process, Planning Strategies and Economic Policy (14)

Lessons of India's Development Experience - Alternative Planning and Development Strategies: Export

Promotion vs. Import Substitution - Heavy Industry vs. the Wage-goods approach - Economic Policy - Goals, Constraints, and instruments - Model Components: Monetary and Fiscal Policy - Industrial Policy Administered Prices - Physical and Fiscal Controls - Parallel Economy and its Implications - Effectiveness of Policies - Policies of Liberalisation - Nationalisation and Privatisation - Long Term Perspective on Indian Economy.

#### REFERENCES

##### Module 1:

Bagchi, A. (1982), The Political Economy of Underdevelopment in India, Cambridge University Press, Cambridge.

Bardhan, P. (1984), The Political Economy of Development in India, Oxford University Press, New Delhi.

Brahmananda, P.R. and V.R. Panchamukhi, (Eds.), (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.

Dandekar, V.M. and N. Rath (1971), Poverty in India, Indian School of Political Economy, Bombay.

Datta, Babhatosh (1977), The Contents of Economic Growth and Other Essays, Research India Publications, Calcutta.

Ghatak, S.(1978), Development Economics, Longman Group Company, New York.

Rao, V.K.R.V. (1983), India's National Income: 1950-1980, Sage Publications, New Delhi.

Wadhwa, C., (Ed.) (1977), Some Problems of India's Economic Policy, 2e, Tata McGraw-Hill Publishing Company, Delhi.

##### Module 2:

Brahmananda, P.R. (1980), Growthless Inflation by Means of Stockless Money, Himalaya Publishing House, Bombay.

Brahmananda, P.R. and V.R. Panchamukhi, (Eds.), (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.

Chakravarty, C. (1985), Report of the Reserve Bank of India Committee to Review the Working of the Monetary System, Reserve Bank of India, Bombay.

Goldsmith, R.W. (1969), Financial Structure and Development, Yale University Press, New Haven.

Gupta, S.B. (1979), Monetary Planning for India, Oxford University Press, New Delhi.

Gupta, S.B. (1983), Monetary Economics, S. Chand and Company, New Delhi.

Rao, V.K.R.V., A.M. Khusro and C.H. Hanumantha Rao (1973) Inflation and India's Economic Crisis, Vikas Publishing House, Delhi.

Simha, S.L.N. (1974), Inflation in India, Vora and Co., Bombay.

### Module 3:

Bhagwati, J. and P. Desai (1972), India: Planning for Industrialisation, Oxford University Press, London.

Bhagwati, J.N. and T. Shrinivasa (1976), Foreign Trade Regimes and Economic Development, Macmillan, Delhi.

Brahmananda, P.R. and V.R. Panchamukhi, (Eds.), (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.

Little, I.M.D., T. Scitovsky and M. Scott (1970), Industry and Trade in Some Developing Countries: A Comparative Study, Oxford University Press, London.

Nayyar, D. (1976), India's Exports and Export Policies in the 1960's, Cambridge University Press, Cambridge.

Panchamukhi, V.R. (1978), Trade Policies of India, A Quantitative Analysis, Concepts Publishing Company, New Delhi.

Theberge, J.D. (Ed.) (1968), Economics of Trade and Development, John Wiley and Sons, New York.

Wadhwa, C., (Ed.) (1977), Some Problems of India's Economic Policy, 2e, Tata McGraw-Hill Publishing Company, Delhi.

#### Module 4:

Brahmananda, P.R. and V.R. Panchamukhi, (Eds.), (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.

Chelliah, R. (1969), Fiscal Policy in Under-developed Economy, 2e, George Allen and Unwin, London.

Chelliah R., et al, (1981), Trends and Issues in Indian Federal Finance, Allied Publishers, New Delhi.

Gandhi, V.P. (1970), Aspects of India's Tax Structure, Vora and Company, Bombay.

Jha, R. (1987), Modern Theory of Public Finance, Wiley Eastern, New Delhi.

Lakdawala, D.T. (1967), Union-State Financial Relations, Lalvani Publishers, Bombay.

Nanjundappa, D.M. (1974), Inter-Governmental Financial Relations in India, Sterling Publications, New Delhi.

Thavaraj, M.J.K. (1978), Financial Management of the Government, S. Chand and Company, New Delhi.

#### Module 5:

Ahluwalia, I.J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.

Bhagwati, J. and S. Chakravarty (1971), Contribution to Indian Economic Analysis, Lalvani Publishing House, Bombay.

Brahmananda, P.R. and V.R. Panchamukhi, (Eds.), (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.

Chakravarty, S. (1987), Development Planning: The Indian Experience, Clarendon Press, Oxford.

Gadgil, D.R. (1972), Planning and Economic Policy in India, Orient-Longman, Poona.

Ghosh, A. and S.K. Ghosh, (1983), Planning Techniques and Indian Plans, Wheeler and Company, Allahabad.

Jha, L.K. (1980), Economic Strategy for the 80's, Allied Publishers, New Delhi.

M.A.

CORE PAPER: QUANTITATIVE METHODS

Preamble

The main objective of this paper is to train the student in quantitative techniques which are commonly used in theoretical and applied economics. With the help of this specialization, it is hoped that the student will be in a position to comprehend some of the more formidable problems being tackled in the field of mathematical economics and econometrics.

To this end, Modules 1-2 deal with mathematical methods, while Modules 3-6 deal with statistical methods. Module 1 is concerned essentially with linear programming, game theory and their interrelationship. Module 2 deals with input-output analysis and their planning applications, with a digression into differential and difference equations. Module 3 is concerned with probability theory and standard sampling distributions. Module 4 deals with statistical inference and comprises estimation and hypothesis testing. Module 5 is essentially concerned with regression analysis while Module 6 deals with econometric applications with special reference to India.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week spread over a 35-week academic year) is provided (in brackets) for each module.

It is to be noted that all modules are starred which implies that no module can be omitted without suffering a loss of continuity.



Module 1:\* Mathematical Methods-I (20)  
(Introduction to Linear Programming and Game Theory)

Linear Programming - basic concepts - the basic theorem and the simplex method - the dual problem and its economic interpretation - some duality theorems (without proofs) - Game Theory - basic concepts - interrelation between game theory and linear programming economic applications.

Module 2:\* Mathematical Methods-II (20)  
(Introduction to Input-Output Analysis)

Static input-output analysis and Indian planning applications - Differential and difference equations - first and second order - economic applications.

Module 3:\* Statistical Methods-I (15)  
(Probability)

Basic probability theory - Bayes theorem - standard probability distributions including log-normal - Law of large numbers and central limit theorem (without proofs) - Standard sampling distributions -  $\chi^2$ , t, and F (definitions and properties).

Module 4:\* Statistical Methods-II (15)  
(Statistical Inference)

Concepts and methods of estimation - unbiasedness and minimum variance - Cramer-Rao Lower Bound - consistency - Method of moments - method of least squares - method of maximum likelihood (without proofs) - Hypothesis testing - concepts and methods - simple and composite hypotheses - Type-I and Type-II Errors - Neyman-Pearson Lemma - the likelihood ratio method.

Module 5:\* Statistical Methods-III (20)  
(Regression Analysis)

General linear regression model - Least Squares and maximum likelihood estimation - forecasting, hypothesis testing and interpretation - dummy explanatory variables - Violations of Classical assumptions of the regression model - model diagnostics - multicollinearity - heteroscedasticity - auto-correlation - GLS - stochastic regressors - instrumental variable method - introduction to non-linear regression.

Module 6:\* Statistical Methods-IV (15)  
(Econometric Applications)

Simple Econometric Applications with special reference to India - Engel curves - demand analysis and demand projections - estimation of cost functions and production functions - Lorenz curves - Pareto and Lognormal distribution of income - Macro-econometric functions: consumption, investment and demand for money functions.

REFERENCES

Module 1:

Baumol, W.J. (1984), Economic Theory and Operations Analysis, 4e, Prentice Hall, Englewood Cliffs, New Jersey.

Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, 3e, McGraw Hill, New York.

Dorfman, R., P.A. Samuelson and R. Solow (1958), Linear Programming and Economic Analysis, McGraw-Hill Kogakusha, Tokyo.

Hadley, G. (1962), Linear Programming, Addison-Wesley Publishing Company, Massachusetts.

Module 2:

Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, 3e, McGraw Hill, New York.

Mathur, P.N. and R. Bharadwaj, Eds. (1967), Economic Analysis in Input-Output Framework, Input-Output Research Association of India, Poona.

Planning Commission (1986), Technical Note on the Seventh Plan of India, Government of India, New Delhi.

Rudra, A. (1976), Indian Plan Models, Allied Publishers, New Delhi.

Module 3:

Freund, J. (1962), Mathematical Statistics, Prentice-Hall, Englewood Cliffs.

Gnedenko, B.V. (1976), The Theory of Probability, 3e, Mir Publishers, Moscow.

Kmenta, J. (1971), Elements of Econometrics, Macmillan, New York.

Walpole, R. and R.H. Myers (1972), Probability and Statistics, Macmillan, New York.

Module 4:

Freund, J. (1962), Mathematical Statistics, Prentice-Hall, Englewood-Cliffs.

Hogg, R.V. and A.T. Craig (1970), Introduction to Mathematical Statistics, 3e, Macmillan, New York.

Kmenta, J. (1971), Elements of Econometrics, Macmillan, New York.

Mood, A.M. and F.A. Graybill (1963), Introduction to the Theory of Statistics, 2e, McGraw Hill Kogakusha, Tokyo.

Module 5:

Gujarati, D. (1978), Basic Econometrics, McGraw-Hill, New York.

Johnston, J. (1972), Econometric Methods, 2e, McGraw-Hill, New York.

Maddala, G.S. (1977), Econometrics, McGraw-Hill Book Company, New York.

Theil, H. (1981), Introduction to Econometrics, Prentice-Hall of India, New Delhi.

Module 6:

Cramer, J.S. (1969), Empirical Econometrics, North-Holland, Amsterdam.

Indian Council of Social Science Research (1978), Survey of Research in Economics, Vol.VII: Econometrics, Allied Publishers, New Delhi.

Intriligator, M.D. (1978), Econometric Models, Techniques and Applications, Prentice Hall, Englewood Cliffs.

Reddy, J.M. (1983), Demand Forecasting Methods, Applications and Cases, Light and Life, Delhi.

M.A.

OPTIONAL PAPER: WELFARE ECONOMICS

**Preamble**

Welfare economics is the framework within which the normative significance of economic events is evaluated. It serves as a foundation to many applied branches of economics such as public finance, cost-benefit analysis and the economics of government policy. The four modules of this paper are aimed at bringing to the students a thorough understanding of the latest developments in the field.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Measurement of Economic Welfare (15)

Economic welfare and general welfare - Utilitarian economics - Value judgements - Interpersonal comparison of utility - Consumer surplus measures of economic welfare - Recent developments in consumer choice theory - indirect utility function, compensating and equivalent variations, money-metric - Index numbers and consumer surplus - index numbers and money-metric - Extension of consumer choice theory to include inter-temporal choice, uncertainty, quantity constraints.

Module II:\* Welfare Economics and General Equilibrium (20)

(Note: Familiarity with General Equilibrium Theory is a pre-requisite)

Pareto optimality and market equilibrium - Fundamental theorems of welfare economics - Compensation principles - Extending the fundamental theorems to inter-temporal and uncertain setting - Market failure - imperfections, externalities, public goods, informational asymmetries - Theory of second-best.

Module III:\* Social Welfare Function (15)

Arrow impossibility theorems - Welfare economics and social choice theory - Voting systems - Implications of Rawls' theory of justice for welfare economics - Political process and welfare economics - Democracy and welfare economics - Down's model - Pressure groups - Politico-economy interactions (Political Business Cycles) - Bureaucracy and economic welfare.

Module IV:\* Applied Welfare Economics (20)

Taxation and economic efficiency - Distortionary effects of taxes - Deadweight losses - measurement of deadweight losses - Lump-sum taxes versus distortionary taxes - Optimal redistributive taxation - redistribution through commodity taxes - Cost benefit analysis - evaluation of benefits - choice of social discount rates - Output and price policy of public enterprises - welfare implications of marginal cost pricing - Natural resources, environmental problems and welfare.

## REFERENCES

### Module I:

Boadway, R.W. and N. Bruce (1984), Welfare Economics, Basil Blackwell, Oxford.

Deaton, A. and J. Muellbauer (1980), Economics and Consumer Behaviour, Cambridge University Press, Cambridge.

Just, R.E., D.L. Hueth and A. Schmitz (1982), Applied Welfare Economics and Public Policy, Prentice Hall Inc., Englewood Cliffs.

McKenzie, G.W. (1983), Measuring Economic Welfare - New Methods, Cambridge University Press, Cambridge.

Mishan, E.J. (1969), Welfare Economics: An Assessment, North Holland, Amsterdam.

### Module II:

Boadway, R.W. and N. Bruce (1984), Welfare Economics, Basil Blackwell, Oxford.

Just, R.E., D.L. Hueth and A. Schmitz (1982), Applied Welfare Economics and Public Policy, Prentice Hall Inc., Englewood Cliffs.

Quirk, J. and R. Saposnik (1968), Introduction to General Equilibrium Theory and Welfare Economics, McGraw-Hill, New York.

Stiglitz, J.E. (1986), Economics of the Public Sector, WW Norton, New York, 1986.

### Module III:

Arrow, K.J. (1951), Social Choice and Individual Values, Yale University Press, New Haven.

Boadway, R.W. and N. Bruce (1984), Welfare Economics, Basil Blackwell, Oxford.

Doel, H. (1979), Democracy and Welfare Economics, Cambridge University Press, Cambridge, 1979.

Downs, A. (1956), An Economic Theory of Democracy, Harper, New York.

Feldman, A.M. (1980), Welfare Economics and Social Choice Theory, Martinus Nijhoff, Boston.

Frey, B. (1978), Modern Political Economy, Martin Robertson, Oxford.

Mueller, D.C. (1979), Public Choice, Cambridge University Press, Cambridge.

Sen, A.K. (1970), Collective Choice and Social Welfare, Holden-Day, San Francisco.

Module IV:

Atkinson, A.B. and J.E. Stiglitz (1980), Lectures on Public Economics, McGraw-Hill, New York.

Baumol, W.J. and W.E. Oates (1975), The Theory of Environmental Policy, Prentice Hall, Englewood Cliffs.

Dasgupta, P. (1982), The Control of Resources, Basil Blackwell, Oxford.

Nelson, J.K., (ed.), (1964), Marginal Cost Pricing in Practice, Prentice Hall, Englewood Cliffs.

Stiglitz, J.E. (1986), Economics of the Public Sector, WW Norton, New York.

Turvey, R. (1971), Economic Analysis and Public Enterprises, George Allen and Unwin, London.

OPTIONAL PAPER: ECONOMIC HISTORY

**Preamble**

A course in economic history at the post-graduate level should not remain content with merely providing historical facts but should aim at training the student in the use of the historical method as a method of analysis. While a study of economic theory equips one to use the logical method and a course in quantitative economics enables one to use the quantitative method of analysis, a course in economic history would prepare a student to make use of the historical method. In fact a students' training at the post-graduate level cannot be considered complete without a proper grounding in all the three methods of analysis, namely the logical, quantitative and the historical method.

Secondly, economic development of the LDC's can only be understood in the light of the experience of the developed countries in the course of the industrial revolution. Hence, a comparative study of economic history of industrialised countries is equally important for students in the LDC's.

Finally, in a social science like economics one cannot do experiments in the laboratory as in the case of the natural sciences. But it has long been recognised that a study of history can provide facts and illustrations for certain principles propounded in economic theory. That is why an economic theoretician like Sir John Hicks points out that we suffer too much from academic specialization by keeping economic theory and history apart. Thus for him a major function of economic history is "to be a forum where economists and political scientists, lawyers, sociologists and historians - historians of events and of ideas and of technologies - can meet and talk to one another".

A course in economic history would therefore help a student in understanding the historical interpretation of economics simultaneously with the economic interpretation of history.

The suggested numbers of lectures that ought to be devoted to each module (under the assumption of 6 lecture hours per week over a 35 academic year) is provided (in brackets) for each module.



Module I: Selected Problems in Indian History (10)

Selected Problems in Indian Economic History - Methods of Historical Research - Sources and Nature of Historical Material for the period 1500-1853 and for 1850-1947 - Theory and History.

Module II: 1500-1800: Administration (15)

The Nature of the State: Mughal India and South India - fiscal patterns and policies - creation and maintenance of social overheads.

Module III: 1500-1800: Agriculture (15)

The agrarian structure - tenurial relations - crop pattern, yields and productivity - technological change - trade in agricultural produce - the agrarian crisis of the Mughal empire.

Module IV: 1500-1800: Industry & Trade (35)

The organization of manufacturing for local, regional, national and international markets - the contract system - regional contracts - The structure of Asian Trade - Indigenous forms and instruments of Trade - The Arab merchants - Indian mercantile communities - Portuguese trade as a redistributive enterprise - the English and the Dutch companies - trade within Asia and between Asian and Europe - The impact of Dutch conquest of Indonesia and the English conquest of Bengal on the structure of Asian Trade - The rise of the China Trade.

Module V: 1800-1947: Social and Economic History of Population (20)

Construction of population estimates - Characteristics of population - fertility, mortality, morbidity, sex ratio, urbanisation settlement patterns, population growth, natural disasters and their relation to economic activity.

Module VI: 1800-1947: Agrarian Structure and Property Relations (20)

General issues in the analysis of property rights - Specification and distribution of property rights, enforcement and policing the agrarian structure of

different regions - effects of government policies, commercialisation and demographic change on the structure of land holdings, tenancy and agricultural labour.

Module VII: 1800-1947: Growth of the Labour Market (15)

Emergence of a labour force for organised industry, plantations and mines - organization and patterns of international outmigration - Mechanism of release of labour in agriculture - Functioning of labour markets in India.

Module VIII: 1800-1947: Organization of Traditional Manufactures (20)

The Organisation of manufacturing in the Middle of eighteenth century for different markets - regional contracts - The Impact of the Industrial Revolution and Colonial rule on traditional manufacturing - effects of the growth of transport and communications - technical change.

Module IX: 1860-1947: Modern Industry and Infrastructure (15)

Entrepreneurship, regional location, structure, protection - The growth of railways and irrigation - Factors explaining the pattern and pace of expansion - Changes in the role of the state.

Module X: 1800-1947: Money, Banking and Trade (20)

The traditional credit organisation- regional variations - growth of modern banking and the Reserve Bank of India - The growth of trade and changes in direction and composition - trends in invisibles - terms of trade - changing structure of the balance of payments and its implications for the domestic economy - trends in foreign capital.

Module XI: Issues in Economic History (25)

Some Historical Case Studies - Mobilisation of Agricultural surplus - forms of labour supply - inputs into agriculture - peasant rationality and markets - Comparison of the response of different types of colonial economies to imperialist forces - Comparison of the policies of different metropolitan powers and of the policies of the same power e.g. Britain in its various colonies.

## REFERENCES

### Module I:

Bloch, M. (1953), The Historian's Craft, Vintage Books, New York.

Hicks, J.R. (1969), A Theory of Economic History, Clarendon Press, Oxford.

### Module II:

Mareland, W.H. (1923), From Akbar to Aurangzeb, A Study in Indian Economic History, MacMillan, London.

Moreland, W.H. (1929), Agrarian System of Moslem India: A Historical Essay with Appendices, Cambridge University Press, Cambridge.

Raychowdhuri, T. and Irfan Habib (Eds.), (1982), Cambridge Economic History of India, (Vol.I) Orient Longman, New Delhi.

### Module III:

Habib, Irfan, (1963), The Agrarian System of Mughal India, Allied Publishers, Bombay.

Stein, B. (1980), Peasant State and Society in Medieval South India, Oxford University Press, London.

### Module IV:

Chaudhuri, K.N. (1978), The Trading World of Asia and the English East India Company 1660-1760, Cambridge University Press, Cambridge.

Steensgard, N. (1974), The Asian Trade Revolution of the Seventeenth Century, Chicago University Press, Chicago.

### Module V:

Davis Kingsley, (1951), Population of India and Pakistan, Princeton University Press, Princeton.

Glass, D.V. and R. Revelle, (Eds.), (1972), Population and Social Change, Edward Arnold, London.

Zachariah, K.C. (1964), Historical Study of Internal Migration in the Indian Sub-Continent, 1901-1931, Asia Publishers, New York.

Module VI:

Darling, M. (1977), The Punjab Peasant in Prosperity and Debt, Manohar, New Delhi.

Kessinger, T. (1974), Vilayatpur, University of California, Berkeley.

Kumar, Dharma (1965), Land and Caste in South India, Cambridge University Press, Cambridge.

Kumar, R. (1968), Western India in the Nineteenth Century, Routledge and Kegan Paul, London.

Ray, R. (1979), Change in Bengal Agririan Society: 1760-1850, Manohar, New Delhi.

Rothermurnd, D. and D.C. Wadhwa (1978), Zamindars, Miners and Peasants, Manohar, New Delhi.

Stokes, E. (1959), English Utilitarians in India, Oxford University Press, Oxford.

Module VII:

Morris, M.D. (1954), Emergence of an Industrial Labour Force in India, University of California Press, Berkeley.

Module VIII:

Bagchi, A.K. (1972), Private Investment in India 1930--1939, Cambridge University Press, Cambridge.

Venkataraman, K.S. (1935), Handloom Industry in Madras, The Auther Publishers, Madras.

Module IX:

Clark, Colin, (1970), Economics of Irrigation, Pergaman, Oxford.

Lokanathan, P.S. (1935), Industrial Organisation in India, Allen & Unwin, London.

Sanyal, N. (1930), Development of Indian Railways, Calcutta University Calcutta.

Tinberg, T. (1975), Marvaris, Vikas, New Delhi.

Tripathi, D. (1935), Business Communities in India: A Historical Perspective, IIM Monograph, Manohar, New Delhi.

Module X:

Keynes, J.M. (1913), Report on Indian Currency & Finance, Cambridge University Press, Cambridge.

Pandit, Y.S. (1937), India's Balance of Indebtedness 1893-1913, MacMillan, London.

Raj, K.N. (1948), The Monetary Policy of the Reserve Bank of India, National Information and Publication, Bombay.

Ray, P. (1934), India's Foreign Trade Since 1870, MacMillan, London.

Module XI:

Boserup, E. (1965), Conditions of Agricultural Growth, Allied Publishers, Bombay.

Jones, E.L. and E.J. Woolf (1969), Agrarian Change and Economic Development, Mathuen, London.

Leuris, W.A. (Ed.), (1970), Tropical Development (1880-1913) George Allen & Unwin, London.

Parker, W. (Ed.) (1975), European Peasants and their Markets, Princeton University Press, Princeton.

Schultz, T.W. (1964), Transforming Traditional Agriculture, Chicago University Press, Chicago.

Scott, J.C. (1978), The Moral Economy of the Peasant, Yale University Press, London.

M.A.

OPTIONAL PAPER: SOCIALIST ECONOMICS

Preamble

The students of economics have been, by and large, dealing with the working of the economy which is essentially a free enterprise or a mixed economy. However, with the emergence of the alternative system in countries like the USSR, the economics of the socialist countries has assumed great importance in the modern world. The course on 'Socialist Economics' gives an exposure to the students, of the working of the economic system in the Socialist countries.

The course incorporates characteristics of the socialist economy with special reference to the USSR, the economics of Central Planning and also deals with the economic reforms in the socialist countries, treating Yugoslavia as a special case. The central aspects of the socialist economy - money and banking, taxation and foreign trade are also discussed separately.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week, over a 35-week academic year), are provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Socialist Economies of the Soviet Type (15)

Socialist economy: Its characteristics - Socialisation of the means of production - Planning and Socialist Economy - Marxian dichotomy between Socialism of the Lower Phase and Socialism of the Higher Phase - Socialism and Equality - Socialist Economy and Economics of Welfare - Socialist Calculation: Ludwig von Mises, Frederick von Hayek and Oscar Lange - Soviet Type Economies (STEs): Salient Features - Structure of a STE - Sectoral and Regional pillars - National Income, Branches, Sectors and Spheres of the economy - Productive and non-Productive Spheres.

Module II:\* Centralised Planning Model (10)

Centralised Planning Model: Elaboration, Formulation and Implementation of the Plan - Material Balances - Pricing - Indicators of Plan fulfilment - Accumulation and Investment - Difficulties of the Centralised model - Problem of Incentives - Equality aspect: Distribution of Income according to Work Performed - Efficiency and Equality.

Module III:\* Economic Reforms in Socialist Countries (15)

Economic Reforms in STEs (with special reference to Hungary, Czechoslovakia, Poland and USSR) - Decentralisation and Role of the Market - Bureaucratic and Market Co-ordination - Decentralisation of Decision-Making - Autonomy of enterprises - Status of Mandatory Plans - Dual Dependence of State-Owned Firms: Appointment of Top Managers - Output targets - Allocation of Inputs - Determination of Prices - Determination of Wages and Employment - Application of the Principle of 'Distribution of Income according to Work Performed' - Cooperative Sector: Reforms in Agriculture - Non-agricultural Co-operatives - Growth of the Private Sector - The Second Economy - Profits and the Problem of Accumulation and Investment - Nature of Central Control after Reforms - Direct and Indirect Bureaucratic Control.

Module IV:\* Yugoslavia as a Special Case (5)

Economic System of Yugoslavia - The principle of Self-Management Socialism - Self-management by Workers' Associations - Mechanism of Planning in Yugoslavia - Incentives, Productive Efficiency and Social Justice.

Module V: \* Money and Banking (5)

Money, Banking and Credit in Soviet-type Socialist Economies - Management of Monetary Circulation - Different Types of Banks and their functions - Banking System.

Module VI: \* Fiscal System (5)

System of Taxation in Socialist Countries - Turnover Tax, Income Tax, Profit Tax - Degree of Centralisation of Financial Flows through the Government Budget - Tax System after the Reforms.

Module VII: \* Socialist Foreign Trade (5)

Socialist Foreign Trade - Organisation of Foreign Trade - Credit and Pricing of Foreign Trade - Foreign Trade and Payments mechanism - Socialist Economic Co-operation and Integration - CEMA.

Module VIII: \* Convergence of Capitalism and Socialism (10)

The Convergence Thesis - Capitalism and Socialism in highly industrialised Societies - Common Features and Dissimilarities - Relevance of the Ideological Debate between proponents of capitalist democracies and advocates of socialism.

REFERENCES

Module I:

Dobb, M. (1969), Welfare Economics and Economics of Socialism, Cambridge University Press, Cambridge.

Hayek, F.A. (1935), Collectivist Economic Planning, Routledge and Kegan Paul, London.

Lange, O. and F. Taylor (1938), On the Economic Theory of Socialism, University of Minnesota Press, Minnesota.

Nove, A. (1983), Economics of Feasible Socialism, George Allen and Unwin, London.

Wilczynski, J. (1981), Economics of Socialism, 4e, George Allen and Unwin, London.



Module II:

Berri, L.Y., Ed. (1978), Planning A Socialist Economy, Vols. I & II, Progress Publishers, Moscow.

Ellman, M. (1979), Socialist Planning, Cambridge University Press, Cambridge.

Nove, A. (1980), Soviet Economic System, 2e, George Allen and Unwin, London.

Nove, A. (1980), Economics of Feasible Socialism, George Allen and Unwin, London.

Nove, A. and D. Nutti, Eds. (1972), Socialist Economics, Penguin, Harmondsworth.

Module III:

Bergson, A. (1967), "Market Socialism Revisited", Journal of Political Economy, Vol.75, No.IV.

Bornstein, M., Ed. (1973), Plan and the Market: Economic Reform in Eastern Europe, Yale University Press, New Haven.

Brus, W. (1972), The Market in a Socialist Economy, Routledge and Kegan Paul, London.

Brus, W. (1975), Socialist Ownership and Political Systems, Routledge and Kegan Paul, London.

Hochman, H., C. Kaser and K. Thalhesm, Eds., (1975), New Economic Systems of Eastern Europe, C. Hurst and Company, London.

Kornai, J. (1980), Economics of Shortage, North-Holland, Amsterdam.

Kornai, J. (1986), "The Hungarian Reform Process", Journal of Economic Literature, Vol.XXIV, No.4.

Module IV:

Nove, A. (1983), Economics of Feasible Socialism, George Allen and Unwin, London.

Nove, A. and D.M. Nutti, Eds. (1972), Socialist Economics, Penguin, Harmondsworth.

Tangri, S., Ed. (1967), Command Versus Demand, Heath and Company, Boston.

Wilczynski, J. (1981), Economics of Socialism, 4e, George Allen and Unwin, London.

Wiles, P.J.D. (1977), Economic Institutions compared, Basil Blackwell, Oxford.

Module V:

Brabant, Joseph, M. (1977), East European Co-operation: The Role of Money and Finance, Prager, London.

Wilczynski, J. (1981), Economics of Socialism, 4e, George Allen and Unwin, London.

Zwass, A. (1978-79), "Banking and Credit in the Soviet Union and Eastern Europe", Eastern European Economics, Vol.XVII, Nos.1-2.

Module VI:

Nove, A. (1980), Soviet Economic System, 2e, George Allen and Unwin, London.

Nove, A. (1983), Economics of Feasible Socialism, George Allen and Unwin, London.

Wilczynski, J. (1981), Economics of Socialism, 4e, George Allen and Unwin, London.

Module VII:

Brabant, Joseph, M. (1977), East European Cooperation, Prager Publishers, London.

Nove, A. (1983), Economics of Feasible Socialism, George Allen and Unwin, London.

Wilczynski, J. (1981), Economics of Socialism, 4e, George Allen and Unwin, London.

Module VIII:

Tangri, S.S. Ed. (1967), Command Versus Demand: Systems for Economic Growth, Heath and Company, Boston.

Wilczynski, J. (1981), Economics of Socialism, 4e, George Allen and Unwin, London.

Wiles, P.J.D. (1977), Economic Institutions Compared, Basil Blackwell, Oxford.

M.A.OPTIONAL PAPER: DEVELOPMENT ECONOMICS**Preamble**

A developing economy has structure if its institutions and the behaviour of its members make some patterns of resource allocation substantially more likely than others. A study of development economics is structuralist when it takes these factors as the cornerstone for its analysis.

The standard approach to economic theory, whether micro or macro, is to postulate a set of interlocking maximization problems by a number of "agents" and enquire into the characteristics of the solution. In applied development economics, this derivation of economic theories from maximizing "first principles" breaks down, as it must. There is an awareness that there exist institutions conspicuously lacking in this "calculus" as well as the recognition that the participating agents are political and social, apart from merely economic, entities. Moreover, noneconomic, or even nonmaximized, forces affecting economic actions are seriously considered which provides greater flexibility in allowable economic actions. For example, while strict theory postulates that markets are almost always price-clearing, development economics makes it patently obvious that many functioning markets are cleared by quantity adjustments or queues.

But, the impact of theory on this applied field remain strong. Thus, if neoclassical growth theory tells us that increased savings leads to higher investment and faster growth, then development policies that stimulate savings manifest themselves thereby becoming a means into an end.

The analysis in this paper is an attempt to codify such a theory oriented development economics. It amounts to a combination of elaborate descriptions of the structures that economists from developing countries have always emphasized with abstract analytical models largely

developed by economic theorists from the Western World. Like most blends of two lines of thought, the product will partly (dis)please both sets of progenitors, but as it is becoming increasingly apparent to a majority of economists all over the world, this approach is about the only useful way to study development economics for most of the countries in the world.

Module I provides an overview of the concept of development and underdevelopment. Module II provides a backdrop to the so-called "grand" theories of growth and covers Smith, Ricardo, Marx and Schumpeter. Module III is an introduction to the "modern" theories of economic growth and focusses a great deal on the study of the causes of growth. Module IV covers the "partial" theories of growth and provides an essential understanding into the various theories put forward to explain underdevelopment in LDCs. Module V deals with the factors (labour and capital) in the development process, while Module VI is concerned with the components (agriculture and industry) in the development process. In the process, the interlinkages between factors and components are clearly developed. Module VII highlights the international aspects of development. Module VIII deals with the mobilisation of resources (both domestic as well as foreign) and is a prime example of the development of theory induced policies. Module IX discusses the all important concept of the allocation of resources (both on an intertemporal as well as intersectoral basis), while Module X carries this topic forward to its logical conclusions by discussing development planning.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that only Module II is unstarred which implies that only this module can be omitted without any loss of continuity.

Module I:\* Development and Underdevelopment:  
An Overview (8)

The relevance of economic development - Problems in defining economic development - Characteristics of the LDCs - Types of markets and production conditions - The world distribution of income - Development Gap - Per Capita Income as an index of development - Difficulties of measurement and comparability - Alternative measures of the development gap - Cross-country comparisons - Poverty and Income-Distribution - Income Inequality and Absolute Poverty - Redistribution with Growth.

Module II: Grand Theories of Economic Growth and Development (12)

Adam Smith: The Production Function - Natural Resources and Institutions - The Labour Force - The Accumulation of Capital - Stationary State - David Ricardo: The Production Function - Natural and Human Resources - Capital Accumulation - The Pattern of Development - Karl Marx: Productive Activities of an Economy - Theory of Social Evolution - Course of Production - Variable Capital - Constant Capital - Surplus Value and Exploitation - Organic Composition of Capital - The "Reserve Army" concept - Determinants of the Rate of Capital Accumulation - The Marxian Dynamic Process - Internal Contradictions in Capitalism - Marx's Theory of Underdevelopment - Joseph Schumpeter: Process of Production - Dynamic Evolution of an Economy - Influence of Technology on Development - Nature of the Entrepreneur - Profits and Development - Role of Innovations - Meaning of Capital - Role of Credit - Theory of Business Cycles.

Module III:\* Modern Theories of Economic Growth and Development (10)

The Stylised facts of Growth - Basic assumptions of Growth Models - the Harrod-Domar growth model and its applications - The Neo-classical growth model with and without Technical Progress - its application to the LDCs - the Kaldor-Mirrlees growth model - The Production-Function approach to the study of causes of Growth - the analysis of growth - the production function - the Cobb-Douglas Production Function - Embodied technical progress - the Quality of Labour - Resource-shifts - Empirical evidence: Solow, Denison, Abramovitz and Kendrick.

Module IV:\* Partial Theories of Economic Growth and Development (10)

The Vicious Circle Theory - The Stages of Growth  
Rostow - Surplus Labour: Lewis - Big Push: Rosenstein-Rodan - Balanced Growth: Nurkse - Unbalanced Growth: Hirschman-Minimum Critical Effort: Leibenstein - Low Level Equilibrium Trap: Nelson - Dualism - The Process of Cumulative Causation - Dual Economy Models - The Fei-Ranis Model - The Jorgenson Model - the Dixit-Marglin Model - The Kelly et al Model - The Wage-Goods Model - A Critique of Dual Economy Models.

Module V:\* Factors in the Development Process (8)

Labour: The population 'problem' - population growth and the development process - the 'optimum population' - the theory of Demographic Transition - the Employment Problem - the Harris-Todaro Model. - Employment Policy - Capital: The Role of Capital in Development - The Capital-Output Ratio - The ICOR in the Business Cycle - ICOR and Short-run Growth Rates - Adjusted ICORs - Technical Progress - Capital and Labour-Saving Technical Progress - Human Resource Development - The contribution of education to growth and development - Human Capital -Becker - Learning by doing - Arrow - Education deepening - Denison - Human Resource Analysis - Manpower Planning - Human Resource Policies.

Module VI:\* Components in the Development Process (12)

Agriculture: The The Role of Agriculture in Development - The Supply Response of Agriculture - The concept of 'Marketed Surplus' - Acreage Response to Prices - Marketed Surplus, Size Holdings and Output - Limitations of Price Policy and Alternatives - The Growth of the Money Economy - Disguised Unemployment - Types and Measurement - Incentives and the Costs of Labour-transfer - Industry: Role of Industry - Major Reasons for Industrialisation in LDCs - The Infant Industry Argument - The Employment Argument - Export Promotion vs. Import Substitution-Strategies - The Choice of Techniques and Factor-Proportions - Problem in LDCs - Techniques of Production in Practice - The Technological Choice - Appropriate and Inappropriate Technology - Capital-Intensive Technology and Employment in Industry.

Module VII:\* International Aspects of Development (10)

Trade Theory and Economics of Development - The Contribution of Trade to Development - Static Gains and Dynamic Gains - Terms of Trade and Economic Development - Secular Stagnation Thesis of Singer et al - Technical Progress and the Terms of Trade - The Role of Tariffs in Economic Development - Trade Theory and Dual Gap Analysis - Export Instability and Economic Development - Trade vs. Aid - The Evolution and Objectives of the New International Economic Order.

Module VIII:\* Mobilisation of Resources (12)

Domestic Resources: The Prior-Savings Approach - Monetary Policy - Fiscal Policy - Inflation, Savings and Growth - The Keynesian Approach to the Finance of Development - The Quantity Theory Approach to the Finance of Development - Non-inflationary Finance of Investment - Inflation and the Credit-Financed Growth-Rate - Inflation and Growth - The Empirical Evidence - External Resources: Dual Gap Analysis and Foreign Borrowing - Savings-Investment Gap - The Foreign Exchange Gap - Models of Capital Imports and Growth - Capital Imports, Domestic Savings and the ICOR - Foreign Borrowing and the Debt-Servicing Problem - Types and Measurement of International Capital Flows - The Role of IMF and World Bank - Special Drawing Rights.

Module IX:\* Allocation of Resources (8)

The Broad Policy Choices - Industry versus Agriculture - the Comparative Cost Doctrine - Present versus Future Consumption - The Need for Investment Criteria in LDCs - Alternative Investment Criteria - Micro-planning - Cost-Benefit Analysis - Shadow Prices - The Little-Mirrlees Method of Project-Evaluation in LDCs - UNIDO Guidelines.

Module X:\* Development Planning (15)

Arguments for and against Planning - Concept of Economic Planning - Types of Planning - Economic Models and Economic Planning - Policy Models - Projection Models - Development Planning Models - The Harrod-Domar Model in Development Planning - India's 1st Five-Year Plan - a Two-sector Harrod-Domar Model for Planning - The Feldman-Mahalanobis-Domar (FMD) Sectoral Planning Model - India's 2nd Five Year Plan - Macro-Econometric Models in Development Planning - Input-Output Analysis in Development Planning - Linear Programming and Development Planning.

## REFERENCES

### Module I:

Chenery, H.B. et.al., Eds., (1974), Redistribution with Growth, Oxford University Press, Oxford.

Ghatak, S. (1986), An Introduction to Development Economics, Allen & Unwin, London.

Little, I.M.D. (1982), Economic Development: Theory, Policy and International Relations, Basic Books, New York.

Meier, G.M. and D. Seers, Eds., (1987), Pioneers in Development, Oxford University Press, New York.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

Todaro, M.P. (1981), Economics for a Developing World, 2e, Longman, London.

### Module II:

Adelman, I. (1961), Theories of Economic Growth and Development, Stanford University Press, Stanford.

Bose, A. (1975), Marxian and Post-Marxian Political Economy, Penguin, London.

Chakravarty, S. (1982), Alternative Approaches to a Theory of Economic Growth, Oxford University Press, Delhi.

Haavelmo, T. (1954), A Study in the Theory of Economic Evolution, North-Holland Publ. Co. Amsterdam.

Schumpeter, J.A. (1949), The Theory of Economic Development, Harvard University Press, Cambridge, Mass.

### Module III:

Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.

Ghatak, S. (1986), An Introduction to Development Economics, Allen & Unwin, London.



Jones, H.G. (1976), An Introduction to the Modern Theories of Economic Growth, McGraw-Hill Kogakusha, Tokyo.

Sen, A.K., Ed., (1971), Growth Economics, Penguin Books, Harmondsworth.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

#### Module IV:

Brahmananda, P.R. and C.N. Vakil (1956), Planning for an Expanding Economy, Vora & Co., Bombay.

Higgins, B. (1959), Economic Development, Norton, New York.

Lewis, W.A. (1955), The Theory of Economic Growth, George Allen & Unwin, London.

Myrdal, G. (1957), Economic Theory and Underdeveloped Regions, Duckworth, London.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

#### Module V:

Ghatak, S. (1986), An Introduction to Development Economics, George Allen & Unwin, London.

Jolly, R. et.al., Eds., (1973), Third World Employment, Penguin, Oxford.

Meier, G.M., Ed. (1984), Leading Issues in Economic Development, 4e, Oxford University Press, New York.

Stewart, F. (1978), Technology and Underdevelopment, 2e, MacMillan, London.

Thirlwall, A.P. (1978), Growth and Development 2e, MacMillan, London.

#### Module VI:

Bhagwati, J. and P. Desai (1970), India: Planning for Industrialization, Oxford University Press, London.

Ghatak, S. (1986), An Introduction to Development Economics, George Allen & Unwin, London.

Kindleberger, C.P. (1977), Economic Development, 3e, McGraw Hill, New York.

Sen, A.K. (1962), Choice of Techniques, Basil Blackwell, Oxford.

Sen, A.K. (1975), Employment, Technology and Development, Oxford University Press, New Delhi.

#### Module VII:

Little, I.M.D., T. Scitovsky and M. Scott, (1970), Industry and Trade in Some Developing Countries, Oxford University Press, London.

Kindleberger, C.P. (1977), Economic Development, 3e, McGraw-Hill, New York.

Meier, G.M. Ed., (1984), Leading Issues in Economic Development, 4e, Oxford University Press, New York.

Theberge, J.D., Ed., (1968), Economics of Trade and Development, John Wiley, New York.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

#### Module VIII:

Ghatak, S. (1986), An Introduction to Development Economics, Allen & Unwin, London.

McKinnon, R. (1973), Money and Capital in Economic Development, Brookings Institution, Washington, D.C.

Thirlwall, A.P. (1974), Inflation, Saving and Growth in Developing Economies, MacMillan, London.

Thirlwall, A.P. (1976), Financing Economic Development, MacMillan, London.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

Module IX:

Dasgupta, P., A.K. Sen and S. Marglin (1972); Guidelines for Project Evaluation, UNIDO, Vienna.

Ghatak, S. (1986), An Introduction to Development Economics, Allen & Unwin, London.

Little, I.M.D. (1982), Economic Development: Theory, Policy, and International Relations, Basic Books, New York.

Mishan, E.J. (1975), Cost-Benefit Analysis, 2e, Allen & Unwin, London.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

Module X:

Blitzer, C.R., P.B. Clark and L. Taylor, Eds., (1975), Economy-wide Models and Development Planning, Oxford University Press, Oxford.

Chakravarty, S. (1987), Development Planning: The Indian Experience, Clarendon Press, Oxford.

Taylor, L. (1979), Macro Models for Developing Countries, McGraw-Hill, New York.

Thirlwall, A.P. (1978), Growth and Development, 2e, MacMillan, London.

Todaro, M.P. (1971), Development Planning: Models and Methods, Oxford University Press, Oxford.

CODE NO: MA: 0-5/19

M.A.

OPTIONAL PAPER: ECONOMETRIC THEORY

Preamble

This paper covers the statistical foundations of econometric theory as well as econometric methods and applications. The focus of this course will be therefore, on an interface between these three facets which is essential for a proper understanding of econometrics. The emphasis here, will also be on mathematical derivations and proofs unlike in the paper on "Econometric Methods and Applications". It builds upon Modules III and IV of the core course on quantitative methods.

The suggested number of lecture hours that ought to be devoted to each module (under the assumptions of 5 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

## Module I:\* Probability Theory (20)

Calculus of probability - Sample space and events - probability as a set function - Borel field and extension of probability measure - notion of a random variable (r.v.) and distribution function - multi-dimensional r.v. - conditional probability and statistical independence - conditional distribution of a r.v. - Mathematical Expectation and moments of r.v.'s: conditional expectation - characteristic function - inversion theorems - Limit Theorems: Different modes of Stochastic Convergence - laws of large numbers - central limit theorems - Sampling Distributions: Distribution of Quadratic forms - non-central  $\chi^2$ , t and F distributions - large-sample theory.

## Module II:\* Statistical Inference (20)

Estimation Theory: Criteria for point estimation - unbiasedness, minimum variance unbiasedness, sufficiency, consistency and asymptotic efficiency - Cramer-Rao inequality - Rao-Blackwell theorem - maximum likelihood method and its properties - interval estimation - Hypothesis Testing: Neyman-Pearson Lemma - Likelihood ratio tests - Wald Tests and Lagrange Multiplier Tests - Elements of Statistical decision theory.

## Module III:\* Multivariate Analysis (15)

Multivariate normal distribution - conditional and marginal distributions - regression planes - Estimation of the Mean Vector and Covariance Matrix - Multivariate Analysis - Principal Components - Canonical Correlations - Discriminant analysis - Factor analysis.

## Module IV:\* Theory of Linear Inference (20)

Least Squares Theory: Estimable functions, uniqueness and efficiency - reparameterization - tests of linear hypothesis - The Regression Model - The Variance components model - Unified theory of Linear Estimation.

## Module V:\* The Regression Model (30)

Classical Linear Regression Model and the theory of least squares - Gauss-Markov Theorem - Maximum likelihood estimation - Cramer-Rao lower bound - regression model under linear restrictions, estimation and testing -

Prediction - Consistency and asymptotic normality of LS estimator - Some Issues in linear Regression: Selection of Regressors - Statistical decision theory - Bayesian solution - Theil's corrected  $R^2$  - prediction criterion - optimal significance level - Ridge regression and Stein's estimator - Robust Regression - Generalized Least Squares Theory: Aitken's generalization of Gauss-Markov theorems - Feasible GLS - Serial correlation - tests and solutions - Heteroscedasticity-tests and solutions - SURE model.

Module VI:\* Introduction to Time-Series Analysis (15)

Stationary time-series - spectral density and its estimation - Auto-regressive models - auto-regressive models with moving-average residuals - Asymptotic properties of LS and ML estimator in the AR model - prediction - Introduction to Box-Jenkins techniques - Concept and tests of causality - Recursive Least Squares - Distributed lag models.

Module VII:\* Non-Linear Estimation (10)

Numerical optimization techniques - Newton-Raphson and Gauss-Newton methods - two-step estimators - tests of hypotheses and confidence regions.

Module VIII:\* Qualitative Response Models (10)

Probit and logit models - ML estimation of logit models - limited dependent variables.

Module IX:\* Simultaneous Equation Models (20)

Identification Criteria - Limited Information Method of Estimation - OLS, 2 SLS, IV and LIML method - Full information Methods - 3SLS and FIML Non-linear models - Non-linear 2SLS - Non-linear LIML - Non-linear 3SLS and non-linear FIML.

Module X:\* Model Selection Procedures (10)

Tests for Non-nested Regression models - LM and related tests - the  $C_p$  criterion - the information criterion - post-sample predictive testing - Strategies for model selection.

## REFERENCES

### Module I:

Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Harvard.

Griliches Z. and M.D. Intriligator (Eds.), (1983), Handbook of Econometrics, Volume I, North-Holland, Amsterdam.

Rao, C.R. (1965), Linear Statistical Inference and its Applications, John Wiley, New York.

### Module II:

Griliches, Z. and M.D. Intriligator (Eds.), (1983), Handbook of Econometrics, Volume I, North-Holland, Amsterdam.

Rao, C.R. (1965), Linear Statistical Inference and its Applications, John Wiley, New York.

Wilks, S.S. (1982), Mathematical Statistics, John Wiley, New York.

### Module III:

Anderson, T.W. (1958), Introduction to Multivariate Statistical Analysis, Clapman and Hall, London.

Chatfield, C. and A.J. Collins, (1980), Introduction to Multivariate Analysis, Clapman and Hall, London.

Rao, C.R. (1965), Linear Statistical Inference and its Applications, John Wiley, New York.

### Module IV:

Griliches Z. and M.D. Intriligator (Eds.), (1983), Handbook of Econometrics, Volume I, North-Holland, Amsterdam.

Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

Rao, C.R. (1965), Linear Statistical Inference and its Applications, John Wiley, New York.

Module V:

Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Harvard.

Chow, G.C. (1983), Econometrics, McGraw-Hill, New York.

Harvey, A.C. (1981), Econometric Analysis of Time Series, Phillip Allen, London.

Module VI:

Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Harvard.

Chow, G.C. (1983), Econometrics, McGraw-Hill, New York.

Harvey, A.C. (1981), Econometric Analysis of Time Series, Phillip Allen, London.

Module VII:

Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Harvard.

Chow, G.C. (1983), Econometrics, McGraw-Hill, New York.

Harvey, A.C. (1981), Econometric Analysis of Time Series, Phillip Allen, London.

Module VIII:

Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Harvard.

Chow, G.C. (1983), Econometrics, McGraw-Hill, New York.

Pindyck, R.S. and D.L. Rubinfeld (1976), Econometric Models and Economic Forecasts, McGraw-Hill Kogakusha, Tokyo.

Tokyo.

Module IX:

Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Harvard.

Chow, G.C. (1983), Econometrics, McGraw-Hill, New York.



Griliches Z. and M.D. Intriligator (Eds.), (1983), Handbook of Econometrics, Volume I, North-Holland, Amsterdam.

Module X:

Chow, G.L. (1983), Econometrics, McGraw-Hill, New York.

Harvey, A.C. (1981), Econometric Analysis of Time Series, Phillip Allen, London.

Griliches Z. and M.D. Intriligator (Eds.), (1983), Handbook of Econometrics, Volume I, North-Holland, Amsterdam.

M.A.

OPTIONAL PAPER: ECONOMETRIC METHODS AND APPLICATIONS

**Preamble**

The emphasis in this course will be on concepts, methods and applications, rather than on mathematical derivations and proofs. It builds upon Modules III, IV and V of the core course on quantitative methods. This course can be optimally integrated with that on "Econometric Theory" for students especially wishing to specialize in econometrics at the postgraduate level.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that all modules are starred (essential) modules.

Module I:\* Review of Regression Analysis (10)

General Linear Regression Model - Least Squares and Maximum Likelihood Estimation - Forecasting, Hypothesis Testing and Interpretation - Dummy Explanatory Variables.

Module II:\* Generalized Least Squares (25)

Aitken's theorem on GLS - Feasible GLS and its properties - heteroscedasticity-test and solutions - auto-correlation-tests and solutions - SURE method.

Module III:\* Non-Linear Estimation (10)

Non-linear least squares - ML estimation - Newton-Raphson and Gauss-Newton methods of iteration - Estimation of models with binary dependent variables - logit models.

Module IV:\* Distributed Lag Models (15)

Concept - Koyck model - partial adjustment and adaptive expectations models - rational distributed lag model - Estimation of Koyck and rational distributed lag models - Tests of auto-correlation in auto-regressive Estimation of polynomial distributed lag models.

Module V:\* Linear Simultaneous Equation Models (20)

Structural form and reduced form - Concept of identification - order and rank condition of identification - identification through restrictions on the covariance matrix of structural disturbances - recursive models - Methods of Estimation: OLS, 2SLS, IV, 3SLS and FIML methods with properties - Forecasting and simulation.

Module VI:\* Econometric Applications (25)

Estimation of system of demand equations - Estimation of flexible forms of the production function - Estimation of Macro-econometric models.

REFERENCES

Gujarathi, D. (1978), Basic Econometrics, McGraw-Hill, New York.

Intriligator, M.D. (1978), Econometric Models, Techniques and Applications, Prentice-Hall, Englewood Cliffs.

Johnston, J. (1985), Econometric Methods, 3e, McGraw-Hill, New York.

Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

Module II:

Gujarathi, D. (1978), Basic Econometrics, McGraw-Hill, New York.

Intriligator, M.D. (1978), Econometric Models, Techniques and Applications, Prentice-Hall, Englewood Cliffs.

Johnston, J. (1985), Econometric Methods, 3e, McGraw-Hill, New York.

Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

Module III:

Draper, N.R. and H. Smith (1966), Applied Regression Analysis, John Wiley, New York.

Harvey, A.C. (1981), Econometric Analysis of Time Series, Phillip Allen, London.

Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

Pindyck, R.S. and D.L. Rubinfeld (1976), Econometric Models and Economic Forecasts, McGraw-Hill Kogakusha, Tokyo.

Tokyo.

Module IV:

Chow, G.C. (1983), Econometrics, McGraw-Hill, New York.

Harvey, A.C. (1981), Econometric Analysis of Time Series, Phillip Allen, London.

Johnston, J. (1985), Econometric Methods, 3e, McGraw-Hill, New York.

Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

Module V:

Chow, G.C. (1983), Econometrics, McGraw-Hill, New York.

Intriligator, M.D. (1978), Econometric Models, Techniques and Applications, Prentice-Hall, Englewood Cliffs.

Maddala, G.S. (1977), Econometrics, McGraw-Hill, New York.

Pindyck, R.S. and D.L. Rubinfeld (1976), Econometric Models and Economic Forecasts, McGraw-Hill Kogakusha, Tokyo.

Module VI:

Griliches, Z. and M.D. Intriligator (Eds.), (1985), Handbook of Econometrics, Vol.III, North-Holland, Amsterdam.

Intriligator, M.D. (1978), Econometric Models, Techniques and Applications, Prentice-Hall, Englewood Cliffs.

Pani, P.K. (1977), A Macroeconomic Model of the Indian Economy, Macmillan, New Delhi.

Pindyck, R.S. and D.L. Rubinfeld (1976), Econometric Models and Economic Forecasts, McGraw-Hill Kogakusha, Tokyo.

M.A.OPTIONAL PAPER: OPTIMIZATION TECHNIQUESPreamble

Mathematical Economics is that elite branch of economics which attempts to codify in a precise, logical and rigorous manner the various cause and effect sequences inherent in the vast and often chaotic body of economic theory. It is the forerunner of econometrics which then deals with the quantification aspect of these sequences. Just as Descartes succeeded in converting Euclidean geometry into a precise science known as analytical geometry, mathematical economists have attempted not just to revise economic theory but to practically re-write it in a precise and scientific manner. This extensive revision using various types of optimization methods has implied that non-mathematical economists have a limited scope for keeping pace with the breakthroughs being affected in the frontier areas of economics using mathematical tools of analysis, and thus this paper is devised with the explicit purpose of providing students with an exposure to these optimization methods which have succeeded in elevating economics to the level almost of a science.

The paper shall be taught emphasizing, first, the theory underlying the various optimization methods, their underlying complexities and then their economic applications.

From this viewpoint, the paper can be conveniently partitioned into 8 modules. The first three modules deals with the most essential tools of economic analysis including linear programming, game theory and input-output analysis. The next 2 modules delve into more technical aspects of mathematical programming dealing with non-linearities (non-linear programming) and dynamic phenomena (dynamic programming). The last 3 modules deal with the application of sophisticated methods of systems theory to economics and include the calculus of variations and the theory of optimal control.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that only modules VI and VII are unstarred modules implying that only these two modules can be omitted without suffering a loss of generality.

### Module I:\* Linear Programming (10)

Standard concepts - The basic theorem of linear programming - the simplex method - Completeness of the algorithm - Convergence properties - Sensitivity analysis - Duality - The dual problem and its economic interpretation - Some duality theorems - Dual simplex algorithm - Additional and tighter constraints - Upper bounded variables.

### Module II:\* Game Theory (10)

Basic definitions and classifications - Strategies and the payoff matrix - The evaluation of strategies - The worth of a game - Strictly determined games - Maximin and minimax strategies - Chance and expected values - Mixed strategies and games without saddle-points - The minimax theorem - Non constant sum and many person games - Inter-relationship between game theory and linear programming - Games in Extensive, strategic and cooperative (or coalitional) form - Continuum of strategies, time, goods and players - Cooperative solutions - The Shapley value - Non cooperative solutions - Non cooperative equilibrium points.

### Module III:\* Input-Output Analysis (10)

Basic concepts - A linear programming interpretation - The Hawkins-Simon condition - Solving an input output system - The non substitution theorem - Prices in the Leontief system - Open and closed Leontief systems - The Leontief dynamic system - Causal indeterminacy in the dynamic Leontief model - Balanced growth and intertemporal efficiency - The problem of dual instability.

### Module IV:\* Nonlinear Programming (15)

Preliminary concepts - Linear inequalities and theorems of the alternative - Farkas' theorem - Convex sets and separation theorems for convex sets - Hahn-Banach theorem - Gordon's theorem - Saddlepoint optimality criteria of nonlinear programming - The Kuhn Tucket optimality conditions - Rationale, interpretation and sufficiency of the Kuhn Tucker conditions - Duality in nonlinear programming - Optimality and duality in the presence of nonlinear equality constraints.

Module V:\* Dynamic Programming (15)

Analysis of dynamic phenomena - Structure of multi-stage decisions - Bellman's principle of optimality - Applicability of dynamic programming - Numerical solutions - Computational feasibility - Sensitivity analysis - Models with an infinite horizon - Discrete dynamic programming - probabilistic dynamic programming - Dynamic programming in Markov chains.

Module VI: System Theory (10)

The notion of a system - State and system equivalence - State space theory of linear time varying systems - Linear systems - The standard form Transfer function of the standard form - Theory of systems governed by nonlinear functional equations - The nonlinear feedback system - stability theory - Stability of systems of direct control - The method of virtual linearization - Decomposition of large scale systems: Hierarchical control.

Module VII: The Calculus of Variations (15)

Functionals and their variations - A necessary condition: The Euler equation - Variational problems with constraints - Fixed end point and natural boundary problems - Variable end points - Broken extremals and the Weierstrass Erdman corner conditions - Variations of functionals - The Legendre condition - The Jacobi condition - The Weierstrass condition for strong extrema - The Legendre Clebsch condition - Sufficient conditions.

Module VIII:\* The Theory of Optimal Control (20)

The dynamic optimization problem - The control problem - The state of the dynamic system - The control variables - Controllability and Observability - An objective functional - From the calculus of variations to optimal control - Pontryagin's maximum principle - Transversality conditions - Optimal control with equality and inequality constraints - Dynamic programming, Hamilton Jacobi equation and the Euler equation - Bang bang control and time minimum problems - Singular control - Linear regulator problems - Linear tracking problems - Sensitivity analysis - Cross sensitivity - Objective functional sensitivity - Stability and sensitivity - Robustness analysis - The optimum linear discrete filter - The general discrete Kalman filter.



## REFERENCES

### Module I:

Dorfman, R., P.A. Samuelson and R.M. Solow (1958), Linear Programming and Economic Analysis, McGraw-Hill Kogakusha, Tokyo.

Hadley, G.(1962), Linear Programming, Addison Wesley Reading, Massachusetts.

Wagner, H.M. (1969), Principles of Operations Research, Prentice-Hall, Englewood Cliffs.

### Module II:

Arrow, K.J. and M.D. Intriligator, (Eds.), Handbook of Mathematical Economics - Volume II, North-Holland, Amsterdam.

Luce, R.D. and H. Raiffa (1957), Games and Decisions, Wiley, New York.

Shubik, M. (1982), Game Theory in the Social Sciences, MIT Press, Cambridge-Mass.

### Module III:

Blitzer, C.R., P.B. Clark and L. Taylor, (Eds.), (1975), Economy-Wide Models and Development Planning, Oxford University Press, Oxford.

Chakravarty, S. (1969), Capital and Development Planning, MIT Press, Cambridge-Mass.

Dorfman, R., P.A. Samuelson and R.M. Solow, (1958), Linear Programming and Economic Analysis, McGraw Hill Kogakusha, Tokyo.

### Module IV:

Hadley, G. (1964), Non-linear and Dynamic Programming, Addison Wesley Reading, Mass.

Mangasarian, C.L. (1969), Non-linear Programming, McGraw-Hill, New York.

Wagner, H.M. (1969), Principles of Operations Research, Prentice-Hall, Englewood Cliffs.

Module V:

Bellman, R.E. (1957), Dynamic Programming, Princeton University Press, Princeton.

Bellman, R.E. and S.E. Dreyfus, (1962), Applied Dynamic Programming, Princeton University Press, Princeton.

Wagner, H.M. (1969), Principles of Operations Research, Prentice Prentice-Hall, Englewood Cliffs.

Module VI:

Optner, S.L., (Ed.), (1973), Systems Analysis, Penguin Books, Harmondsworth.

Zadeh, L.A. and C.A. Desoer, (1963), Linear System Theory, McGraw-Hill, New York.

Zadeh, L.A. and E. Polak, (1969), System Theory, McGraw-Hill, New York.

Module VII:

Chakravarty, S. (1969), Capital and Development Planning, MIT Press, Cambridge-Mass.

Hadley, G. and M.C. Kemp, (1971), Variational Methods in Economics, North-Holland, Amsterdam.

Smith, D.R. (1974), Variational Methods in Optimisation, Prentice Hall, Englewood Cliffs.

Module VIII:

Chow, G.C. (1975), Analysis and Control of Dynamic Economic Systems, John Wiley, New York.

Sage, A.P. and J.L. Melsa, (1971), Estimation Theory with Applications to Communications and Control, McGraw-Hill, New York.

Tu, P.N.V. (1984), Introductory Optimisation Dynamics, Springer-Verlag, Berlin.

M.A.

M.A.

OPTIONAL PAPER: MATHEMATICAL ECONOMICS

Preamble

The field of Mathematical Economics can be defined as one that "includes various applications of mathematical concepts and techniques to economics, particularly economic theory". This paper is the logical extension of the optional paper on "optimization techniques" because here we apply many of those techniques (outlined in that paper) to problems in economic theory.

Thus, Modules I-IV apply mathematical techniques of analysis to microeconomic theory comprising consumer theory, producer theory, oligopoly theory and investment theory. Module V carries the sophistication yet further by incorporating uncertainty into the earlier modules at all levels of analysis. Module VI discusses general equilibrium theory including equilibrium under uncertainty. Modules VII and VIII apply mathematical techniques to macroeconomic theory comprising of optional economic growth and the theory of planning.

The suggested number of lecture hours that ought to be devoted to each module (under the assumptions of 3 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that all modules are starred (essential) modules.

Module I:\* Consumer Theory (10)

Commodities and Prices - Consumer Preferences - Utility Functions - Properties of Preferences and of Utility Functions - Demand Without Transitivity - Demand Under Separability - Expenditure Functions and Indirect Utility Functions - Properties of Differentiable Utility Functions - Differentiable Demand - Separability and the Slutsky Matrix - Additive Utility and Demand.

Module II:\* Producers' Theory (10)

Production Technology - Properties of the Production Function and Duality - Applications of the Duality Principle: Profit and Cost Functions - Functional Forms of the Production Function - Capital Stock Aggregation: The Cambridge - Cambridge Controversy - Disequilibrium Models of Input Demand - Behaviour of the Firm under Regulatory Constraints - Economies of Scale and Scope in the Multi-product Firm.

Module III:\* Oligopoly Theory (10)

Overview of Oligopoly theory - The early history - Single Period Models - On cooperative versus non-cooperative equilibria - Stability and reaction functions - Multi-period models - lagged response - reaction function models - Models with quick response or adjustment costs - Models with a time dependent structure - Oligopoly and game theory - Entry and exit in oligopoly models - Bilateral monopoly - Oligopoly and General Equilibrium models - The core theory approach - The Impossibility Theorem.

Module IV:\* Investment Theory (10)

One-period portfolio selection - Risk measures for securities and portfolios in the one-period model - Spanning, Separation and mutual fund theorems - Models of one-period portfolio selection: Time-State Preference Model and Mean-Variance Model - Investment theory for the Firm - intertemporal consumption and portfolio selection theory.

Module V:\* The Economics of Uncertainty (15)

Introduction and overview - Measures of risk and risk aversion - The economics of search - The elementary

search model - Variations of the basic model - Adaptive search - The economics of insurance - Optimal consumption under uncertainty - Multiperiod models - Competitive firms under uncertainty - Factor demand under price uncertainty - Alternatives to the expected utility hypothesis - The competitive industry under uncertainty - Brownian motion and martingales: Their economic applications - The efficient market hypothesis - Stochastic models of inventory and the demand for cash balances - Diffusion process and their applications to economics - Evolutionary processes in economics.

Module VI:\* General Equilibrium Theory (15)

Existence of competitive equilibrium - The simultaneous optimization approach - The excess demand approach - Economies with a measure space of agents - Stability - Tatonnement - Trading out of equilibrium - Regular economies - Debreu's theorem - Large economies - Smale's approach - Core of an economy - Replica economies - Temporary general equilibrium theory - Equilibrium under uncertainty - The computation of equilibrium prices - Brouwer's fixed point theorem - The non retraction theorem - The algorithm of Scarfe.

Module VII:\* Optimal Economic Growth and Stabilization (15)

Economic Growth: Theories, Models, concepts and methods - The Harrod-Domar model - The neoclassical one-sector model - Two Sector models of economic growth - Models with technical progress - Optimal economic growth - The Von Neuman model - The Keynes-Ramsey rule - The golden rule of accumulation - Turnpike theorems - Stock adjustment models - The behaviour of inventory cycles - The mathematics of oscillations - Stabilization policy - Trade cycle theory - Linear and nonlinear acceleration.

Module VIII:\* Theory of Planning (20)

How much should a nation save? - Consistency models versus utility maximization models - The assumption of a labour surplus economy - Problems of social choice - The length of the planning horizon - The concept of time preference - The Strotz phenomenon - Optimal growth paths for finite horizons Terminal conditions - Optimal growth paths for infinite planning horizons - The consumption turnpike theorem - Utility maximization over an infinite horizon - Optimal programmes of capital accumulation - The shiftable capital case - The non-shiftable case: The Feldman-Mahalanobis-Domar model - The non-shiftable

two-sector model with a time-minimization constraint -  
Nonlinear utility functions in multisector models.

Module I:

REFERENCES

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

Arrow, K.J., S. Karlin and P. Suppes, Eds., (1960), Mathematical Methods in the Social Sciences, Stanford University Press, Stanford.

Hildenbrand, W. and A.P. Kirman (1976), Introduction to Equilibrium analysis, North-Holland, Amsterdam.

Module II:

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

Bliss, C.J. (1975), Capital Theory and the Distribution of Income, North-Holland, Amsterdam.

Malinvaud, E. (1972), Lectures on Microeconomic Theory, North-Holland, Amsterdam.

Module III:

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

Hildenbrand, W. (1974), Core and Equilibria of a Large Economy, Princeton University Press, Princeton.

Shubik, M. (1959), Strategy and Market Structure, John Wiley, New York.

Module IV:

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

Farrar, D.E. (1962), The Investment Decision under Uncertainty, Prentice Hall, Englewood Cliffs.

Friend, I. and J. Bicksler, Eds., (1975), Studies in Risk and Return - Vols. I & II, Ballinger, Cambridge, Mass.

Module V:

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

Borth, K. (1968), Economics of Uncertainty, Princeton University Press, Princeton.

Diamond, P. and M. Rothschild, Eds. (1978), Uncertainty in Economics, Academic Press, New York.

Module VI:

Arrow, K.J. and F. Hahn (1971), General Competitive Analysis, North-Holland, Amsterdam.

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

Scarfe, H. and T. Hansen, (1973), The Computation of Economic Equilibrium, Yale University Press, New Haven.

Module VII:

Jones, H.G. (1976), An Introduction to the Modern Theories of Economic Growth, McGraw-Hill, Kogakusha, Tokyo.

Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw-Hill, New York.

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

Module VIII:

Chakraverty, S. (1969), Capital and Development Planning, MIT Press, Cambridge, Mass.

Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw-Hill, New York.

Arrow, K.J. and M. Intriligator, Eds., (1982), Handbook of Mathematical Economics, Volume II, North-Holland, Amsterdam.

M.A.

OPTIONAL PAPER: MONEY AND BANKING

**Preamble**

The relevant theory for the analysis of money and banking is macroeconomic theory which analyses the working of the economy at the aggregate level. Monetary theory is a branch of macroeconomic theory which analyses the role of monetary forces. To understand the working of these monetary forces and their interaction with the rest of the economy, we need the guidance of theory. This understanding leads us to realize that monetary forces operate through a multitude of channels - market, non-market, institutional and others. The study of financial institutions is therefore of equal importance to comprehend the working of these monetary forces and to analyze their effects in order to plan policy measures and evaluate their consequences. This paper on 'Money and Banking' is therefore an optimal integration of monetary theory and banking institutions which combines within itself a systematic discussion of theory, institutions and policy, concerning money and banking, with special reference to India. The guiding principle in the preparation of this paper has been the relevance of these topics to contemporary Indian experience and planning needs.

To this end, Module I is concerned with the basic concepts used in monetary theory. Module II follows up with a brief overview of monetary theory and empirical evidence suggesting the validity of these competing theories. Module III deals with banks, non-banks and capital markets and the roles they play in the Indian economy. Module IV then dwells upon the Central Bank and its functioning, with special reference to the RBI. Module V attempts to integrate theory and policy in order to provide a systematic analysis of the theory of money supply. Module VI is directly concerned with the instruments of monetary control, while Module VII deals with monetary policy - particularly, its principles and limitations. Module VIII is concerned with the roles of



monetary as well as fiscal policy within the context of economic growth, price stability and international equilibrium.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that only Modules II and VIII are unstarred modules, which implies that only these 2 modules can be omitted without suffering loss of continuity.

**Module I:\* Basic Concepts (8)**

Money and the Payments System - Functions of Money - Kinds of Money - Measures of Money Supply - Inside Money and Outside Money - The Neutrality of Money - Money and Uncertainty - Money in Equilibrium and Non-Equilibrium States - Money and Economic Balance.

**Module II: Monetary Theory: Overview (12)**

The Traditional Quantity Theory - Fisher's Equation of Exchange - The Cambridge Cash Balances Approach - The Keynesian Theory - The Modern Quantity Theory: Friedman's Approach - Constancy of Velocity - Determinants of Money Supply - Empirical Evidence.

**Module III:\* Banks, Non-Banks and the Capital Market (12)**

Credit and the Financial System - Kinds of Credit - Financial Markets: Money Markets and Capital Markets - Commercial Banks - Changing Theories of Commercial Banking - Concept of Credit-Creation - Co-operative Banks and Their Structure - Development Banks - Non-Bank Financial Intermediaries (NBFI) - Types of NBFI - Unregulated Credit Markets & Credit Agencies.

**Module VI:\* The Central banking System (20)**

Changing Concepts of Central Banking - Objectives, Guides and Measures of Central Banks - Role of Central Banks in developing countries: Regulatory and Promotional - The Currency and the Credit Schools - Real Bills Doctrine - Qualitative versus Quantitative controls - Radcliffe Committee Viewpoint - The Reserve Bank of India (RBI): Role, Functions and Working - Central Banking Systems in other countries: The Federal Reserve System (USA) and the Treasury (UK).

**Module V:\* The Theory of Money Supply (10)**

The 'H' Theory of Money Supply - The Money Multiplier Process - Determinants of the Money-multiplier - Commercial Banks and the Money Multiplier - Factors affecting H - RBI's Analysis of Money Supply - Control of the Money Stock - Money Stock and Interest Rates.

Module VI:\* Instruments of Monetary Control (13)

General Instruments - Government's instrument of Control: Deficit Financing - RBI's Instruments of Control: Open Market Operations - Role of the Bank Rate - Variable Reserve Requirements - General versus Selective Credit Controls - The Statutory Liquidity Ratio (SLR) - The Credit Authorisation Scheme - Credit Planning - The Techniques of Implementaion.

Module VII:\* Principles of Monetary Policy (20)

Monetary Policy: Framework, Objectives and Characteristics - Goals, Targets and Indicators of Monetary Policy - Transmission Mechanism of Monetary Policy - Restrictive vs. Accommodating Monetary Policy - Guide for Monetary Management - Problem of Debt Management - Discriminatory Effects of Monetary Policy - Lags in Monetary Policy - Current Issues in Monetary Policy.

Module VIII: Growth, Stability and Equilibrium (10)

The Policy mix and the Growth Objective - Growth without Inflation - Monetary Stability with Fixed/Flexible monetary policy - Money and the Business Cycle - The Policy-mix and international equilibrium - Appropriate Monetary/Fiscal Policies for External Stability.

REFERENCES

Module I:

Davidson, P. (1978), Money and the Real World, 2e, Macmillan, London.

Goodhart, C. (1977), Money, Information and Uncertainty, 2e, Macmillan, London.

Gupta, S.B. (1983), Monetary Economics, 2e, S. Chand and Company, New Delhi.

Harris, L. (1985), Monetary Theory, McGraw-Hill, New York.

Module II:

Friedman, ed., (1956), Studies in the Quantity Theory of Money, University of Chicago Press, Chicago.

Gupta, S.B. (1983), Monetary Economics, 2e, S. Chand and Company, New Delhi.

Harris, L. (1985), Monetary Theory, McGraw-Hill, New York.

Laidler, D. (1977), Demand for Money, 2e, Dun-Donneley, New York.

Module III:

Chandler, L.V. and S.M. Goldfeld (1977) Economics of Money and Banking, 7e, Harper and Row, New York.

Gupta, S.B. (1983), Monetary Economics, 2e, S. Chand and Company, New Delhi.

Mitra, S., ed., (1970), Money and Banking, Random House, New York.

Sayers, R.S. (1978), Modern Banking, 7e, Oxford University Press, Delhi.

Module IV:

Chandler, L.V. (1963), Central Banking and Economic Development, University of Bombay, Bombay.

Gupta, S.B. (1983), Monetary Economics, 2e, S. Chand and Company, New Delhi.

Mitra, S., ed., (1970), Money and Banking, Random House, New York.

Radcliffe Committee (1959), Report of the Committee on the Working of the Monetary System, MacMillan, London.

Module V:

Dornbusch, R. and S. Fischer, (1984), Macroeconomics, 3e, McGraw-Hill, New York.

Gibson, W.E. and G. Kaufman, Eds. (1975), Monetary Economics: Readings on Current Issues, 2e, Tata McGraw-Hill, New Delhi.

Gupta, S.B. (1983), Monetary Economics, 2e, S. Chand and Company, New Delhi.

Reserve Bank of India, (1977), "Money Supply: Concepts, Compilation and Analysis", RBI Bulletin, January.

#### Module VI:

Gibson, W.E. and G. Kaufman, Eds. (1975), Monetary Economics, 2e, Tata McGraw-Hill, New Delhi.

Gupta, S.B. (1979), Monetary Planning for India, Oxford University Press, Delhi.

Gupta, S.B. (1983), Monetary Economics, 2e, S. Chand and Company, New Delhi.

Mitra, S., ed., (1970), Money and Banking, Random House, New York.

#### Module VII:

Chick, V. (1977), The Theory of Monetary Policy, 2e, Basil Blackwell, Oxford.

Culbertson, J.M. (1971), Macroeconomic Theory and Stabilisation Policy, McGraw-Hill, London.

Gibson, W.E. and G. Kaufman, Eds. (1975), Monetary Economics, 2e, Tata McGraw-Hill, Delhi.

Mitra, S., ed., (1970), Money and Banking, Random House, New York.

#### Module VIII

Davidson, P. (1984) International Money and the Real World, Macmillan, London.

Dornbusch, R. and S. Fischer, (1984), Macroeconomics, 3e, McGraw-Hill, New York.

Mitra, S., ed., (1970), Money and Banking, Random House, New York.

Surrey, M.C.J., ed., (1976), Macroeconomic Themes, Oxford University Press, London.

M.A.

OPTIONAL PAPER: PUBLIC ECONOMICS

Preamble

The objective of this paper is to impart to the student a thorough understanding of the role and functions of the Government in a modern economy. The Government is, today, cast in a role and performs functions different from those of earlier societies. It is this change which is responsible for designating this paper as 'Public Economics' rather than the more conventional 'Public Finance'. The modules comprising this paper have been so arranged that the first four modules deal with the theory of Government intervention; modules V, VI, VII and IX cover different aspects of Public Finance, modules VIII and X analyse issues in Indian Public Finance, finally module XI on Fiscal Policy is based on the theory and Indian Public Finance developed in earlier modules.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture-hours per week over a 35 week academic year) is provided (in brackets) for each module. It needs to be noted that only modules VII and IX are unstarred, implying that only these modules can be omitted without suffering any loss of generating.

## Module I:\* Role of Government (5)

Changing perspective about role of government in organized society - Government in a mixed economy - Public sector and Private sector: Co-operation or competition? - Planning for economic development - Budget as a means of operationalising the planning process - Government failures.

## Module II\* Welfare Foundations of Public Economics (7)

Pareto optimality and market equilibrium - Extending the Pareto criterion through compensation tests - Social Welfare Function - Fundamental theorems of welfare economics - Market failure: imperfections, decreasing cost, externalities, public goods - uncertainty and non-existence of future markets, informational asymmetry - Theory of Second best.

## Module III\* Rationale for Public Policies (12)

Allocation of resources: Provision of public goods - Voluntary exchange models - Impossibility of decentralized provision of public goods (Samuelson's contribution) - Demand revealing schemes for public goods (Clarke, Groves and Ledyard), - Tiebout model, theory of club goods - Stabilisation: Keynesian case for stabilization policy - uncertainty and expectations - failure of intertemporal markets - liquidity preference - Social goals: Poverty alleviation - provision of infrastructural facilities - correcting distributional inequalities and regional imbalances.

## Module IV:\* Public Choice (10)

Private and Public mechanisms for allocating resources - Problems of preference revelation and aggregation of preferences - voting systems - Arrow Impossibility Theorem - An economic theory of democracy - Politico-economic interactions - Group interest, interest groups, bureaucracy - Rent seeking and Directly Unproductive Profit-seeking (DUP) activities.

## Module V:\* Taxation (13)

Theory of incidence and alternative concepts of incidence - allocative and equity aspects of individual taxes - Benefit and Ability-to-pay approaches - Theory of optimal taxation (including optimal redistributive taxation, optimal structure of income taxes and redistribution through commodity taxes) - Trade-off between equity and efficiency - Theory and measurement of deadweight losses.

Module VI:\* Public Expenditure (7)

Wagner's Law of increasing state activity - Structure and growth of public expenditure - Developmental and non-developmental expenditure - Criteria for public investment - Social cost-benefit analysis: project objectives, benefit estimation and evaluation, estimation of project costs, selection of discount rate - Reforms in expenditure budgeting: Performance Budgeting, Programme Budgeting and Zero-based Budgeting.

Module VII: Public Enterprises (9)

Role of Public enterprises in a mixed economy - Growth and shares in national income, savings and capital formation - Changing attitudes towards public enterprises - Privatization - Criteria for Pricing: Dupit, Hotelling, second-best criteria, inverse price elasticity, equity aspects - Pricing policies of public enterprises in India: types and rationale - Administered pricing and surplus generation - Criteria for evaluation - peak load pricing in utilities.

Module VIII:\* Indian Public Finance (15)

Source of current revenue in India - Indian tax system - Ratio of tax revenue to national income - Structure of the tax system - Major taxes in India - Personal income taxation and the total accretion concept - Capital gains taxation - Taxable income - Tax base, exemptions deductions and relief - Rate structure - Progressivity of Indian income taxation - Corporate income tax: essential features - Issues relating to tax base, classification of companies and rate structure - Tax treatment of depreciation and other expenses - Shifting and incidence of corporate income taxation - Taxation of the agricultural sector - Agricultural income tax and land taxation - Wealth and Property taxes - Estate duty and gift tax - Taxation of expenditure - Value-added tax - Manvat and Modvat - Taxes on goods and services - Octroi - Tax expenditure analysis - Non-tax revenue - Trends in India during the Plan period.

Module IX: Public Debt (7)

Economics of Public Debt - Classical theory of public debt - compensatory aspects of debt policy - Burden



of public debt - Sources of public debt - Trends and composition of Indian public debt - Debt through created money - Public borrowings and price level - Principles of debt management.

Module X:\* Fiscal Federalism (10)

Principles of multi-unit finance - Fiscal federalism in India - Vertical and horizontal imbalance - Assignment of functions and of sources of revenue - Logic of the Constitutional scheme - Finance Commission and Planning Commission - Revenue devolutions and grants - Theory of grants - Resources transfer from Government of India - Backwardness and other criteria - Progressivity of the transfer - Centre-State financial relations in India - Problem of State indebtedness - Financial resources to Panchayati Raj institutions and other local self-government agencies - Problems of State-Local financial relations.

Module XI:\* Fiscal Policy (10)

Fiscal Policy: link between fiscal and monetary operations - Budgetary deficit and its measurement - fiscal policy for stabilization - Automatic vs. discretionary stabilisation - Rules vs. discretion - fiscal policy for development - Alternative measures of resource mobilization and their impact on growth, distribution and prices.

REFERENCES

Module I:

Buchanan, J.M. (1970), The Public Finances, Richard D. Irwin, Homewood.

Musgrave, R.A. and P.A. Musgrave (1976), Public Finance in Theory and Practice, McGraw-Hill Kogakusha, Tokyo.

Pogue, T.F. and L.G. Sgontz (1978), Government and Economic Choice: An Introduction to Public Finance, Houghton Mifflin, Boston.

Stiglitz, J.E. (1986), Economics of the Public Sector, Norton, New York.

Goode, R. (1986), Government Finance in Developing Countries, Tata McGraw-Hill, New Delhi.

Module II:

Boadway, R.W. and N. Bruce (1984), Welfare Economics, Basil Blackwell, Oxford.

Mishan, E.J. (1986), Introduction to Normative Economics, Oxford University Press, New York.

Quick, J. and R. Saposnik (1968), Introduction to General Equilibrium Theory and Welfare Economics, McGraw-Hill, New York.

Module III:

Buchanan, J.M. (1968), The Demand and Supply of Public Goods, Rand McNally, Chicago.

Chelliah, R. (1971), Fiscal Policy in Underdeveloped Countries, George Allen and Unwin, Bombay.

Cornes, R. and T. Sandler (1986), The Theory of Externalities, Public Goods and Club Goods, Cambridge University Press, Cambridge.

Feldman, A. (1986), Welfare Economics and Social Choice Theory, Martinus Nijhoff, Boston.

Mueller, D.C. (1979), Public Choice, Cambridge University Press, Cambridge.

Musgrave, R.A. (1959), The Theory of Public Finance, McGraw-Hill Kogakusha, Tokyo.

Module IV:

Arrow, K.J. (1951), Social Choice and Individual Values, John Wiley, New York.

Bhagwati, J.N. "Directly Unproductive Profit-seeking (DUP) Activities", Journal of Political Economy.

Downs, A. (1957), An Economic Theory of Democracy, Harper and Row, New York.

Frey, B. (1978), Modern Political Economy, Martin Roverson, Oxford.

Mohammed S. and J. Whalley (1984), "Rent-seeking Activities in India: Its Costs, Policy and Significance", Kyklos.

Mueller, D.C. (1979), Public Choice, Cambridge University Press, Cambridge.

#### Module V:

Atkinson, A.B. and J.E. Stiglitz (1980), Lectures on Public Economics, McGraw Hill, New York.

Auerbach, A.J. (1985), "The Theory of Excess Burden and Optimal Taxation", in A.J. Auerbach and M. Feldstein, Eds. Handbook of Public Economics, Vol.I, North Holland, Amsterdam.

Buchanan, J.M. (1960), Fiscal Theory and Political Economy: Selected Essays, University of North Carolina Press, Chapel Hill.

Krzyzaniak, M. (ed.) (1966), Effects of Corporation Income Tax, Wayne State University Press, Detroit.

Musgrave, R.A. and C. Shoup, Eds., (1970), Readings in the Economics of Taxation, George, Allen and Unwin, London.

Seligman, E.R.A. (1969), Essays in Taxation, Augustus M. Kelley, New York.

#### Module VI

Dorfman, R., ed. (1970), Measuring the Benefits of Government Investment, Brookings Institution, Washington.

Mishan, E.J. (1982), Cost-Benefit Analysis: An Informal Introduction, George, Allen and Unwin, London.

Musgrave, R.A. (1969), Fiscal Systems, Yale University Press, New Haven.

Pyhru, P. (1973), Zero-base Budgeting: A Practical Management Tool for Evaluating Expenses, John Wiley, New York.

Thavaraj, M.J.K. (1978) Financial Administration in India, Sultan Chand, New Delhi.

Toye, J. (1981), Public Expenditure and Indian Development Policy: 1960-1970, Cambridge University Press, Cambridge.

Module VII:

Baumol, W.J. ed. (1980), Public and Private Enterprises in a Mixed Economy, MacMillan, London.

Bos, Dieter (1985), "Public Sector Pricing" in A.J. Auerbach and M. Feldsleir (Eds.), (1985), Handbook of Public Economics Vol.I, North-Holland, Amsterdam.  
(1984)

Goyal, S.K. (ed.), Public Enterprises, Indian Institute of Public Administration, New Delhi.

Jones, L.P. (ed.) (1982), Public enterprises in Less Developed Countries, Cambridge University Press, Cambridge.

Peston, M.H. (1969), "Aspects of Pricing Policy of the Nationalized Industry", in J. Margolis and H. Guitton (ed.), Public Economics, Macmillan, London.

Turvey, R. (1971) Economic Analysis and Public Enterprise, George Allen and Unwin, London.

Turvey, R. (ed.) (1968), Public Enterprise: Selected Readings, Penguin, Harmondsworth.

Module VIII:

Borkar, V.V. (1971), Income Tax Reform in India, Popular Prakashan, Bombay.

Durvedy, D.N. (ed.) (1981), Readings in Indian Public Finance, Chanakya Publications, Delhi.

Gandhi, V.P. (1970) Some Aspects of India's Tax Structure: An Economic Analysis, Vora & Co., Bombay.

Government of India (1972), Report of the Committee on Taxation of Agricultural Wealth and Income, Government of India (Ministry of Finance) New Delhi.

Government of India (1978), Report of the Indirect Taxation Enquiry Committee, Government of India (Ministry of Finance), New Delhi.

Kaldor, N. (1955), An Expenditure Tax, George Allen and Unwin, London.

Rao, V.G. (1979), Responsiveness of the Indian Tax System: 1960-61 to 1973-74, Allied Publishers, Bombay.

Rao, V.G. (1980), The Corporation Income Tax in India, Concept Publishing Co., New Delhi.

#### Module IX:

Auramovic, D. et al (1964), Economic Growth and External Debt, John Hopkins, Baltimore.

Buchanan, J.M. (1958), Public Principles of Public Debt: A Defence and Restatement, Richard Irwin, Homewood.

Dalaya, C. (1966), Internal Debt of the Government of India, Vora & Co., Bombay.

Houghton, R.W. (ed.), Public Finance: Selected Readings, Penguin, Harmondsworth.

Mishra, D.K. (1985), Public Debt and Economic Development of India, Prince House, Lucknow.

Musgrave, R.A. (1959), The Theory of Public Finance, McGraw Hill Kogakusha, Tokyo.

#### Module X:

Chelliah, R. & Others (1981), Trends and Issues in Indian Federal Finance, National Institute of Public Finance and Policy, New Delhi.

Gulati, I.S. (1979), Centre-State Financial Relations: An Assessment of the Role of Finance Commissions, M.S. University of Baroda.

Lakdawala, D.T. (1967), Union-State Financial Relations, Lalvani Publishing House, Bombay.

Musgrave, R.A. (1977), Essays in Fiscal Federalism, Greenwood Press, Westport.

Oates, W.E. (1972), Fiscal Federalism, Harcourt Brace & Jovanowich, New York.

Module XI:

Chelliah, R. (1971), Fiscal Policy in Underdeveloped Countries, George Allen and Unwin, Bombay.

Cook, S.T. and P.M. Jackson (1979), Current Issues in Fiscal Policy, Martin Robertson, Oxford.

Government of India (1985), Long-term Fiscal Policy, Government of India, New Delhi.

Peacock, A. and G.K. Shaw (1971), Fiscal Policy and the Employment Problem in Less Developed Countries, OECD, Paris.

Peacock, A. and G.K. Shaw (1976), The Economic Theory of Fiscal Policy, George Allen and Unwin, London.

M.A.

OPTIONAL PAPER: INTERNATIONAL ECONOMICS

**Preamble**

The course aims at giving a thorough grounding to the students in the principles which govern international transactions in commodity and services and the effects of trade on domestic economy. The treatment of subject is both in real and monetary terms for theoretical as well as applied problems.

Module I gives the theoretical basis of the structure of real trade dealing with factors affecting supply, demand and international equilibrium within the classical, neoclassical and modern frameworks of analysis.

Module II adopts a macro approach in analysing the principles of commercial policy. The effect of commercial policy on welfare and income distribution are included to enable the student to understand the basis and implications of trade policy adopted in general. The international arrangements to effectuate commercial policies are also given their due place in the module.

Module III concentrates on trade in dynamic perspective dealing with the influence of factor growth and technical progress on the terms of trade. Relationship between trade and development are given special treatment, highlighting the role of foreign capital and of direct investment.

Module IV takes up monetary aspects of international transactions as a counterpart of real trade transactions. Problems of exchange rate, balance of payments and their repercussions on the functioning of the trading countries are given thorough treatment highlighting the required adjustments in the domestic policies. Further, developments in international monetary system and related issues are also covered.

Module V concentrates on trade, payments and debt problems and policies of India. Role of direct foreign investment in the context of policy adopted by the country are expected to be given analytical treatment. With the help of the tools acquired in earlier modules the treatment of India's trade and payments problems should be as far as possible analytical rather than descriptive.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture-hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.



## Module I:\* Pure Theory of International Trade (25)

Classical theory: Absolute cost advantage and comparative cost advantage - Modifications - views of Taussing - Demand and international equilibrium in terms of price consumption curve - Neo-classical Theory: Opportunity cost and comparative advantage - Production possibilities frontier - Community indifference and comparative advantage - Trade offer curves and terms of trade - Social welfare function - utility possibility frontier - Gains from trade - Effect of trade on welfare - International equilibrium in terms of offer curves - Modern theory: Factor intensity and factor abundance - Factor intensity reversals - Factor proportions, factor prices and commodity prices - Heckscher-Ohlin Theorem - Factor price equalization theorem - Leontief Paradox - Linder's demand pattern hypothesis.

## Module II:\* Commercial Policy (20)

Free trade versus protection - Theory of tariffs - effects of tariffs - partial effects and effects on income distribution - Stolper-Samuelson theorem - Optimum tariff - nominal and effective tariff - infant industry tariff - Export and import taxes - Trade taxes and welfare - Quotas and other quantitative restrictions - State trading - multiple exchange rates - commodity agreements - GATT, UNCTAD and trade policies of less developed countries - Regional trade groups - theory of customs union - trade creation and trade diversion - common markets - EEC and SAARC.

## Module III:\* Trade and Economic Development (20)

Theory of Comparative Cost Advantage in the context of growth and underdevelopment - Factor increases, growth and terms of trade - Rybozynski theorem - Technical progress, terms of trade and social welfare - Immiserizing growth - Domestic distortions and welfare - Terms of Trade and export earnings of developing countries - Role of foreign capital in economic development - issues in foreign direct investment - theory of direct investment - multinational corporations.

## Module IV:\* International Monetary Theory (20)

Balance of payments and its adjustment - Maintenance of internal balance - Elasticities and absorp-

tion approaches - Exchange rate determination and adjustments and balance of payments multiplier - foreign repercussions and stability problem - Transfers and capital movements - Interest rate and capital flows - Developments in International Monetary System since 1970's and the suggested reforms - Flexible versus fixed exchange rates system - International reserves and problems of liquidity - Special Drawing Rights and exchange management - Problems of International Debt.

Module V:\* India's Foreign Trade and Its Principal Problems (20)

Foreign Trade Policies - Import substitution and export promotion - India's balance of payments during the Plan period - Effect of domestic and international developments on India's balance of payments - India's international debt - India's policy regarding foreign capital - Multinationals in India.

REFERENCES

Module I:

American Economic Association (1970), Readings in the Theory of International Trade, George Allen and Unwin, London.

Chacholiades, M. (1978), International Trade Theory and Policy, McGraw-Hill Kogakusha, Tokyo.

Clement, M.O., R. Pfister and K. Rothwell (1967), Theoretical Issues in International Economics, Constable Publication, London.

Cordon, W.M. (1965), Recent Developments in the Theory of International Trade, Princeton University Press, Princeton.

Haberler, G. (1935), The Theory of International Trade, William Hodge Company, London.

Kindleberger, C.P. (1976), International Economics, R.D. Irwin, Homewood.

Ronald, W.J. (1979) International Trade: Essays in Theory, North Holland, Amsterdam.

Sodersten, B. (1980), International Economics, 2e, Macmillan, London.

Module II:

American Economic Association (1968), Readings in International Economics, Allen and Unwin, London.

Bhagwati, J. (1968), Theory and Practice of Commercial Policy, Princeton University Press, New York.

Chachaliades, M. (1978), International Trade: Theory and Policy, McGraw Hill Kogakusha, Tokyo.

Lipsey, R.G. (1970), The Theory of Customs Union, Widenfold and Nicolson, London.

Meade, J.F. (1968), Theory of International Economic Policy, Volume II, Oxford University Press, London.

Meier, G.M. (1968) The International Economics of Development, Harper and Row, New York.

Robson, P. (ed.), (1971), International Economic Integration, Penguin, Harmondsworth.

Sodersten, B. (1980), International Economics, 2e, Macmillan, London.

Module III:

Bardhan, P.K. (1970), Economic Growth, Development and Foreign Trade, Wiley Interscience, New York.

Bhagwati, J. (ed.), (1969), International Trade: Selected Readings, R.D. Irwin, Homewood.

Johnson, H.G. (1964), Money, Trade and Economic Growth, Allen and Unwin, London.

Johnson, H.G. (1969), New Trade Strategy for the World Economy, Allen and Unwin, London.

Meier, G.M. (1968) International Economics of Development, Harper and Row, New York.

Meier, G.M. ed., (1976), Leading Issues in Economic Development, 3e, Oxford University Press, New York.

Sodersten, B. (1980), International Economics, 2e, Macmillan, London.

Theberge, J.D. ed., (1968), Economics of Trade and Development, John Wiley and Sons, New York.

Module IV:

Caves, R.E. and Jones (1973), World Trade and Payments: An Introduction, Little Brown Company, Boston.

Chacholiades, M. (1978), International Monetary Theory and Policy, McGraw-Hill, New York.

Heller, R. (1974), International Monetary Economics, Prentice Hall India, New Delhi.

Machlup, F. (1970), International Monetary Economics, George Allen and Unwin, London.

Meade, J.E. (1970), Theory of International Economic Policy, Volume I, E.L.B.S., London.

Meier, G.M. (1982) Problems of a World Monetary Order, 2e, Oxford University Press, New York.

Mundell, R. (1968), International Economics, Macmillan, New York.

Scamell, W.M. (1975), International Monetary Policy: Bretton Woods and After, Macmillan, London.

Module V:

Bhagwati, J. and P. Desai (1972), India: Planning for Industrialisation, Oxford University Press, London.

Bhagwati, J. and T. Shrinivasan (1976), Foreign Trade Regimes and Economic Development, Macmillan, Delhi.

Brahmananda, P.R. and V.R. Panchamukhi, Eds., (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.

Nayyar, C. (1976), India's Exports and Export Policies in the 1960's, Cambridge University Press, Cambridge.

Panchamukhi, V.R. (1978), Trade Policies of India, A Quantitative Analysis, Concept Publishing Company, New Delhi.

Reserve Bank of India, (1985), Foreign Collaborations in Indian Industry, R.B.I., Bombay.

M.A.

OPTIONAL PAPER: INDUSTRIAL ECONOMICS

**Preamble**

The course intends to provide a thorough knowledge about the economics of industry in a cogent, analytical manner.

Module I deals with concepts and tools of analysis which are to be used in the study of subsequent course.

Module II-V deal with generalized structural characteristics, functional theories, and applied aspect in the Indian context, of units of production, forms of business organization market forms, pricing, finances, investment, location and other decisions in the industry. In dealing with the subject matter the managerial approach is given due weight along with theoretical treatment. Economic environment and legal framework within which Indian industry has to operate, have been taken up simultaneously in each module.

Module VI and VII are intended to analyse and evaluate industrial policy of the Government of India and performance of Indian industry in the context of the declared objectives of growth, efficiency and justice, both in private and public sectors.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week over a 35-week academic year) is given (in brackets) for each module.

It is to be noted that only Module V is unstarred.

Module I:\* Basic Concepts and Industrial Development of India (15)

Concepts: Plant, Firm, Conglomerate, Cartel, MRPT Co., Industry, Industrial Sector, and Industrial Structure - Economies of Scale - Concepts - U-shaped and L-shaped cost Curves - Techniques of Measurements - Empirical Evidence and its Implications - Small Industry: Types of Small Industry - Importance in the Indian Economy - Problems - Case for Small Industry - Postulates and Empirical Evidence - Technology: Meaning of Choice of Techniques - Issues and Areas of Choice - Empirical Evidence - Traditional, Latest, Intermediate and Appropriate Technologies - Industrial Growth and Policy: Industrial Policy Resolutions: Principal Objectives - Industry in the Plans - Industrial Development (and Regulation) Act, 1951, and other Major Regulations - Performance of Indian Industry in the context of the Objectives of Growth, Efficiency and other Social Objectives - Problems and Prospects of Indian Industry.

Module II:\* Theory of Firm and Pricing (12)

Objectives of the Firm - Growth of Firms - Marginal Cost Pricing Vs. Full Cost Pricing - Depreciation - Allocation of Common Costs among Individual Products - Administered Prices - Price-fixation in Indian Industry - Pricing Power and Public Interest - Investment Decision: Conventional and Modern Methods - Risks and Uncertainty - Sensitivity Analysis - OECD and UNIDO Approaches.

Module III:\* Industrial Organization (8)

Market Structure, Market Conduct and Market Performance - Interrelations - Conditions of Entry - Relevance of Industry Studies for Public Policy - Monopoly and Concentration: Concepts - Reasons for Concern - Measures of Monopoly and Concentration - Extent of Monopoly and Concentration in India - Non-legislative and Legislative Measures of Control in India, U.S. and U.K. Legislation - The Indian MRTP Act, 1969.

Module IV:\* Corporate Form of Organization (7)

Features - Methods of Control - 'The Divergence Problem' - Traditional Vs. Present day Capitalism - Growth and Structure of the Indian Corporate Sector - Financial Statements: Ratio Analysis and Interpretation - Industrial Finance: Types of Finance - Money and Capital Markets - Commercial and Development Banks - Industrial Development Bank - Objectives and Functioning - Impact of these

these Institutions on the supply of long and medium term finance for the industrial sector and on the Financial Structure of the Corporate Sector - Its Implication.

Module V: Location and Regional Development (8)

Industrial Location; Theories and Factors - Measures of Localisation - Regional Growth of Industry in India - Tools of Public Policy - Indian Policy on Backward Areas.

Module VI:\* Industrialization and Economic Development (8)

Theory and Evidence - Patterns and Phases of Industrial Growth and Changes in Industrial Structure - International Comparisons.

Module VII:\* Some Issues in Indian Industry (12)

Public Sector, Rationale Organisation - Pricing Policies - The Question of Efficiency in the context of Special Constraints - Performance of Public Sector in India - The Concept of Joint Sector - Other Problems: Industrial Sickness, Capacity Utilization, Foreign Collaboration, Multinationals in India, Indian Joint-Ventures Abroad - The Recent Liberalization Trends.

REFERENCES

Module I:

Ahluwalia, I.J. (1985), Industrial Growth in India, Oxford University Press, Delhi.

Barthwal, R. (1984), Industrial Economics, 2e, Wiley Eastern Limited, New Delhi.

Devine, P.J. et al (1978), An Introduction to Industrial Economics, 3e, George Allen and Unwin, London.

Dhar, P.N. and H.F. Lydall (1961) The Role of Small Enterprises in Indian Economic Development, Asia Publishing House Bombay.

Hay, D.A. and D.J. Morris (1979), Industrial Economics: Theory and Evidence, Oxford University Press, Oxford.

Sandesara, J.C. (1980), Small Industry in India - Evidence and Interpretation, Lala Lajpat Rai College, Bombay.



## Module II:

Andrews, P. and T. Wilson, Eds. (1951), Oxford Studies in the Price Mechanism, Oxford University Press, London.

Dasgupta, P., S. Marglin and A. Sen (1972), Guidelines for Project Evaluation, UNIDO Publications, New York.

Devine, P.J. et al (1978), An Introduction to Industrial Economics, 3e, George Allen and Unwin, London.

Fog, B. (1959) Industrial Pricing Policies, North-Holland, Amsterdam.

Koutsoyiannis, A. (1979), Modern Microeconomics, 2e, Macmillan, New York.

N.B.E.R. (1943), Cost Behaviour and price Policy, N.B.E.R. Inc., New York.

Wiles, P.J.D. (1963), Price, Cost and Output, F. Praeger, New York.

## Module III:

Bain, Joe (1967), Industrial Organisation, 2e, John Wiley, New York.

Clarkson, K.W. and R. Miller (1985), Industrial Organisation: Theory, Evidence and Public Policy, McGraw-Hill Kogakusha, Tokyo.

Hannah, L. and J. Kay (1977), Concentration of Modern Industry, Macmillan, London.

Kuchhal, S.C. (1980), Industrial Economy of India, 5e, Chaitanya Publishing House, Allahabad.

Needham, D. (1969) Economic Analysis and Industrial Structure, Holt, Rinehart and Winston, New York.

Scherer, F.M. (1971), Industrial Market Structure and Economic Performance, Chicago University Press, Chicago.

## Module IV:

Berle, A. and G. Means (1933), Modern Corporation and Private Property, Macmillan, New York.

Gupta, L.C. (1969), The Changing Structure of Industrial Finance in India, Oxford University Press, Delhi.

Guthman, J. (1958) Analysis of Financial Statement, George Allen and Unwin, London.

Herendeen, J. (1975), The Economics of Corporate Economy, Dunellen Publishers, New York.

I.L.O. (1966), How to Read a Balance Sheet, International Labour Office, Geneva.

Khan, M.Y. (1981), Indian Financial Systems, Allied Publishers, New Delhi.

#### Module V:

Friendrich, S. (1929) Waber's Theory of Location of Industry, Chicago University Press, Chicago.

Godbole, M.D. (1978) Industrial Dispersal Policies, Allied Publishers, Bombay.

Isard, W. (1956), Location and Space Economy, John Wiley, New York.

Menon, K.S.V. (1979) Development of Backward Areas Through Incentives, Asia Publishing House, Bombay.

Smith, D.M. (1971), Industrial Location: An Economic and Geographic Analysis, John Wiley, New York.

#### Module VI:

Barthwal, R. (1984), Industrial Economics, Wiley Eastern Limited, Delhi.

Bhagwati, J. and P. Desai (1972), India: Planning for Industrialisation, Oxford University Press, London.

Ghosh, P.K. (1977) Government and Industry, Oxford University Press, Delhi.

Kuchhal, S.C. (1980), Industrial Economy of India, Chaitanya Publishing House, Allahabad.

Reserve Bank of India (1985), Foreign Collaboration in Indian Industry, R.B.I., Bombay.

Sandesara, J.C. (1982) Industrial Growth in India: Performance and Prospects, Lala Lajpatrai College, Bombay.

Module VII:

Ahluwalia, I.J. (1985), Industrial Growth in India, Oxford University Press, Delhi.

Bagchi, A. and M. Banerjee, Eds. (1979), Change and Choice in Indian Industry, Bagchi Publications, Calcutta.

Brahmananda, P.R. and V.R. Panchamukhi, Eds. (1987), The Development Process of Indian Economy, Himalaya Publishing House, Bombay.

Das, N. (1969) The Public Sector in India, Vora & Company, Bombay.

Government of India, (1985), Seventh Five-Year Plan - Volumes I & II, Planning Commission, Delhi.

Khan, M.Y. (1980), "Trends in Industrial Production - 1951-77", in R.B.I. Occasional Papers, R.B.I., Bombay.

M.A.

OPTIONAL PAPER: ECONOMICS OF INFRASTRUCTURE

Preamble

This paper, which deals with the 'Economics of Infrastructure', is basically concerned with providing the students with an essential idea of what is meant by "Social Overhead Capital" a la Hirschman. This concept is gaining importance of late, and if the burgeoning literature in this area is any indicator of its accelerating credibility, it will soon become as important as "Directly Productive Activities", in so far as stepping up the rate of growth of national income is concerned.

To this end, the paper is split up into 8 modules. Module I is essentially in the form of an introduction and deals with the problem of pricing in public utilities. This automatically sets the pace for the rest of the paper which, in some form or the other, deals with public utilities/goods of differing characteristics. Module II is concerned with Transport Economics and forms the core of the paper. It deals with important concepts such as the demand for transport, modal choice, cost-benefit analysis, valuation of travel - time savings, amongst others - all of which raise extremely pertinent questions within the context of Indian transport planning. Module III deals with the communications sector, in particular, the telephone industry and the postal services. Module IV is yet another key module and is concerned with energy economics. It discusses concepts such as the factors underlying the demand for energy, energy modelling, an optimal energy policy, amongst others. All this is viewed within the perspective of an 'energy crunch'. Module V deals with electric power systems, water utilities and natural gas and is especially concerned with the problems regarding their pricing. Module VI deals with the essential concepts of social infrastructure, with a detailed analysis of its financing and development. Module VII deals with the Economics of Education with special emphasis on educational planning, manpower balances and human resources

development. Module VIII deals with the Economics of Environment and provides on the relevance of the 'limits to growth' argument in the Indian context.

This paper can be optimally combined with those on 'health Economics' and 'Urban Economics' and 'Urban Economics' for those students especially desiring to obtain a broad perspective of the concept of social infrastructural economics.

The suggested numbers of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that only Module III, V and VIII are unstarred modules, implying that only these 3 modules can be omitted without any loss of continuity.

Module I:\* Pricing of Public Utilities (8)

Special characteristics of Public Utilities - The case for nationalisation - The peak-load problem and the dual pricing controversy - Marginal cost pricing vs. other methods of pricing in public utilities.

Module II:\* Transport Economics (18)

Transport economics - The structure of transport costs and the location of economic activity - The rationale of government intervention in the transport sector - Demand for transport - Models of freight and passenger demand - Model choice - Cost functions in the transport sector - Pricing principles - Cost-benefit analysis in the transport sector - valuation of time-savings - Special problems of individual modes of transport and inter-model coordination in the Indian context.

Module III: Communications (6)

Communications - rate making in telephone utilities - decreasing cost principle in the telephone industry - Characteristics of postal services - Criteria for fixation of postal rates - Measuring service standards in the telephone and postal utilities.

Module IV:\* Energy Economics (12)

Energy and Economic Development - Factors determining demand for energy - Effects of energy shortages - Conservation of energy - Renewable and non-conventional sources of energy - Energy modelling - The search for an optimal energy policy: the Indian context.

Module V: Electricity, Gas and Water Supply (5)

Electric power systems - Bulk supply and pricing of electricity - Power development in India with special emphasis on rural electrification - The relative economics of Thermal, hydel and nuclear power plants - The case for a national power grid - Water utilities and the issue of municipal ownership - financing water utilities - Urban and rural water supply - The exploitation of natural gas - pricing problems - The relevance of the marginal cost principle.

Module VI:\* Social Infrastructure (7)

The concept of social infrastructure - Financing and organization of the supply of social services - Private vs. public sector financing - Earmarked vs. General fund financing - Pricing of social services - Fees, cesses and charges - The development of social services in the successive plans in India.

Module VII:\* Economics of Education (9)

Economics of education - Education and economic growth - Approaches to educational planning - Social demands, rate of return and manpower balances approaches - The case for universal free primary education - The problems of financing of higher education in India - The New Education Policy - Human Resources Development.

Module VIII: Economics of Environment (5)

Economics of environment - Air and water pollution Urbanization, housing and slums - Forest depletion and soil erosion - The relevance of the 'limits to growth' argument in the Indian context.

REFERENCES

Module I:

Baumol, W.J. and D.F. Bradford (1970), "Optimal Departures from Marginal Cost Pricing", American Economic Review, Vol. 60, June.

Crew, M.A. and P.R. Kleindorfer (1979) Public Utility Economics, Macmillan, London.

Nelson, J.R. (1964), Marginal Cost Pricing in Practice, Prentice-Hall, Englewood-Cliffs.

Phillips, A. and O.E. Williamson, Eds. (1967), Prices: Issues in Theory, Practice and Public Policy, University of Pennsylvania Press, Philadelphia.

Module II:

Kneafsey, J.T. (1975), Transportation Economic Analysis, Lexington Books, Torouts.

Munby, D. ed., (1968), Transport: Selected Readings, Penguin Books, Harmondsworth.

Norton, H.S. (1971), Modern Transport Economics, C.E.Merrill, London.

Module III:

Prest, A.R. (1969), Transport Economics in Development Countries, Weidenfeld and Nicolson, London.

Farriss, M.T. and R. Sampson, (1973), Public Utilities, Houghton Mifflin, Boston.

Garfield, P.J. and W. Lovejoy, (1964), Public Utility Economics, Prentice-Hall, Englewood-Cliffs.

Government of India, (1968), Interim Report of P. and T. Enquiry Committee, Government of India Press, New Delhi.

Turvey, R. ed. (1968), Public Enterprises, Penguin, Harmondsworth.

Module IV:

Aronofsky, J., A. Rao, M. Shakun, Eds. (1978), Energy Policy, North Holland, Amsterdam.

Macrakis, M.S. ed. (1974), Energy: Demand Conservation and Institution Problems, Macmillan, London.

Nordhaus, W.D. ed. (1974), International Studies of the Demand for Energy, North-Holland, Amsterdam.

Pachauri, R.K. ed. (1980), Energy Policy for India, Macmillan Co. of India, Delhi.

Module V:

Crew, M.A. and P.R. Kleindorfer (1979) Public Utility Economics, Macmillan, London.

Eckstein, O. (1958), Water Resource Development, Harvard University Press, Cambridge.

Turvey, R. ed. (1968), Public Enterprises, Penguin, Harmondsworth.



Turvey, R. and D. Anderson (1977), Electricity Economics, John Hopkins, Baltimore.

Module VI:

Goyal, S.K. ed. (1985), Public Enterprises, I.I.P.A. Delhi.

Naik, J.P. (1975), Equality, Quality and Quantity, Allied Publishers, Bombay.

Panchamukhi, P.R. (1977), Economics of University Finances, Karnatak Historical Research Society, Dharwar.

Wykstra, R.A. ed. (1971), Education and the Economics of Human Capital, Free Press, New York.

Module VII

Blaug, M. ed. (1972), Economics of Education - Vols. I & II 4e, Penguin, Harmondsworth.

Blaug, M. (1972), Introduction to the Economics of Education, Penguin, London.

Coombs, P.H. (1985) The World Crisis in Education: The View from the Eighties, Oxford University Press, New York.

Majumdar, T. (1983), Investment in Education and Social Choice, Orient Longman, Bombay.

Schultz, T.W. (1963), The Economic Value of Education, Columbia University Press, New York.

Module VIII:

Baumol, W.J. and W.E. Oates, (1975), The Theory of Environmental Policy, Prentice-Hall, Englewood-Cliffs.

Bharadwaj, R. (1983), Managing Limits to Growth, Asian and Pacific Development Centre, Kuala Lumpur.

Dorfman, R. and N. Dorfman, Eds. (1977), Economics of the Environment, W.W. Norton, New York.

Nijkamp, P. ed. (1976), Environmental Economics, Vols. I & II, Martinus Nijhoff, Leiden.

M.A.

OPTIONAL PAPER: AGRICULTURAL ECONOMICS

Preamble

The overwhelming importance of Agriculture in the Indian Economy hardly needs to be emphasised. The paper on Agricultural Economics intends to highlight some of the central aspects of the Agricultural Economy of India, in an analytical framework, focussing on the important debates therein.

Module I deals with the important aspects and role of agriculture in a growing economy. Module II discusses the economics of agricultural production, highlighting the farm size-productivity relationship and supply-price relationship. Module III deals with the salient features of agricultural factor markets, bringing out the inter-linkages involved therein. Module IV comprises of the factors determining the behaviour of agricultural prices in India and the problems of Agricultural price policy. Module V focusses on interregional disparities in agricultural growth and productivity and the factors affecting the same.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Agriculture in a Growing Economy (13)

Agriculture in a growing economy - Changing importance of agriculture - subsistence (traditional) agriculture and its modernization - Interdependence between agriculture and industry: Some empirical evidence - Institutional changes and technological change - Farming systems - traditional, subsistence, commercial, co-operative, collective, State farming.

Module II:\* The Economics of Agricultural Production (7)

Production functions in agriculture - Resource use efficiency - Farm size and productivity relationship in Indian agriculture - Farm budgeting concept of cost - Supply of individual crops and aggregate supply - Supply-Price relationship - Technical change and Labour Absorption.

Module III:\* Agricultural Factor-Markets (20)

Production factors - Characteristics of factor markets - interlinkages between land, labour produce and capital markets in traditional and developing agriculture - Tenancy and crop sharing - Mobility of labour and segmentation in labour markets - Extent of employment and unemployment - Conceptual and data biases in labour statistics - Forced Commerce - Role of capital and agriculture credit - Organized and unorganized capital market - Characterization of Indian agriculture - Mode of production debate - Agrarian structure - Rural class analysis - Uncertainty and crop insurance - Agricultural markets and marketing efficiency.

Module IV:\* Determination and Behaviour of Agricultural Prices (15)

Behaviour of agricultural prices - Demand and supply of agricultural products and Cob-Web cycles - Price and income stability - Marketed and marketable surpluses - Role of public price and distribution policies - stabilization and support policies - Terms of trade between agriculture and non-agriculture - Agricultural price policy in India.

Module V:\* Factors Affecting Agricultural Growth and Productivity (15)

Agricultural growth in India - Inter-regional Variations in growth of output and of productivity -

Agricultural growth in the State - Cropping pattern changes in India - Institutional changes - land reform, credit structure, marketing, etc. - Supply of inputs-irrigation, power, seed and fertilizer - Pricing of inputs - Problem of mobilization of resources from agriculture - Social Forestry and Environment.

#### REFERENCES

##### Module I:

Dasgupta, B. (1980), The New Agricultural Technology in India, Macmillan, Madras.

Harris, J. (1982), Rural Development: Theories of Peasant Economy and Agrarian Change, Hutchinson, London.

Hayami, Y. and V. Rutan (1971), Agricultural Development: An International Perspective, John Hopkins, Baltimore.

Schultz, T.W. (1970) Transforming Traditional Agriculture, Lyall Book Depot, Ludhiana.

Southworth, N. and A. Johnston (1967), Agricultural Development and Economic Growth, Cornell University Press, Ithaca.

##### Module II:

Bharadwaj, K. (1974) Production Conditions in Indian Agriculture, Cambridge University Press, Cambridge.

Heady, E.O. (1961), Economics of Agricultural Production and Resource-Use, Prentice-Hall, Englewood Cliffs.

Heady, E.O. and J. Dillon (1961), Agricultural Production Function, Kalyani Publications, Ludhiana.

Rao, C.H. Hanumanth (1965), Agricultural Production Function, Costs and Returns in India, Tata McGraw-Hill, Delhi.

Rudra, A. (1982), Indian Agricultural Economics: Myths and Realities, Allied Publishers, New Delhi.

##### Module III:

Sardhan, P. (1984), Land, Labour and Rural Poverty, Oxford University Press, New Delhi.

Basu, K. (1934) Less Developed Economy: A Critique of Contemporary Theory, Oxford University Press, Delhi.

Shaduri, A. (1934), The Economic Structure of Backward Agriculture, Macmillan, Delhi.

Bharadwaj, K. (1974) Production Conditions in Indian Agriculture, Cambridge University Press, Cambridge.

Thorner, D. and A. Thorner (1932), Land and Labour in India, Asia Publishing House, Delhi.

#### Module IV:

Coccarane, W. (1956), Farm Prices - Myth and Reality, University of Minnesota Press, Minneapolis.

Eicher, C. and L. Witt, Eds. (1964), Agriculture in Economic Development, McGraw-Hill, London.

Marris, J. (1982), Rural Development: Theories of Peasant Economy and Agrarian Change, Hutchinson, London.

Mitra, A. (1977), Terms of Trade and Class Relations, Frank Cass, London.

Subbarao, K. and de Janvry (1936), Agricultural Price Policy and Income Distribution in India, Oxford University Press, Delhi.

#### Module V:

Bhalla, G.S. and Y.K. Alagh (1979), Performance of Indian Agriculture - A Districtwise Study, Sterling Publishers, New Delhi.

Dantwala, M.L., eds. (1986), Agricultural Growth in India, Indian Society for Agricultural Economics, Bombay.

Dasgupta, D. (1980), The New Agricultural Technology in India, Macmillan, Madras.

Haque, T. and A.S. Sirohi (1986), Agrarian Reforms and Institutional Changes in India, Concept Publishing Company Delhi.

Sen, A.K. (1980), Levels of Poverty: Policy and Change, World Bank, Washington, D.C.

M.A.

OPTIONAL PAPER: LABOUR ECONOMICS

**Preamble**

The issues pertaining to wage theories and policies, employment, trade unions and industrial relations, etc. have become vitally important in a developing economy like India.

The course in Labour Economics exposes students to theoretical issues like the labour market and wage determination; as well as to the empirical issues like employment, trade unions, and industrial relations, particularly in the context of Indian Plans and Policies.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week over a 35-week academic year) is provided (in brackets) for each module.

It needs to be noted that all modules are starred (essential) modules.

### Module I:\* Labour Market (10)

Nature and Characteristics of labour markets in developing economies like India - Paradigms of labour market - classical, neo-classical and dualistic - Analysis of Demand and Supply forces - Demand for labour relating to size and pattern of investment, choice of technology and government labour policies' orientation - Supply of labour in relation to growth of labour force - Labour Market policies.

### Module II:\* Employment (15)

Employment and Development relationship - Importance of full employment in the context of poverty in the developing countries - Unemployment-concept and measures-causes of unemployment - Issues relating to employment and rationalisation, technological change and modernisation - Rural unemployment and educated unemployment - Employment Policy in various Five Year Plans - Evaluation of employment policy in India.

### Module III:\* Wage Determination: Theory and Practice (15)

Various classical, neo-classical and bargaining theories of wage determination - Various concepts of wages-fair - living and minimum - Problems of implementation of minimum wages - wage determination by sectors - Urban and Rural, organised and unorganised wage and non-wage components of labour remuneration - Wage and Inflation - Productivity and wage relationship - Profit sharing schemes - Wagedifferentials in terms of firm, industry, occupation and region, wage standardization - Labour productivity and wage relationship.

### Module IV:\* Industrial Relations and Trade Unions (20)

Growth of Industrialisation and emergence of unionism - Theories of Labour Movement - Growth, Structure and pattern of trade unionism in India - Comparative development of labour movement in U.K., U.S.A. & U.S.S.R. - Achievements and Failures of Trade Union movement and their solution - Determinants of Industrial Disputes - Steps to achieve industrial peace - Methods of Settlement of Industrial Disputes - Collective bargaining, conciliation, arbitration - labour participation in management.

## Module V:\* State and Labour (10)

Increasing role of State in determination of labour matters - Labour Policy of the Government in the past - Various social security and labour welfare measures adopted by government - comparative account of social security measures adopted in U.K., U.S.A. and U.S.S.R. - Important labour legislation in India - Industrial Disputes Act - Trade Unions Act, Factories Act and Employees State Insurance Act - Impact of ILO on labour legislation - Government policy towards agricultural labour - Women and child labour, labour in unorganised sector.

### REFERENCES

#### Module I:

Lester, R.A. (1964), Economics of Labour, 2e, MacMillan, New York.

McConnell, C.R. and S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.

McCormick, B. and Smith, Eds. (1968), The Labour Market, Penguin, Harmondsworth.

Reynolds, L. (1951), The Structure of Labour Markets, Harper and Brothers, New York.

#### Module II:

Das, N. (1960), Unemployment, Full Employment and India, Asia Publishing House, Bombay.

Deshpande, L.K., P.R. Brahmananda and E.A.G. Robinson, Eds., (1983), Employment Policy in a Developing Economy, Vols. I & II, Macmillan, London.

Jolly, R. et al, Eds. (1973), Third World Employment: Problems and Strategy, Penguin, Harmondsworth.

Kannapon, S. (1983), Employment Problems and Urban Labour Markets in Developing Nations, University of Michigan, Ann Arbor.



Sen, A.K. (1975), Employment, Technology and Development, Oxford University Press, Delhi.

Module III:

Deshpande, L.K. and J.C. Sandesara, Eds. (1970), Wage Policy and Wage Determination in India, Bombay University Press, Bombay.

Dunlop, J.T., ed. (1957), Theory of Wage Determination, Macmillan, London.

Hicks, J.R. (1932), The Theory of Wages, Calarendon Press, Oxford.

Madan, B.K. (1977), The Real Wages of Industrial Labour in India, Management Development Institute, New Delhi.

Rees, A. (1973) Economics of Work and Pay, Harper and Row, New York.

Module IV:

Myers, C.A. (1958), Industrial Relations in India, Asia Publishing House, Bombay.

Punekar, S.D. (1978), Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishing House, Bombay.

Ramaswamy, E.A. & U. Ramaswamy (1981) Industry and Labour, Oxford University Press, New Delhi.

Rees, A. (1962), Economics of Trade Unions, J. Nisbet and Company, Digswell.

Turner, H.A. (1965) Wage Trends, Wage Policies and Collective Bargaining, Cambridge University Press, Cambridge.

Module V:

Mamoria, C.B. (1966), Labour Problems and Social Welfare in India, Kitab Mahal, Allahabad.

Ramaswamy, E.A. and U. Ramaswamy (1978), Industrial Relations in India, Macmillan, Delhi.

Singh, V.B. ed., (1970), Industrial Labour in India, Popular Prakashan, Bombay.

Vaid, K.N. (1970), Labour Welfare in India, Centre for Industrial Relations, Delhi.

M.A.

OPTIONAL PAPER: DEMOGRAPHY

**Preamble**

The course aims at an analytical treatment of demography within a global context. A historical and current perspective of population size, growth rates, and region-wise distribution is contained therein so as to provide students with a background for further delving into the subject.

The study of determinants of the structure of population and the dynamics of population growth form the major part of the course and are dealt with in Modules I-V. These will enable students to make the best use of relevant statistics. Population policies evolved on the basis of the prevalent demographic situation in India is discussed in Module VI and will enable students to appreciate the dimensions of the problem facing us.

The suggested number of lecture hours that ought to be devoted to each module (under the assumptions of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Introduction (5)

Meaning and scope - component of population growth and their interdependence - measures of population change - growth, structure and distribution and sources of population data.

Module II:\* Historical and Regional Trends in the Population Size of the World (10)

Population trends in the modern era, recent trends in population from 1965 onwards - population explosion as a very recent phenomenon in the perspective of human history - Regional variations in rates of growth of population in the modern era - by broad regions of the world such as Africa, Asia, Latin America, North America, Europe, USSR and Oceania and estimates of sizes and rate of growth of population in the recent years - Shifting proportions of human population in the recent years, and density in different regions.

Module III:\* Sex and Age Structure (10)

Patterns of sex and age structure in more developed and less developed countries (MDC, LDC) - Determinants of sex and age structure - Demographic effects of sex - age structure - Economic and social implications of sex and age structure.

Module IV:\* Fertility, Nuptiality, Mortality (25)

Fertility: Levels and trends of fertility in MDC and LDC - Factors affecting fertility in LDC - Factors associated with decline in fertility in MDC and LDC - Differential fertility: Ecological factors - regional differences, urban-rural residence - socio-economic factors - educational attainment, economic status, occupation of husband, employment status of wife, religion, caste and race - Nuptiality - Concepts, Analysis of marital status from census, singulate Mean Age at Marriage - Synthetic and decadal synthetic cohort methods, Mean age at widowhood and divorce - Trends in age at marriage - Change in age pattern of marriage - Mortality: Levels and trends of mortality in MDC and LDC - Sex and age patterns of mortality - sex and age difference in mortality - Foetal and infant mortality - stillbirth, abortion, and perinatal mortality, levels and trends of

infant mortality, characteristics of infant mortality, factors affecting foetal and infant mortality - Causes of death - Mortality of differentials - urban-rural, geographical, occupational, ethnic etc. - Factors related to high mortality in the past - Factors in mortality declines in MDC and LDC.

Module V:\* Migration and Urbanization (15)

Migration: Basic concepts and definitions, importance of migration in the study of population - Types of migration - internal, international, temporary etc. - International Migration - Levels, trends and differentials in MDC and LDC - The effect of immigration and emigration on the growth of population - Factors affecting migration - economic, social and other factors, social and economic aspects of migration - Theories concerning internal migration - Urbanization: Distribution and growth of urban and rural population in MDC and LDC - Factors affecting the distribution of population in modern times - Levels and trends of urbanization in MDC and LDC.

Module VI:\* Population Policies (5)

Definitions and history of policies affecting fertility in MDC and LDC - Population policies and programmes in India.

REFERENCES

Module I:

Sryrock H. et al (1973), The Methods and Materials of Demography, US Department of Commerce, Washington, D.C.

Module II:

United Nations (1973), The Determinants and Consequences of Population Trends, Vol.I, UNO Publications, New York.

Module III:

Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.

Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.

Sryrock, H. et al (1973), The Methods and Materials of Demography, US Department of Commerce, Washington, D.C.

Module IV:

Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya publishing House, Bombay.

Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.

Coale, A.J. and E.M. Hoover (1958), Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospects, Princeton University Press, princeton.

Smith, P.C. (1983), Trends and Differentials in Nuptiality in the Population of the Phillipines, Country Monograph Series No.5, UNESCAP, Bangkok.

Srirock, H. et al (1973), The Methods and Materials of Demography, US Department of Commerce, Washington, D.C.

Module V:

Davis, K. (1972), World Urbanisation: 1950-70, Volume II, Population Monograph Series No.9, University of California, Berkley.

United Nations (1979) Methods of Measuring Internal Migration, Manual VI, New York.

Bhende, A.A. and T. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.

Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.

Sryrock, H. et al (1973), The Methods and Materials of Demography, US Department of Commerce, Washington, D.C.

Module VI:

Agarwala, S.N. (1972), India's Population Problem, Tata McGraw-Hill, Bombay.

Census of India, Government of India, New Delhi.

Coale, A.J. and E.M. Hoover (1958), Population Growth and Economic Development in Low Income Countries: A Case Study of india's Prospects, Princeton University Press, Princeton.

M.A.

OPTIONAL PAPER: HEALTH ECONOMICS

Preamble

Health services constitute one of the major components of the social infrastructure. They are provided under different organisational structures. These health service providers are, in general, non-profit organisations and hence the traditional theory of the firm is not applicable. The demand for health services is determined not by the consumer but by his physician. Hence the traditional consumer demand theory is not applicable. health services are provided as merit goods by the government giving rise to specific problems in public finance. Health insurance and other forms of financing also become relevant. In particular, the issue of mobilising finances through developmental financing is engaging the attention of economists.

It is the objective of this course to acquaint the student with all these and related aspects of applying economic reasoning to resource allocation problems of the health sector.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture-hours per week over a 35-week academic year) is provided (in brackets) for each module. It needs to be noted that only Modules II and III are starred (essential) modules.

Module I: The National and International Health Scene (15)

Health output and input indicators and their correlation with the level of economic development and with the public expenditure on health - Sources of health statistics and a critical appraisal of their usefulness and limitations - A review of the Indian National Health Policy and a discussion of other feasible alternatives.

Module II:\* Resource Allocation in the Health Sector (35)

Resource allocation problems in private and government hospitals - Resource allocation problems facing a private practitioner - The problem of multiple services of a hospital - Pricing of these services and the choice of the mix of services - The trade-offs between quantity and quality - Production function, productivity - efficiency and equity considerations applied to the hospital sector - Spatial distribution of health care facilities and services - The demand for health services and the role of the physician - the pharmaceutical companies and health insurance on this demand.

Module III:\* Evaluation of Benefits and Costs of Health Services (10)

Private benefits and private costs of providing health services - The failure of the market to provide essential health services - The provision of health services by the government - The application of benefit cost analysis to public health and family planning projects - The role of health in economic development - Value of output lost due to number of sick days - Benefits and costs (both private and social) of training professional manpower such as physicians, dentists, pharmacists and nurses.

Module IV: Financing of Health Services (10)

A review of per capita private and public expenditure on health services over time and in different parts of the country - An analysis of the sources of (public) finance for health - The need for a general health insurance - The need for a social health insurance for the poor, disabled, and the aged - A comparative analysis of



alternative payment systems such as health insurance, pre-payment scheme, savings-linked insurance system, etc. - Financing health services through specific (health cess) and general (direct and indirect taxes) local government revenues - The role of development financing institutions in financing health services.

#### REFERENCES

##### Module I:

Banerjee, D. (1975), 'Social and Cultural Foundations of Health Service Systems of India', Inquiry, Supplement to Vol.XII, June.

Banerjee, D. (1982), Poverty, Class and Health Culture in India, Vol.I, Prachi Prakashan, New Delhi.

Gandhian Institute for Rural health and Family Planning, (1972), Studies on Mortality in India, Monograph Series No.5.

Government of India, (1983), National Health Policy, New Delhi.

Indian Council of Social Science Research and Indian Council of Medical Research, (1981), Health for All - 2000 A.D., ICSSR, Delhi.

Madan, T.N. (1969), "Who Chooses Modern Medicine and Why", Economic and Political Weekly, pp.1475-84.

Madan, T.N. (1980), Doctors and Society: Three Asian Case Studies, Vikas Publishing House, Delhi.

Naik, J.P. (1977), An Alternative System of Health Care Services in India: Some Proposals, ICSSR, Delhi.

##### Module II:

Feldstein, M.S. (1967), Economic Analysis of Health Service Efficiency, North Holland, Amsterdam.

Jimenez, E. (1987), Pricing Policy in the Social Sectors The Johns Hopkins University Press, new York.

Klarman, H.E. (1965), The Economics of Health, Columbia University Press, Columbia.

Malenbaum, W. (1971), "Progress in Health: What Index of What Progress", Annals of the American Academy of Political and Social Science, January.

Mote, V.L. and H.N. Pathak (1972), "Drug Price Control: An Evaluation", Economic and Political Weekly, 15 July.

Newhouse, J.P. (1970), "Towards a Theory of Nonprofit Institutions: An Economic Model of a Hospital", American Economic Review, March.

Panchamukhi, P.R. (1980), "Economics of Health: A Trend Report" in ICSSR, A Survey of Research in Economics, Vol. VI, Infrastructure, Allied Publishers, Delhi.

#### Module III:

Galenson W. and W. Pyatt (1964), Quality of Labour and Economic Development in Certain Countries, International Labour Organisation, Geneva.

Pearce, D. and P. Dasgupta (1982), Social Benefit Cost Analysis, MacMillan, London.

Weisbroad, B.A. (1961), Economics of Public Health, University of Pennsylvania Press, Pennsylvania.

Weisman, J. (1962), "Cost Benefit Analysis and Health Service Policy", Scottish Journal of Political Economy, Vol. 10, No.1, February.

#### Module IV:

Krishnakumar, T. and Rao, K.N. (1987), "Financing of Health Services in India: Perspectives and Issues", Department of Economics, University Hyderabad, September, (Mimeographed).

Rothenberg, J. (1951), "Welfare Implications of Alternate Methods of Financing Medical Care", American Economic Review, Proceedings, May.

World Bank (1987), The Financing Health Services in Developing Countries: An Agenda for Reform, World Bank Policy Study, Washington.

M.A.OPTIONAL PAPER: ECONOMICS OF WOMEN'S STUDIES,**Preamble**

The main objective of introducing the 'Economics of Women's Studies' Course at the post-graduate level is to instil in students, an understanding of the nature of the economic role of women and their contribution to the national economy on the basis of a scientific, non-sexist analysis. Women's studies is being increasingly regarded as a critical component of the overall analysis and perception of the process of economic development of our country. The modules incorporated in this course provide an analysis of issues at the theoretical level and also with regard to specificities of issues prevailing in the Indian context.

Module I introduces the concept and importance of women's studies, laying the foundation on which various economic theories and empirical issues should be evaluated. Module II and II relate to demographic aspects, differential access to and provision of social and domestic resources, and the role of women in decision-making. Modules IV, V, VI and VII deal with the various theoretical and empirical aspects of women and work with respect to the determinants of women's participation in economic activity, basis of wage differentials and gender-specific impact of technological development and modernization. Module VIII is concerned with an evaluation of labour legislation from the viewpoint of a woman worker. Module IX provides an analysis of the impact of developmental policies and strategies on women and their work, and also puts forward possible alternative non-sexist strategies for development.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 3 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module. It needs to be noted that Modules I, II, IV, V, VI, VII and IX are all starred modules. Consequently, only Modules III and VIII maybe omitted without a loss of continuity.

### Module I:\* Women's Studies (12)

Importance and Concepts of Women's Studies - Theories of Oppression and exploitation of women - Definition of patriachal/matriarchal societies and structures, patrilineal/matrilienal systems, etc., and relevance to present day society wrst. India - Economic basis and functioning of patriarchy in developed and underdeveloped countries wrst. India - Gender-based evaluation of theories of development, growth, value, distribution, income, welfare, population etc.

### Module II:\* Demographic Aspects (12)

Gender structures in developed and underdeveloped countries wrst factors affecting sex-ratio; implications of declining sex-ratio; implications of declining sex-ratio wrst India - Patterns and trends of mortality and fertility levels; theories and measurement of fertility and fertility control - Economic determinants and impact of population control and health policies - Impact of differential access to nutrition, health, education, etc. and of fertility levels on mortality rates, on the state of health, economic status and work participation rate of women wrst India - Conceptual and data biases; character- istics of female - headed households.

### Module III:\* Women in Decision-making (10)

Determinants of decision-making power; women and property - Differential access to and control over economic resources, assets, power and decision-making at household, class, community, state, national and international levels - Relation between decision-making, economic status and female work participation rate wrst India - Factors influencing inter and intra-family asset, income and consumption distribution patterns (for e.g. system of inheritance, male/female headed households, education, etc.); role of 'kinship' in allocating domestic resources and providing social resources.

### Module IV:\* Conceptualization of Women's work (12)

Concept of work wrt women in various schols of economic thought - Definition and valuation of productive/un-productive work, visible/invisible work, paid/unpaid work, economically productive/socially productive work, etc. -

Economic status, private property and participation of women in labour force in pre-industrial and industrial societies; women's contribution to sectoral and national income - under-valuation and re-measurement.

Module V: \* Women and work (15)

Definitions and determinants of women's work, economic status, work participation and employment of women in various socio-economic structures, systems and societies - Factors determining women's entry into the labour-force and participation in economic activity - Factors affecting recognition of women's productive activity wrt India - Interrelationship between women's work in production and reproduction - Economic, social, cultural and ideological determinants of valuation and measurement of women's work - Definition of 'skill', 'supplementary earner', 'dependent', 'head of household', etc. - Factors affecting women's labour demand and supply functions in developed and underdeveloped countries wrt India Trends in female work participation rates (FWPR); FWPR differentials across and within sectors, regions, urban-rural, etc. - Role of 'kinship' in organizing production and reproduction, domesticity of home-based-production.

Module VI: \* Wage Differentials (10)

Basis, determinants and definitions of wage-differentials wrt gender, education, skill, productivity, efficiency, opportunity, etc. - Structure and trends of wage differentials across regions, sectors, etc. in various socio-economic systems, wrt India.

Module VII: \* Women, Technology and Modernization (12)

Nature and impact of technological development, industrialization and modernization on women's work, economic status and FWPR - Rationalization, mechanization, computerization, etc. and FWPR in industrial/organized sector - Impact of agricultural extension and modernization (HYV, improved inputs, irrigation, mechanization, commercialization, marketization, livestock breeding etc.) on FWPR, visible/invisible work, wages, etc. - Effect of energy, ecological and environmental imbalances on women and their work.

Module VIII:\* Labour Legislation and Women (10)

Basis of determination of need-based minimum wages; differential implementation of minimum wages across sectors, industries, regions, countries, etc. - Genderbias in nature and implementation of labour legislation for workers in different sectors, industries, etc. wrst India. - Role of women in collective bargaining. Patriarchal structures of unions and styles of agitations - Factors determining participation of women in unions, organizations, and struggles. - Genderbias in legislations relating to property, resources, assets, health, education, skills, etc.

Module IX:\* Development and Women (12)

Impact of economic development on status of women in developed and underdeveloped countries - Gender-bias in conceptualization, formulation, implementation and impact of developmental strategies, policies etc. - Determinants, evaluation and effectiveness of strategies, iprogrammes, schemes, etc. for improving the status of women wrst India - Alternative, non-sexist strategies and policies for development.

REFERENCES

Module I: -

Desai, Neera and Maithreyi Krishna Raj, (Eds.) (1987) Women and Society in India, Research Centre for Women's Studies, SNDT University, Bombay.

Row B. Sheela (1973), Women's Consciousness, Man's World, Penguin, Harmondsworth

Jayawardena, K. (1982), Ferminism and Nationalism in the Third World in the Nineteenth and Early Twentieth Centuries, Institute of Social Studies, the Hague.

Mazundar, Vina and Kumud Sharma (1979) 'Women's Studies: New Perception and the Challenges', in Economic and Political Weekly, Vol.XIV No.3, January 20.

Eisenstein, Zillah, R. (1979) Capitalist Patriarchy and the Case for Socialist Feminism, Monthly Review Press, USA.

Boserup, E. (1970), Women's Role in Economic Development, George Allen and Unwin, London.

Schneider, D.M. and K. Gough (1961), Matrilineal Kinship, University of California Press, California.

UNESCO (1983), Women's Studies and Social Sciences in Asia, Office of Regional Adviser for Social Sciences in Asia and the Pacific, Bangkok.

Module II:

Tilly, Charles, (1978), Historical Studies of Changing Fertility, Princeton University Press, Princeton.

G.O.I. Dept. of Social Welfare, Ministry of Education and Social Welfare, (1974) Towards Equality - Report of the Committee on the Status of Women in India: New Delhi.

Young, K. et. al. (eds) (1986), Serving Two Masters, Routledge and Kegan Paul, U.K.

Krishnaji, N. (1937), 'Poverty and Sex Ratio': Some Data and Speculations', in Economic and Political Weekly, Vol. XXII, No.23, June 6.

Bardhan, P.K., (1982) 'Little Girls and Death in India', in Economic and Political Weekly, September 4, Vol.XVII.

Meillassoux, Claude (1981), Maidens Meal and Money, Cambridge Univ. Press, Cambridge, U.K.

Indian Economic and Social History Review (1983) Vol.20, No.1, Special No. on Survival, Politics and Work: Indian Women, 1880-1980.

Mitra, Ashok (1979) Implications of Declining Sex Ratio in India's Population, ICSSR, Allied, Delhi.

Module III:

Nanda, BR (ed) (1976) Indian Women: From Purdah to Modernity, Vikas, Delhi.

Mazumdar, Vina (1979) Symbols of Power: Studies on the Political Status of Women in India, Allied, Delhi.

Wajcman, J. (1983) Women in Control, Milton Keynes, Open Univ. Press.

Mitra, Ashok, (1979), The Status of Women, Literacy and Employment, Allied, Bombay.

Evans, H. and C. Ungerson, (eds.) (1983), Sexual Divisions, Patterns and Processes, Tavistock, London.

Redclift, W. and E. Mingione, (Eds.) (1985) Beyond Employment: Household, Gender and Subsistence, Basel Blackwell, Oxford, U.K.

Module IV:

Amsden, A.H. (ed) (1980) The Economics of Women and Work, Penguin, Harmondsworth.

Davies, M. (ed) (1983) Third World, Second Sex, Zed Press, London.

Feminist Review (ed) (1985) Waged Work: A Reader Virage Press, U.K.

Safiotti, H.I.B., (1973) Women in Class Society Monthly Review Press, London & New York.

Kuhn, A and A.M. Wolpe (Eds.) (1978) Feminism and Materialism, Routledge & Kegan Paul, London.

Engels, F. (1935), The Origin of the Family, Private Property and the State, Progress Publishers, Moscow.

I.L.O. (1978) Womens' Participation in the Economic Activity of Asian Countries, ILO Document No.DPW/16, Training Seminar on Development Planning for Women, Geneva.



#### Module V:

Barker, D.L. and S. Allen, (eds.) (1975), Dependence and Exploitation in Work and Marriage, Longman, London.

Blaxall, M. and E. Reagan (Eds.) (1975), Women and the Workplace, University of Chicago Press, Chicago.

Game, Ann and R. Pringle (1984), Gender at Work, Pluto Press, London.

I.L.O. (1978), Womens' Participation in the Economic Activity of Asian Countries, ILO Document No.DPW/16, Training Seminar on Development Planning for Women, Geneva.

Jenness, L., H. Hill, N.M. Reid, F. Lovell and S.E. Davenport, (1975), Last Hired, First Fired, Path Finder Press, New York.

Mitra, Ashok and L. Pathak, (1980), The Status of Women: Shifts in Occupational Participation, 1961-1971, Abhinav, Delhi.

West, J. (ed.) (1982), Work, Women and the Labour Market Routledge and Kegan Paul, London.

Young, K.C., Wolkowitz and R. McCullagh (Eds.) (1982), Of Mafriage and the Market: Women's Subordination in International Perspective, CSE Books, London.

#### Module VI:

Bardhan, K. (1985), 'Womens' work, Welfare and Status: Forces of Tradition and Change in India', in Economic and Political Weekly, Vol.XX, Nos. 50 and 51, Dec. 14 & 21.

De'Souza, Alfred (ed.) (1980), Women in Contemporary South Asia, Manohar, Bombay.

Feminist Review (ed.) (1986), Waged Work: A Reader, Virago Press, U.K.

I.L.O. (1981), Women in the Indian Labour Force, ARTEP/ILO Bangkok.

Lloyd, C.B. (ed.) (1975), Sex Discrimination and the Division of Labour, Columbia Univ. Press, New York.

Mies, M. (1982) The Lace-Makers of Narsapur: Indian Housewives Produce for the World Market, Zed Press, London.

Whyte, R. and P. Whyte, (1982), The Women of Rural Asia, Westview Press, Colorado.

#### Module VII:

Aggarwal, B. (1986), 'Women, Poverty and Agricultural Growth in India', in Journal of Peasant Studies, No.13.

Ahmed, I. (ed.) (1985) Technology and Rural Women: Conceptual and Empirical Issues, George Allen & Unwin, London.

Dauber, R. and M.L. Cain (Eds.) (1981), Women and Technological Change in Developing Countries, Westview Press, Colorado.

Ghosh, D. and S.K. Mukhopadhyay (1984), 'Displacement of the Female In the Indian Labour Force' in Economic and Political Weekly, Vol.XIX, No.47, Nov. 24.

Purcell, K.S. Wood, A. Waton and S. Allen (Eds.) (1986) The Changing Experience of Employment; Restructuring and Recession, Macmillan, London.

International Rice Research Institute (1983), Women in Rice Farming Systems, I.R.R.I. Press, Manila.

#### Module VIII:

Belyakova, A.M., et al (eds.) (1978), Soviet Legislation on Women's Rights: Collection of Normative Acts, Progress Publishers, Moscow.

Boston, S. (1980), Women Workers and the Trade Union Movement, Davis-Poynter, London.

Caplan, P. and J.M. Bujra, (Eds.) (1979), Women United, Women Divided, Indiana University Press, Indiana.

Hunt, P. (1980), Gender and Class Consciousness, Macmillan London.

Nielson, R. (1983), Equality Legislation in a Comparative Perspective, Copenhagen.

Omvedt, G. (1980), We Will Smash This Prison: Indian Women in Struggle, Zed Press, London.

Module IX:

Blake, M. (1979), Asian Women in Formal and Non-Formal Sectors: Review and Proposals for Research, Education, Mobilization, Occ. Paper No.2, U.N. Asian and Pacific Centre for Women and Development, Kuala Lumpur.

Chipp, S. and J. Green, (Eds.) (1980), Asian Women in Transition, Univ. Park, Pennsylvania State Univ. Press.

Dixon, R. (1978), Rural Women at Work: Strategies for Development in South Asia, John Hopkins Univ. Press, Baltimore.

Krishna, Raj (1983), Women and Development Planning wsrt Asia and the Pacific, Occ. Papaer No.1, Asian and Pacific Development Center, Kuala Lumpur.

Mazumdar, V. (ed.) (1977), Role of Rural Women in Development, Allied, Delhi.

Nelson, N. (1979), Why Has Development Neglected Rural Women? - A Review of South Asian Literature, Pergamon, London.

Palmer, I. and U. Von Buckwald (1980), Monitoring Changes in the Conditions of Women: A Critical Review of Possible Approaches, U.N. Research Institute for Social Development Geneva.

Tinker, I. (ed.) (1976), Women and World Development, Overseas Development Council, Washington DC.

M.A.

OPTIONAL PAPER: URBAN ECONOMICS

**Preamble**

Cities constitute the centres for industrial development and economic growth. Cities have an important functional role to play in the hierarchy of human settlement of different size classes. Urbanization is a global phenomenon and very soon it is expected that nearly one half of our country's population will be living in urban areas. Given this importance of urban areas, this course deals with various economic issues pertaining to urbanization and other aspects associated with it.

The suggested number of lecture hours that ought to be devoted to each module (under the assumption of 2 lecture hours per week over a 35-week academic year) is provided (in brackets) for each module.

All modules are starred (essential) modules.

Module I:\* Structure of Human Settlements (10)

Central place theory and spatial economic organization - Urban systems and functional dependencies between human settlements of different sizes.

Module II:\* Economics of City Size (15)

Costs and benefits of city size - Agglomeration economies - Is there an optimum size of a city? City size distributions - Economics of location - Economic Base and Economic Base Multiplier - Monocentric and poly-nucleus urban structures.

Module III:\* Urban Infrastructure and Urban Planning (25)

Land use and land development - Urban housing and problems of slum upgradation - Urban drinking water and sewerage system - Urban transport and communication problems - Intra-urban location of health and education facilities - Location of places of work, places of residence, trip generation, trip distribution, model choice and demand for urban transport - Urban crime.

Module IV:\* Urban Finance and Urban Management (20)

Financing of urban infrastructure - Urban renewal - Local Public Finance, Municipal Administration - Urban Modelling.

REFERENCES

Module I:

Berry, B.J.L. and F.E. Horton, Eds. (1969), Geographic Perspectives on Urban Systems, Prentice Hall, Englewood Cliffs.

Berry, B.J.L. and J. Kasarda, (1977), Contemporary Urban Ecology, MacMillan, London.

Berry, B.J.L., "City Size Distribution and Economic Development", Economic Development and Cultural Change, Vol.9.

Berry, B.J.L. (1967), Geography of Market Centres and Retail Distribution, New Jersey.

Diamond, D.B. and G.S. Tolley (1982), The Economics of Urban Amenities, Academic Press, New York.

Fox, K.A. and T. Krishna Kumar (1965), "Functional Economic Area: Delineation and Implications for Economic Analysis and Policy", Regional Science Association Papers.

Johnson, E.A.J. (1970), The Organization of Space in Developed Countries, Harvard University Press, Harvard.

National Council of Applied Economic Research, (1965), Market Towns and Spatial Development in India, New Delhi.

Module II:

Goodall, B. (1972), The Economics of Urban Areas, Pergamon Press, New York.

Hirsch, W.E. (1973), Urban Economic Analysis, McGraw-Hill Book Company, New York.

Mills, E. (1972), Studies in the Structure of the Urban Economy, Resources for the Future, Washington, D.C.

Richardson, H.W. (1971), Urban Economics, Penguin, Harmondsworth.

Swain, H. and R. Mackinnon, Eds. (1975), Issues in the Management of Urban Systems, Vienna, International Institute of Applied Systems Analysis.

Module III:

Alonso, W. (1965), Location and Land Use, Harvard University Press, Cambridge.

Bose, A.N. (1980), "Urban Economics: A Trend Report", in Indian Council of Social Science Research, A Survey of Research in Economics, Vol.6, Infrastructure, Allied Publishers.

Mishra, R.P., K.V. Sundaram, and V.L.S. Prakasa Rao (1974) Regional Development Planning in India, Vikas Publishing House, Delhi.

Mohan, R. (1979) Urban Economics and Planning Models, John Hopkins University press, Baltimore.

Report of the Task Forces on Housing and Urban Development I - Planning of Urban Development, (1983), Planning Commission.

Report of Task Forces on Housing and Urban Development: IV Shelter for the Urban Poor and Slum Improvement, (1983) Planning Commission.

Module IV:

Batty, M. (1976), Urban Modelling, Cambridge University Press, Cambridge.

Ingram, G., J.F. Kain, and J.R. Ginn (1972), The Detroit Prototype of the NBER Urban Simulation Model, National Bureau of Economic Research, New York.

Report of Task Forces on Housing and Urban Development: II Financing of Urban Development (1983) Planning Commission.

Report of Task Forces on Housing and Urban Development: III Management of Urban Development, Planning Commission.

Sivaramakrishnan, K.C. and L. Green, (1986), Metropolitan Management, The Economic Development Institute of the World Bank, Oxford University Press.

**ANNEXURE-V:**  
**OPERATIONALISING THE CURRICULUM**





## OPERATIONALIZING THE CURRICULUM

I. Introduction

A.5.01 The road to hell is paved with good intentions. This is admittedly not a very original statement and yet it is both, substantive and pertinent. There indeed is no greater fraud, we can think, of being perpetrated on the educational system than cooking up a curriculum which looks good on the paper but which is not operational. Operationality then, must be the sine qua non of a good curriculum.

A.5.02 The problem, as will be readily agreed, is not exactly a simple one. To obtain an 'organised complexity' the systems view will come handy. This will facilitate the classification of the endogenous as against the pre-determined variables of the system. Further the pre-determined variables may be segregated as those which are control variables and those which must be treated as fait accompli - as data. The context dependency of the above categorization means that the time-perspective as also the parameters of the system environment must be made explicit. In doing the above, boldness and realism must prevail. Ostrichlike attitude, far from doing any good, can in fact be very harmful. There is also a further reason for our insistence on an explicit specification of the above, which derives from the all too frequently noticed tendency to blame any and all the maladies on the portmanteau term: 'SYSTEM'. Many a time this easy escape window is taken recourse to, and it is our belief that the aforementioned insistence may help to call the bluff. We shall, hence, turn now to developing a conceptual frame which helps us to realistically assess the location of the sources of the problems and to identify the bounds provided by the parametric environment within which one must operate.

## II. The Conceptual Frame

A.5.03 Probably one of the very few uncontroversial - indeed incontrovertible - statements about the educational scenario would be that the problems that have beset the educational system are very complex apart from being complicated. Thus it is imperative to identify a conceptual frame for locating the proximate causes through which all the myriad of factors affecting education must ultimately act. That perception without conception is blind was never truer than in this context especially when remedial action is called for. Whenever one sits down to analyse the educational crises, one is overwhelmed by the incapacity to say something new. We thus, will desist here from adding much verbiage but will rather present two diagrams which, it is hoped, will provide a useful framework to organise and discuss the sources and forces at work in the realm of educational problems.

A.5.04 Whilst it is true that the most important problems in this area belong to the core subset or the area of teaching-learning process, as economists having a healthy respect for material forces, we cannot afford to neglect the environment, be it immediate or far removed.

We present a diagram depicting a static cross-section of the universe of our discourse (Diagram 1). Here the focus really is on the educational subsystem and its interfaces with its complementary components within the total system.

In the section on environment, with the help of this diagram, we shall be able to look at the political will of the Government, the involvement of the Industry in the process of vocationalization and such other matters.

A.5.05 The next diagram (Diagram 2) helps to look at the 'core' viz. the academic aspect of the teaching-learning process.

To be sure, much has been said in this area. What bears repetition is that any action has to be taken simultaneously on all three fronts. It needs to be

Diagram 1

Total System

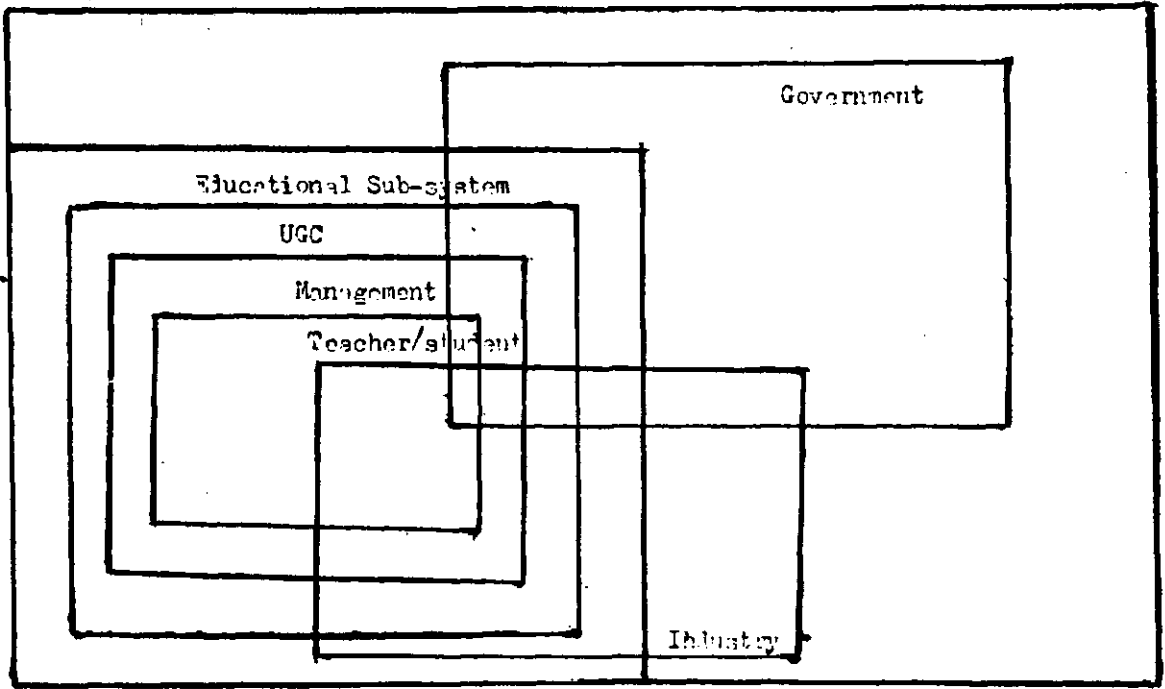
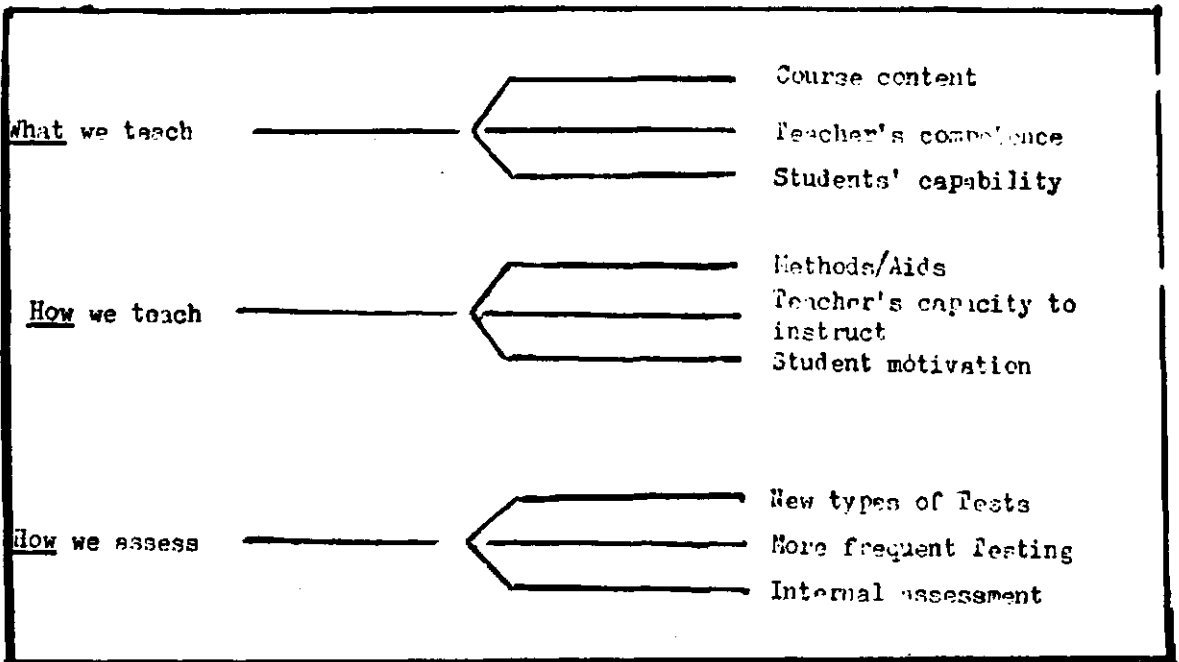


Diagram 2



stressed that although material resources are always scarce, there is much that can be done without these. To this end, teacher must use example and influence, apart from formal instruction, to create an atmosphere of high motivation. This presupposes proper motivation on the part of the teachers. Thus, we should probe into what goes in its making. All these things would be dealt with in our sections of teaching methods, evaluation et.al. To be sure, a lot of thought has been given to this area. It is quite some time now since Dr. Natarajan wrote an excellent monograph on this subject under the auspices of the UGC.\* Some 'good' institutions already have incorporated some of the suggestions in practice. But there are many who have either abandoned the attempt or have simply not tried anything in this connection. Teachers will have to be trained extensively in the technical and the mechanical aspects of the evaluation technology. To begin with, there is bound to be considerable resistance from the teachers, for it is no easy matter to write varied kinds of questions meticulously, mentioning what skills are being tested, what weightage is to be given to different sub-questions and what is the specific learning objective which is being assessed. Further, everyone has to go through the 'ignomy' of the prevalidation process. But if the institution feels strongly about it, it is possible to motivate the teachers. The local managements and the senior, or the more motivated, teachers can carry others with them by providing incentive, acknowledging merit and hard work and generally creating a conducive atmosphere for innovation. The construction of a question bank could be a useful and creative activity wherein one could contribute questions testing different faculties and classify them according to the degree of difficulty involved. The work involved, thus, is arduous, but it is also undoubtedly crucial from the point of view of evolving a successful strategy for transforming what has become an 'examination system' to a meaningful 'educational system'. What needs to be done, must be done'

---

\* Natarajan, V., Monograph on "Internal Assessment for Universities", Research Cell, Association of Indian Universities, New Delhi (1979).

### III. The Curriculum

A.5.06 There is always a real danger that petrification and stagnation may devalue a living idea born out of much creative effort and long hours of labour. It is beyond doubt that a curriculum is one such living idea. Unfortunately, it is equally beyond doubt that curricula developed in the past have lost their vitality and relevance over time. The law of entropy, it would appear, engulfs in its sweep even curricula developed for educational institutions. While there may be no escape from the crippling effects of entropy, certainly it will be possible to delay its operation, perhaps indefinitely. This could well be the touchstone, the ultimate objective of curriculum development efforts.

A.5.07 Failure of curricula of the past to retain their vitality can be attributed to numerous factors. The Examination Research Cell of Association of Indian Universities, in an investigative study, tried to identify the deficiencies and inadequacies of a traditional syllabus.\* It was found that, by and large, the inadequacies are in the areas of content, purpose behind teaching the formulated syllabus, techniques of teaching and methods of evaluation. One more serious lacuna relates to the silence of the syllabus regarding the intellectual abilities and skills to be developed by students through the teaching process. An additional lamentable lacuna has been the failure, so far, to clearly articulate the aim or objective of a curriculum. The first such attempt at stating an objective was made by the UGC Report on the Modernisation of the Syllabi in Economics (1979). The aim of the B.A. courses was put forward as follows: "It should provide a balanced education which should improve the quality of citizenship and help the student comprehend and appreciate the problems of his/her society." There is not anything in this statement that one can disagree with; but then again there is not much that is striking. A well defined objective should be

---

\* Association of Indian Universities, Monograph on Syllabus Analysis & Restructuring, New Delhi, 1982.

specific to the discipline with which it is concerned. The UGC objective quoted above is equally applicable to any discipline such as political science, sociology or history.

A.5.08 The aim/objective of a curriculum should be an optimum blend of generalities and specifics. Generalities would be valid for other disciplines apart from the one under consideration. The general objectives of a curriculum, as indeed that of education, would be to turn out good citizens endowed with reverence, justice, sympathy and humaneness, to develop in the students the faculties of observation, imagination and reasoning, to cultivate their intelligence, to provide opportunities to discover themselves, to help them in creating social consciousness by making them understand, and analyse, the social processes and social reality thereby enabling them to form their own judgments on public matters. To put it succinctly, we have to train students to be not clinical intellectuals, but to be sensitive, intelligent individuals in touch with their social reality. To use a literary analogy, from Dostoevsky's "The Brothers Karmazov", the curriculum has to mould students into Aloysha Karmazov but not mould them to be Ivan Karmazov. Education does not mean just attending the college/university, listening to teachers talk from platforms, and reproducing the required information on occasions called examinations. This is not a sensible way to develop human resources.

Regarding specific objectives of the curriculum, they are (a) making the curriculum relevant to the Indian economic situation (b) helping economic graduates to be employable (c) changing the thrust of economic education from teaching to learning. Point (b) will be considered later when we discuss the profile of economics students and point (c) when we discuss teaching methods. The relevance aspect of economic curriculum will be discussed now.

A.5.09 The demand that a curriculum be relevant is hardly a new one. Justice Mahadev Govind Ranade raised questions regarding relevance as far back as 1892. In fact, given the dynamics of a society, these atavistic tendencies of the question of relevance are not in the least surprising. What is relevant at one point of time degenerates into irrelevance over time.

A curriculum that is not relevant has several pernicious effects on both the student and the teacher. Even an average student can quite easily perceive the real economic problems of society. He/she undergoes a frustrating experience when he/she is unable to interpret these economic problems with the idiom of economics as taught to him/her. This frustration is perhaps even more excruciating during the initial stages of a student's encounter with economics, that is, at the entry point. The situation from the point of view of the teacher is even more demanding. A dedicated teacher often feels a crushing sense of despair while teaching. He/she is aware that the abstractions of the subject are apparently far removed from the daily economic phenomena. Economics, it is clear, has to rely on experiments thrown up by events which are neither replicable nor controllable. These events often provide us with information which may either be so general as to be self-evident or so esoteric as to be devoid of interest to the uninitiated. In the event, holding the interest of students new to economics, let alone igniting in them a passion for the subject, requires an extremely strong sense of commitment from the teacher. The situation may be so daunting that even the best may be found wanting. It then does not take long for the irrelevance of the economics curriculum to give way to irreverence for the subject.

It is incontrovertible that theory must be based on some kind of an image of the economic organisations about which we are talking. Behind each of the received theories - classical, neo-classical or Keynesian - there is certain image of society which, though it may not be spelt out, is discernible. In the light of this, if we are to imbue a sense of relevance into our economics curriculum, we have to teach economic theory with reference to some kind of an image of the Indian economy. This is the elusive, the chimerical integration between theory and Indian economic situation that one was yearning for. But, of course, herein lies the problem. To quote K.N. Raj:

"Our economists, particularly our eminent economists, people who have done a lot of theory and so on in their own time, have in a sense failed us in not setting up a kind of theoretical



structure corresponding to the Indian economy and trying to show how to tackle the existing situation."\*

It is beyond doubt that a long-term objective of curriculum development can be and should be the incorporation of economic theory based on an image of Indian society; in the short-run, however, we have to work within the given constraints.

#### IV. The Environment

A.5.10 Whether we like it or not, the environmental factors do play an important role in the determination of the success or otherwise of an educational programme. It is evident that the Central government must clearly set out the educational policy. It is essential that the Policy Document must not only read well - as it always does - but it must be seen to mean well too. This requires that a realistic assessment of the financial resources that are necessary to put the policy precept into practice be undertaken. It is clear that resources would have to be sizeably increased if the objectives outlined in the New Education Policy have to be realised. The Government, at Centre and State levels, must further also display the requisite commitment and the political will. This is essential not only for implementing a particular plan, but is essential indeed for lending credibility to the entire process of policy making. Lack of credibility here could adversely affect the motivation of all the various agents involved in the educational process. Also, the Central and State governments must work in consonance with each other.

A.5.11 From the 'co-ordination' point of view, it is of essence to be clear exactly about the role and power that rests with the different units. In fact, a large number of non-achievements of desired results could be traced to

---

\* K.N. Raj: "Some Issues in the Teaching of Economic Theory" in Oomen, M.A. (Ed.), Issues in Teaching of Economics in Indian Universities, Oxford & IBH, 1987, p.67.

the fact that under the existing system, higher education is overseered and funded by more than one agency with diverse and conflicting objectives - often with objectives and no powers, and sometimes with powers but no objectives. In an ideal higher education system, the different agencies should have a close relationship to one another so that it will be easy to introduce reforms, if needed, in an orderly and smooth basis, and bring about the desired results. Lack of it has given rise to a number of problems. The higher educational perspectives from a national, and international angle, do not get sometimes proper weightage at the level of the State Governments. Besides, the role of the UGC is extremely ambiguous as far as the policy-making is concerned. The State governments ultimately can pick and choose from the totality of recommendations. Such a situation is fraught with dangers. Components in isolation that is devoid of their total and proper context are open to subjective interpretations and manipulation.

A.5.12 Referring to Diagram 1 in the earlier section, the more local interfaces need to be commented on. The State Governments, being the pay-masters, have a considerable clout in modifying the specifics in a given policy package. Indeed the way the GR's are actually framed and subsequently interpreted and implemented, they would appear to be effective means of imposing undesirable curbs on teachers. Unfortunately, there is a dearth of college managements charged with high academic ideas. Academics can thrive only in an atmosphere of freedom and mutual respect. The personalities of teachers in higher educational institutions and their scientific pursuits and goals should not be trod upon. Under the existing set up, with the top controlling everything, one may utmost find lecturers engaging classes, never teachers capable of inspiring their students. On the other hand, case studies familiar to everyone have shown what an enlightened management can achieve even within the stifling parameters of our system.

A.5.13 The role that industry can play in bringing about a true vocationalization in our educational system is one of the most neglected aspects. There is need for a better industry-academic institution interaction or interplay. Some efforts have recently been made in this direction but these do not appear to be effective. Substantial

institutional and attitudinal barriers still exist to enter into such a relationship; these have to be surmounted. The potential benefits on each sides are immense, and they can enhance each other's mission. Particularly, joint university-industry participation in designing programmes in the emerging new fields and professions, and exposure of students to them, will enable the latter to gain enormous confidence when employed in industries. Another ideal area of collaborative effort between university and industry is research. Research-oriented universities are among the major contributors to the advancement of knowledge in many countries. Their role has also been crucial because of the complementarity between teaching and research. The Government should extend its cooperation in fostering this kind of collaboration by providing all incentives, and removing such disincentives inhibiting this kind of interaction. This will also help the higher educational institutions which have come under heavy financial pressures in recent times, in obtaining assistance for new and innovative programmes. Certain guidelines and mutual guarantees will of course have to be framed for such a collaborative arrangement.

#### V. Teaching Methods

A.5.14 Student-teacher interaction is the point where a curriculum becomes operational in the most obvious way. The quality of interaction between the teacher and the taught can make or mar a curriculum developed after much effort. The most well-thought curriculum may flounder on the rocks of ill-conceived teaching-learning processes. Appropriate teaching-learning processes must be developed especially bearing in mind the UGC guidelines for Curriculum Development Centres viz. "main thrust of the proposed curriculum should aim at shifting emphasis from teaching to learning". This guideline has been operationalised by organising the curriculum in a modular form as a first step. A module has been defined as one which has thematic unity and the contents of which can be covered in fifteen to twenty lecture-hours. A course is expected to consist of about 100-115 lecture hours. In addition a tutorial for every three lectures is suggested as a norm.

A.5.15 Traditionally, classroom handling of curricula has depended very heavily on the lecture-method. This method, while not totally devoid of certain advantages, is not conducive to switching the focus from teaching to learning. A teacher lecturing to a large class is unable to receive any feedback from students and interaction between students and

teacher often reduces to a monologue by the teacher. The teaching-learning process, if it is to be effective and stimulate student interest, should have in its armoury a package of teaching methods, with the lecture method being one of them.

We now discuss some of these teaching methods.

**A.5.16 Lecture Method:** The lecture method, instead of becoming a 'notes dictation class' should help the student himself to take down the notes simultaneously while listening to the lecture. Tutorials should enable a student to get clarification of certain points which he may have mechanically learnt to reproduce. Besides, the tutor can help the student to have a guided reading programme with proper assignments written by the students and corrected by the teacher. Seminars and group discussions on various topics give scope to the students to participate and to learn the skill of presenting their ideas.

Methods of teaching would of course vary depending on the students being taught, the nature of teaching environment, the particular branch of economics being taught and upon the teacher himself.

No doubt, there are certain advantages of the lecture method e.g.

- (i) it provides initial outline of the subject to the student which can serve as a framework for further studies.
- (ii) it is useful when the student time is limited and the syllabus is extensive.
- (iii) larger number of students can be accommodated.

**A.5.17 Faculty Guided Learning Activities:** In this method, as mentioned earlier, students prepare the material and discuss it among themselves under the guidance of a teacher. Tutorial groups are taken to consist of ten or less students while seminars are thought of as larger groups.\*

---

\* Here the presumption is that the strength of the undergraduate class must not exceed 50, a suggestion which we may note, has already been accepted by the UGC.

Seminars tend to become subject-centred discussions in contrast to the more-learner-centred tutorials. In the tutorials, further reading and activities can be suggested by examining the written work critically which brings into the forefront the difficulties faced by the students. Skills developed through tutorials and seminars are:

- (i) ability to frame pertinent questions,
- (ii) ability to express thoughts cogently, and
- (iii) ability to engage in critical dialogue.

In the seminar, sometimes, the participants are shy and self-conscious and so are difficult to handle. On the other hand, there are some participants who keep dominating. Hence, the teacher has to fulfil a director's role and should also act as a moderator. Before the seminar, the teacher should suggest preliminary readings and should ensure that students are adequately prepared.

Different students could be allotted different topics or e.g. each student can be asked to report on an industry or some particular aspect of the economy from time to time. They should be asked to maintain a scrapbook of newspaper cuttings or an economic diary.

A.5.13 Problem-solving Approaches and the Use of Source Materials: The problem method normally consists in dividing the course into three phases: the motivating phase, the development phase and the culminating phase.

In the motivating phase, the student's interest in economics may be awakened. Newspaper headlines, student's personal experiences, etc. may be used as wedges by which the subject-matter may be formulated and introduced. Thus, during the beginning of the class, some time could be devoted to important developments in the local region, in the country and the world. The students could be asked to note down important news items datewise and the questions connected with them that come to their mind. A living interest in the current economic issues can thus be kept up by discussing the problems periodically.

The study of any problem can be developed in four stages:

1. Statement of the Problem
2. Extent of the Problem
3. Causes of the Problem
4. Remedies.

Problem-solving method helps the students in learning to handle data, to arrange them and arrive at conclusions which help them to take alternative decisions. Problem-solving approach is useful where the problems are based on real life situations. However, the success of this approach depends on the provision and adequate structuring by the teacher of suitable source materials from which data can be abstracted.

A.5.19 Projects and Project Approach: Projects can be undertaken by an individual or a group. Normally, the student is expected to select a topic for investigation under the guidance of a teacher. Then they set out to collect first-hand information over a period of time after which they report their findings in the form of a written dissertation. This is a comprehensive exercise, insofar as it requires the student to thoughtfully select a topic and then study it. Finally, he learns the art of analysis, reporting and writing.

A.5.20 Role Playing and Simulation Games: In role playing at its simplest level the students are assigned certain roles. For example, questions of the following type could be put to them, "What would you do if you were the Finance Minister?" or "Imagine yourself to be the Managing Director of Bharat Heavy Electricals, or as Governor of the Reserve Bank of India". Then the monetary situation of the country can be viewed from the standpoint of, say, the Governor of the RBI or the Finance Minister. A large part of the subject can be explored in this way. This method helps to involve the students in a live way.

Simulation games go a step further than role-playing. They create more dynamic conditions and attempt to simulate real life situations by placing students in certain roles in the game. For example, there can be inter-collegiate competitions of 'stock-exchange games'. Some games require less equipments while others require more.

However, there is a danger of these games resulting in over simplification. Careful handling by a teacher, therefore, is necessary.

A.5.21 Individualized Instruction: This approach is expected to provide self-tuition schemes so that the student can learn the subject unaided by the teacher. Hence, the teacher instead of being in the 'front-of-the class room' can give more attention to the particular needs and problems of each student.

Individualized instruction can only be successful if adequate source materials are readily available. However, atleast a few assignments even in the traditional setting can be built around textbook material supplemented by newspaper cuttings and a few professional journals. This approach further requires preparation of worksheets which need to be carefully devised. But the advantage is that once these are prepared they can be used on future occasions too.

A.5.22 Case Study: A case study in economics is defined by Stanford and Bradbury as "the consideration of an actual or closely simulated economic event, situation, development or policy measures. A case study is characterised by being detailed, limited and unified. To be worth studying, a case must assist the learning of economic concepts or principles or make contemporary economic happenings more meaningful".\* The institution most famous for the use of this approach to learning is the Harvard Business School. It is partly for this reason that one finds that the case study method is used more in management courses.

---

\* C.T. Sandford and M.S. Bradbury "The Use of Case Studies in Economics" in Norman, Lee (ed.) Teaching Economics (2nd ed.) Heineman Education Books, London 1975, p.243.

A.5.23 Case studies in Economics have been used more to illustrate principles. The famous example is that of Adam Smith's description of the pin-making factory to explain the concept of the division of labour. The advantage of using case studies is that it adds vividness and realism to the study. Again, topics like the annual budget, the effect of devaluation on an economy, etc. can be taught more effectively by making an actual case of a country. In India, if we are to teach the concept of efficiency, we could take any one particular industry e.g. the Iron & Steel Industry, and go into the details of the processes involved and see by comparison with the same industry elsewhere how efficient is the Indian Iron & Steel Industry.

Case studies can also be used to derive principles instead of serving merely as illustrations of principles. In this situation, it has been found that case study method is successful when most of the concepts are already taught by the traditional methods. Thus the use of this method in economics differs from the use of this method in courses on business management. In the latter, it provides facts which yield their own generalisation. Case studies help to bring realism to learning and help the student to make a positive contribution to thought by helping him/her to develop independent constructive thinking.

A.5.24 The danger of the 'case study' approach lies in the student being led to generalise from an inadequate sample. Moreover, as this method is time-consuming, the student can only learn a few portions in depth and a large portion of the syllabus may remain uncovered. The last mentioned point notwithstanding, the advantages of this approach far outweigh the disadvantages, the presumption being that the approach would be used sensibly by experienced teachers. Its effectiveness could perchance be enhanced by allotting some credit when evaluating the students.

A.5.25 Visits and Field Studies: Visits to local business units or local area studies enable the student to learn to analyse the economic situations in the real world. The concepts like firm, land, labour or the theory of the firm or that of industrial location, wage determination, etc. can be more effectively put across if the field visits follow the theory classes.



The following stages are involved in a field study:

- (i) the students would have to be prepared before the visit, what to observe, how to note down the information collected, etc.,
- (ii) the visit itself, and
- (iii) the follow up after the visit and writing the report.

When students are not sufficiently acquainted with the production process of different commodities, such visits help them to gain this knowledge.

A.5.26 Teaching Aids: There has been a considerable discussion in recent times regarding the use of teaching aids such as audio-visuals, films, transparencies, overhead projectors, reprographic facilities, et.al. It may be pointed out that these modern teaching aid should complement and not substitute the teaching methods discussed earlier. While there is no denying that a good audio-visual demonstration or a good film may lend a practical dimension to a class room lecture, it can hardly displace it. For example, a film on the stock-exchange market will be of interest to students especially if they have not begun dabbling in shares!

A.5.27 The preceding paragraph has not made any mention of the importance of computing facilities as an essential teaching aid. Perhaps it is not even necessary to belabour the importance of computers. However, a few points may be noted down.

There is no doubting the fact that computers, when introduced into the higher educational system in sufficient numbers and with appropriate user-friendly software, can surely make a significant contribution to the efficiency and effectiveness of teaching. One should, of course, bear in mind the caveat that computers are aids to teaching; they cannot conceivably replace or substitute the teacher.

Availing of the full benefits of computer technology requires an imaginative and a radical approach. First and foremost, it can be introduced only with the cooperation of the teaching community and with the acceptance of all members of the dramatis personae in the higher educational process. In addition, a sufficiently large amount of funds should be forthcoming to usher in the "computer revolution". Half-baked attempts with meagre resources will be of marginal benefit and could lead to frustration, if not outright rejection, by teachers as well as students.

## VII. Evaluation: Some Comments

A.5.28 The critical importance of evaluation in any move to bring about a reform in the educational set up has been amply adumbrated. Indeed, this is one thing which cannot be over-emphasized. Any proposal for an improvement in the syllabus will be operationally meaningful only when the examination system undergoes a relevant change. Way back, the Radhakrishnan Commission in the 'Report of the University Education Commission (1949)', had stated that "if we were to recommend only one reform, it is in the field of examinations".

A.5.29 As a typical situation in an Indian university the picture is rather dismaying. The student-teacher ratio is very high, the provision for tutorials and sessional evaluation amply does not exist. Evaluation of student achievements, both at the undergraduate and the postgraduate levels, has been totally restricted to terminals or even end-of-the-year examinations. The validity of the prevalent examination system is at best suspect. The favourite or selected topics get better and sometimes even a thorough treatment during lectures providing a cue to the students in the matter of selection of topics to be 'crammed' for the purposes of examination.

In the question papers that are set, the general practice of allowing free and ample choice of questions to be solved (generally 50 per cent choice exists) leads to the students successfully omitting large chunks of portion and yet doing well and fraudulently walking away with a first class or even a distinction. Generally, the

students gain insight into the teachers' preferences, and with the help of a few papers from the previous years, they are adept at predicting the current question paper with amazing accuracy.

A.5.30 There is a very urgent need to orient, train and to generally improve the professional competence of the paper-setters, so that the examination papers display the characteristics of objective reliability and comprehensiveness. There is a whole spectrum of problems in the area of setting papers. The nature and type of questions set in the paper are inadequate to test the reasoning, analytical, comprehensive and the critical capacities of the students. The length of the answers are not determinable by the nature of the questions. Most of the required answers are indeed a real test of memory of the students. The students, on their part, just need to work for the last couple of months, and it does not matter if what they answer has not much relation to what they are asked. The examiners, in their turn, tired of reading long answers, evaluate the answers in the most arbitrary manner. As a result, ten to twenty per cent difference in evaluation of the same answer by two examiners has normally been noticed. Five to ten per cent difference might be expected in evaluation of the same answer by the same examiner at different times. The subjectivity element in matter of evaluation of opinionated answers further adds to the arbitrariness of the judgment.

A.5.31 Thus, to reemphasize, we may say that to look only at the improvement (de jure) of the syllabi without considering the aspect of paper-setting is as bad as concentrating in a lopsided fashion on the taxable capacity to the detriment of the optimal budget; for, the operational (de facto) part of a syllabus is only that which in the perception of the students, has a reasonable chance of being tested in an examination. To assume that students will study a particular topic just because it is a part of the syllabus, is really to assume away the 'pons asinorum' of our educational system.

In the interest of quality of education, distinction should be made between assessment of the students' progress in studies and quantified evaluation of their achievements by way of performance in examination tests.

A.5.32 Assessment of students in impressionistic terms should be done by the teacher with the twofold objective viz. (a) to get feedback from the class of students about the weak areas of grasp of lectured material with a view to improve their teaching methods, clarity of exposition and communication, arrangement of lecture scheme/material, etc. and (b) to assist the relatively weak students in joining the stream of learning at the required level of the class.

The assessment procedure could be in the following ways:

- (a) Before the commencement of a fresh lecture in the teaching hour, the first five or ten minutes could be devoted to a joint attempt by teacher and students, to recapitulate the gist of the previous lecture. This would enable the teacher to get the thread of the subject-matter for linking it with the fresh lecture. This practice would also make the teacher aware of the areas in his lecture where special emphasis was needed, and the loopholes in his previous communication of subject-matter. Further, better students, in this process, could be distinguished from the rest of the class.
- (b) Assessment of students could be done in the tutorial classes in a relatively easy and better manner as each student would come under close observation in small groups.

The level of assimilation of the subject-matter by the student could be gauged through observation of the extent and level of participation of students in the tutorial group discussion. The references and the tone of discussion would themselves be revealing as to whether the students had been reading the prescribed and recommended books and papers from the journals.

The response of the students to the queries posed by the teacher could also be a measure of assessment.

A.5.33 The more formal evaluation system could profitably be arranged on two phases viz. continuous evaluation during the course of teaching and learning process; and terminal evaluation at the end of the academic session. Weights to be assigned to the continuous and terminal evaluation in the total system could vary depending on the conditions of different Universities. However, the recommended normal weight could be within a range of 25 to 40 per cent for continuous evaluation and correspondingly 75 to 60 per cent weight could be assigned to the terminal evaluation.

A.5.34 Continuous Evaluation: By its very nature, continuous evaluation would be a system internal to the University where the concerned teacher/tutor would be solely responsible for its conduct. Further, to be meaningful, this evaluation would have to be devoid of subjectivity and bias. Sessional tests, at least three times during a year, could be given to the students for purpose of quantifiable objective evaluation. For this purpose, objective multiple choice question items and questions demanding short answers only could be given in the sessional class tests. In addition, home assignments to write essays after thorough reading of texts and consultations of references in the library may form a part of the evaluation process. The award of marks/grade should also be counted in continuous sessional evaluation of the students.

A.5.35 Since concept, clarity and precision in analysis are important qualifications of a good student of Economics, it is essential that both these faculties are cultivated and tested rigorously. For this reason, for the undergraduate level, sessional tests could include objective multiple choice items relating to basic concepts, key terms and themes, assumptions, definitions, data, propensities, elasticities etc. which would expectedly be forming the topics of tutorial coaching and discussions in the smaller groups. Here, all the question items could be balanced for their difficulty coefficient by keeping in mind both the aspects of information recall and reasoning. This system will eliminate considerably the possibility of discrimination and injustice to the students.

A.5.35 Short answers to questions relating to theory aspects of those topics which have been discussed in the lecture class could be given in the sessional class tests. Topic should be so chosen that scope for subjectivity in evaluation is reduced as far as possible. Home assignments, at least two per course, are essential from the point of development of writing skill and power of expression. Essays could be given for writing on a class lecture topic/theme with a critical approach, or on empirical applications of theories or for dealing with the theoretical underpinnings of real life situations.

A.5.36 In the sessional evaluation at the undergraduate level, more emphasis could be on objective question items, and on questions requiring short answers. At the postgraduate level, however, greater emphasis would have to be laid on long answers and home assignments. At the Master's level, in Economics particularly, the students are expected to develop a powerful pen, to convey effectively the matter under discussion in correct language. An essential qualification to be developed in this process would be the ability of the students to separate essentials from non-essentials, and assumptions from consequences of the theories, and the right type of emphasis and length of treatment to be given to the major argument or body of analysis etc. The evaluation of the home assignments should be confirmed by personal discussion with the student on the topic in mini vivavoce examinations. This practice would enable better judgment on the assignment insofar as the students' reading of original text and chasing of references would be confirmed. Scoring a certain grade/percentage of marks allotted to sessional work/tests could be made qualifying conditions for the students to take the terminal examination.

A.5.37 The Terminal Evaluation: The first and basic test to be satisfied by the system of terminal evaluation is the reliability of the awards, and validity of the placement of students at different levels. The terminal examination has indeed to test the command of the students over the total knowledge area in the concerned field/course/paper. With this intention, following points could be kept in mind while setting the question papers:

- (a) Questions to cover a better part of the syllabus from all subarea of studied course.
- (b) Sub-parts of the questions to be devised to test the reasoning and critical capacity of the student and his readings in the relevant field.
- (c) Choice of answering the questions should be restricted to increase the validity of the testing procedure.

For facilitating the setting up of such question papers the process will have to begin with the syllabus formation stage and to be continued throughout the instruction and tutorial periods of contact.

#### Production of Text-books, Reading Materials, etc.

A.5.38 The UGC and other agencies should, on a priority basis, take up programmes of production of text-books and monographs in the subject of Economics. As the UGC Economics Panel had rightly observed, "writing of good text-books/monographs should be recognised as a duty that the teacher owes to the community; in return, the community should recognise that this is as important as a good piece of research." Special cells could be established in universities and be entrusted with the responsibility of producing reading materials on different topics in Economics, where there is a dearth of such material. Supplementary literature is no doubt as important as text-books especially at advanced levels. In order to stimulate such writings, provision should be made by the UGC and other bodies for payment of substantial honoraria and other incentives to the good teacher-authors. Perhaps special leave in the form of a sabbatical may be granted to the concerned teachers for this specific purpose. Later, these materials could be integrated and brought together in a book-form. Efforts also could be made to encourage University Departments in Economics to bring out standard journals in the subject. Select readings from various economic journals could also be brought out to bridge the existing gap in knowledge. For this the help of professional organizations could be sought.

A.5.39 An important follow-up of the preparation of textbooks, reading materials etc., with the assistance of UGC or any other agency, is that these must be made generally available to all colleges/institutions offering economics. This requirement assumes special significance in view of the intended shift in the education process from teaching to learning as envisaged by the UGC. Minimum library requirements, it must be emphasised, go much beyond the mere provision of these specially prepared textbooks and reading materials. The lists of references appended to each of the courses (modules) presented in Annexure IV must obviously be considered to be the minimum requirements if the course is to be introduced in any college/institution.

### The Use of Regional Languages in the Learning of Economics

A.5.40 There is no gainsaying the fact that a student understands a subject better when he/she attempts to learn it in the mother tongue rather than in an unfamiliar language, all other things remaining the same. With English as the primary source of knowledge at the advanced level in India at present, one may even argue that the above statement is true particularly of hundreds of students who enter the University system in this country every year, with woefully inadequate knowledge of English as a language.

A.5.41 There is, however, a snag in the possibility of these students learning a subject such as Economics well in their mother tongue, especially at the postgraduate level. The snag is that "other things" are not the same. One crucial difference between English and the regional language in this respect is that the reading material available in a regional language in India stands no comparison with that available in the English language. There is not merely a paucity of material covering different branches of Economics in a regional language, but what is more, the material available is of indifferent quality, considering the requirements in respect of such material for a worthwhile M.A. course in Economics. The sub-standard quality factor has several dimensions. The analysis lacks in rigour and in logical coherence. Then again, there is hardly any attempt to explain propositions by citing illustrations from an Indian milieu that would



be more appealing to students in this country. There is, in fact, a tendency among most of the writers in regional languages to prepare material not so much with a view to assisting a reader's comprehension of the subject but to helping him face an examination. Given the stereotyped, general nature of questions set in most examinations, there is no wonder that the quality of reading material generated leaves much to be desired.

A.5.42 There is, to be sure, a real dilemma here. The bulk of the students of Economics in India do not possess the ability even to read standard literature in English satisfactorily, let alone express in that language adequately. On the other hand, the quality of education in Economics is bound to suffer - as it has already - if students are left to depend only on sources available in the regional languages.

A.5.43 We may note at this stage one basic constraint in the situation. In recent years we have witnessed an education explosion in the country, even at the post-graduate level. Over centuries an oppressive social system denied large many families in our society access to even elementary education. With the emergence of a democratic polity during the last four decades, such families naturally aspired to see their children getting opportunities not merely for primary and secondary education but also for collegiate and University education. The number of students belonging to these families has been increasing rapidly in recent years. It is neither possible nor desirable to arrest this trend in the name of maintaining standards of higher education. In other words, our effort must be to so organise the use of the regional language in the teaching-learning process as to effect an improvement in standards even with large number of students entering the University system being inadequately trained to undertake the challenge of learning at the feet of masters in the subject, most of whose contributions have either been written in English or been available in that language through translation.

A.5.44 There is to this effort both a long-run aspect and a short-run one. In the long run conditions would improve only if good quality reading material in Economics is continuously prepared in the regional languages. This

means that the regional languages themselves must grow so as to become smooth vehicles for transmission of scientific knowledge of the most abstract kind. A crucial stage in this process is the development of technical terms and their easy assimilation by learners of the subject. So far as Economics is concerned, efforts in this direction have been made over the last two or three decades in different parts of India. Thus, for example, a Committee of University teachers in Economics appointed by the Government of Maharashtra prepared an elaborate dictionary of technical terms in Economics in the Marathi language, which has been recently published. These terms will be open to debate, and those that emerge by way of consensus will take some time to be fully assimilated by prospective learners. This is then a long-run process. Then again, what is needed additionally is a dictionary explaining definitions of terms and meanings of concepts in Economics, on the lines of the Penguin Dictionary of Economics or J.L. Hanson's "Dictionary of Economics and Commerce". The effort in this direction is still lacking. The UGC may consider providing financial support to State Governments for funding such efforts.

There is one more point that needs to be stressed in the long-run context being considered here. Evidently things would improve only if persons knowledgeable in the subject and possessing sufficient aptitude for writing for the uninitiated in a subject, come forward in sufficient numbers to prepare reading material in a regional language for students of Economics. This is not happening at present. The task is truly stupendous. So many branches in Economics have to be covered, and the analysis has to be lucid without being pedestrian and shallow. It would be necessary to motivate the relatively better informed teachers in colleges and universities to spend time in doing this type of writing. For this purpose a suitable method of giving credit for expository writing to such teachers in their academic advancement will have to be devised. The UGC may also make efforts to ensure that some of the leading economists in the country undertake this type of writing on the lines of their several counterparts in foreign countries. It would be a gain even if they write in English, for the books could then be translated into regional languages. This will guarantee both analysis of good quality and also its attractiveness with exposition being made with the help of illustrations from Indian experience.

A.5.45 Considering that large and increasing number of students will continue to opt for Economics at the degree and postgraduate levels, we shall also have to think in terms of short-term measures suited to the requirements of an overwhelming majority of these students, not quite conversant with the English language. One remedy suggested is that standard reading material in English should be translated into the regional languages. However, translation is an art, and it may not be easy to get a fairly large number of persons possessing the necessary skills.

Even if this difficulty is overcome, there are two other aspects of the translation alternative that need to be touched upon. One relates to the evident need to translate technical terms into regional languages. The problem exists particularly in works of a theoretical nature. Many of the regional equivalents of technical terms are likely to be unfamiliar and would create difficulties in understanding. Secondly, illustrations used in English works are also likely to be unfamiliar to Indian students. Consequently a verbatim translation, even if well-made, may be difficult to follow. What is required to be done, therefore, is to render an English work into a regional language so as to make it intelligible to students. A technical term will have to be fully explained before its equivalent in a regional language is mentioned. Illustrations and information relevant to a foreign milieu will have to be replaced by those with which our students are familiar. This work will clearly require greater effort and application, for which the writer must be given due credit in his/her academic career.

A.5.46 It must, however, be recognised that this short-term measure will be of limited significance at the postgraduate level in any case. A postgraduate student is required to study several branches in Economics and that too not merely by reading standard works but also by studying carefully journal literature. Under the circumstances, it seems logical to emphasise that a postgraduate student ought to be able to read works in English without much difficulty. In other words English ought to be the library language, though he/she may be free to answer examinations in the regional language. As it is, most of the postgraduate students of Economics in India are not in a position to depend on English as a library language. The UGC may therefore think in terms of devising a scheme of useful remedial courses in English for students of relevant disciplines so as to enable them to benefit from English as a library language.

A.5.47 Summing Up: A clear articulation of objectives of the curriculum at its conceptual stage is a sine qua non for its success in operationalization stage. If the goals to be reached are stated clearly, then, the steps to be undertaken to attain these goals often suggest themselves. Bearing in mind this duality between conceptualization and operationalisation, the objectives of the curriculum and the target groups to which it is addressed have to be clearly specified. The objectives of our exercise have been:

- (1) making the curriculum relevant to the Indian economic situation;
- (2) upgrading and updating the curriculum to make it internationally comparable;
- (3) improving the employability of economic graduates; and
- (4) shifting the emphasis of economics education from teaching to learning.

Three distinct target-groups which have been identified are as follows:

- (1) those for whom the economics-course is a part of general education (B.A. Pass students)
- (2) those who are interested in pursuing careers having an interface with economics (B.A. Honours students)
- (3) those who wish to become academics or professional economists in other fields (M.A. students).

In the ultimate analysis, a curriculum is truly operationalised in the classroom through the interaction between teachers and students. To make teachers effective conduits for imparting training to students, the service conditions (of teachers) should be made conducive to total teacher involvement. There is a feeling that the existing service conditions are far from ideal and cannot possibly promote teacher involvement. If the teaching profession is to attract and retain competent persons, they have to be offered not only attractive service conditions, including better emoluments, but also opportunities for acquiring new knowledge so that they can become catalysts for change

and innovation. The knowledge so acquired should not be treated as a means for personal advancement alone but rather should benefit the system as a whole.

The New Curriculum being proposed will require teachers to refurbish their knowledge especially in the areas of economic theory, Indian economics and quantitative economics. Large scale faculty development programmes will have to be initiated, and resources provided for doing so, if the New Curriculum has to have a reasonable chance of success. Additional facilities to strengthen motivation and involvement of teachers and to improve research inputs are required. The role that sabbaticals can ply cannot be belittled. The concerned teacher can use the sabbatical to undertake quality research or he/she may well be commissioned to write good-quality textbooks/reading materials with an Indian perspective.

For a long time now, teaching methods have narrowly focussed on classroom lecturing. In the light of the terms of reference of the CDC which call for a shift in emphasis from teaching to learning, such a total dependence on lecturing is undesirable. Classroom lectures have to be supplemented by tutorials, field visits, seminars, workshops, etc. In addition, the educational infrastructure like library facilities, teaching aids like video films, overhead projectors, modern computing facilities, reprographic facilities, etc. need to be strengthened.

The two questions, What we teach, and How to teach, are inextricably linked up with How we evaluate the students. Evaluation methods must be so devised that students would be continually tested on all aspects of the syllabus. Specifically, students should not be able to skip large portions of the syllabus and yet perform well. The plethora of choice currently available to students in their examination papers needs to be curtailed drastically.

Right through the deliberations of the CDC, the approach has been to treat the 'educational problematique' in a holistic manner in both its conceptual and operational aspects. Consequently, the policy-makers should also implement the package as a whole, instead of attempting at half-hearted/cut-and-paste measures.

**ANNEXURE-VI:**  
**THE DRAMATIS PERSONAE**



## ANNEXURE-VI

### THE DRAMATIS PERSONNAE

A.6.01 The education process first and foremost is concerned with people. At a narrower level, it is concerned with students and teachers - the dramatis personae of the process. No efforts at curriculum development can be complete without a discussion of the characteristics, the motivating forces and aspirations of students and teachers.

A.6.02 A discussion of the profile of students could begin by delineating the motivating factors which prompt them to take up Economics. One can perhaps identify three student groups, each being motivated by different reasons.

First of all, there are those for whom an Economics- course is a part of general education and whose interest therefore lies in being well-informed about the economy along with some familiarity with the jargon of the discipline. The course designed for this category of students must be such as to enable them to realise the total situation and make them adept at applying the 'technique of thinking' to it. Then there is another category of students who are interested in pursuing careers having an interface with economics. These students would require a thorough understanding of the basic concepts underlying economic behaviour and would be better off if they had at least a nodding acquaintance with some of the optimizing techniques. Finally there are those - not many - who have decided to become academics. The creation of an environment in which this type of students will thrive and blossom seems to be beyond the realm of possibility, atleast in the foreseeable future. Anyway, perhaps this category of students will have to do well in their pursuits independently and inspite of the environment, rather than expect an anchorage from any external source. Thus the menu will have to be worked out as a feasible convex combination of various felt needs of the different categories of students, not to mention the idealism of the educators.



A.6.03 Depending on the motivating factors which influence these student groups, it is possible to set up appropriate learning objectives for each of them. The category of students which takes up economics as a part of general education would reasonably be expected to opt for the B.A. (Pass) course. For the B.A. (Pass) group, the learning objective can be identified as:

- A. To understand economic phenomena in the quantitative and qualitative dimensions and to react intelligently to economic events and forces.

The second category of students who are interested in pursuing careers having an interface with economics would opt for the B.A. (Hons.) course. In addition to (A) above the B.A. (Hons.) would also have the following learning objective:

- B. To acquire reasonable professional competence in the subject.

The final category of students, consisting of those who wish to be academics or professional economists outside of academics would enroll for the M.A. (Eco.) programmes offered by Indian Universities. The learning objectives of these students can be identified as follows:

- C. The objective of the M.A. programme should be to impart well-grounded training in the basic tools of economic analysis and their application to the real-world economic problems with special reference to the Indian economic system. The training should prepare students for careers in teaching, research and applied economic analysis with Indian orientation. The end product is thus expected to be a mature and socially responsive humane person, with sharpened critical and analytical faculties and endowed with professional competence.

A.6.04 Let us now turn to the teachers. There is the omnipresent problem of the extraordinary flux in the teaching community of any college. Anybody familiar with the undergraduate world will realize the significance of this. It takes a long time for anyone to feel at home in any institution. This apart, in the early days of a teaching career, the preparation is rather strenuous. Also, it is only after a year or two that a feeling of loyalty towards an institution will develop. Obviously a teacher, who treats the college job only as a 'temporary abode' will not be keen to imbibe any special qualities (or take the effort of attending any training programmes) required of a teacher. It has been commonly observed that the starting emoluments for teachers are good enough to attract the best of fresh postgraduates. However, the scales as they have hitherto been fixed have not been good enough to retain them. For many the teaching job remains a stop-gap arrangement till more lucrative opportunities carries them away.

A.6.05 There is also no job security in the teaching profession as the managements, in general, have been known to show reluctance to confirm their staff. This has led to the affected individuals harbouring a feeling of injustice especially when they believe that the reasons provided by the managements for doing so (Government Resolutions, and reservation policy) are insufficient. In addition to this, the number of lectures, the number of students in a class, the paper correction and the other activities in the college are enough to discourage even the most lion-hearted. Tutorial system must be seriously implemented; unfortunately at present, they have either a notional existence, being used merely to overstate workload reports to be submitted to the University authorities, or they are treated as a farce, both in terms of the coverage of topics and in terms of the attendance by the students.

A.6.06 Absence of job security, inadequate emolument and heavy workload are some of the hazards of the teaching profession. Added to this is the statutory requirement, as well as in many cases the inner urge to undertake research, either in the form of M.Phil or Ph.D. How many teachers can keep themselves well-informed and abreast of new developments in the field in such an environment?

Moreover, the future holds the prospect of a major overhauling of the economics curriculum. To lighten the burden of teaching the new courses and to make teachers effective conduits for imparting training to students, a massive programme of faculty development is absolutely essential. Thus, the concept of workload should be broadened to include not only the lecture hours, but also efforts towards own professional development, library work et.al. This implies that one lecturer departments are ruled out. The upshot of this would be that individual teachers are able to concentrate on a few areas of specialization.

A.6.07 There is a growing feeling that the teaching-learning process in Economics will not remain healthy if it becomes static, or if it gets into a set routine, unrelated to the sweeping changes all around; efforts should be made to go forward, and not slide back. This implies providing continuous opportunities to teachers for keeping themselves on the frontiers of knowledge, planning new activities and creating and adapting innovative ideas and materials. This will enable the teachers to encourage their students also grow with the subject, as Economics will be taught as an 'evolving' discipline. University Departments of Economics in many advanced countries have made remarkable progress in this direction. The need for planned programmes whereby every teacher will be exposed to new ideas at regular intervals is therefore very urgent. If implemented properly, a system offering such assistance (as in the case of the ULPs etc.) need not detract from the freedom that the teachers now possess; on the contrary, it would encourage experiments in new directions, qualitative improvements in the course-content, preparing reading materials wherever there are gaps, etc. Besides, there has been a communication gap between city and mofussil colleges as far as teaching of Economics is concerned, and this needs to be bridged. There should therefore be an emphasis on participation of teachers from mofussil colleges in the programmes organised. Also senior teachers from universities should visit these colleges, conduct lectures/seminars on select topics and appraise the teachers there of modern developments in the field and of the new techniques of analysis that are presently underway. Workshops could besides be organized on the experience of teaching of Economics in undergraduate/postgraduate levels in

different regions. This will enable avoiding many ambiguities in teaching/evaluation and getting some concepts and fundamentals clarified.

A.6.08 There seems to be general consensus that three areas of teaching need to be strengthened. These are Economic Theory, Indian Economics and Quantitative Techniques. In addition, training in writing of research papers is also considered to be desirable. Excepting teachers at a few centres, most of the others would require some reorientation/training for upgrading their skills. However, there are likely to be significant differences in the needs of different groups of teachers due to differences in their experience and academic background. Further, the number of teachers to be covered under the programme may be quite large. It is imperative, therefore, to put emphasis on the optimal use and strengthening of the existing infrastructure.

A.6.09 The first step of Faculty Development Programmes is to estimate the number of teachers who would participate in these programmes. It would also be necessary to group the teacher participants in accordance with their felt needs. A broad categorisation would be the following grouping:

The first group will include those teachers who have only a few years of service left. The requirement of these teachers is more in the nature of an appreciation of quantitative techniques and recent developments in economic theory rather than undergoing rigorous training. Their participation (audition) in specially designed short-courses/Institutes will serve the purpose.

The second group, consisting of relatively younger teachers, with or without the condition of M.Phil/Ph.d., will require much more rigorous training. They will constitute the main target group.

A.6.10 A number of alternative approaches can be put forward to achieve the desired results. The most cost-effective approach, however, will be the one that emphasises the optimal use of existing infrastructure. Since the number of teachers involved in Faculty development programme is likely to be quite large, the programme would have to be implemented in phases.

A.6.11 In Phase I, the aim should be to train the 'potential trainers'. The idea is to train teachers from selected university departments in key areas by bringing them to advanced centres for periods ranging from 6 months to 1 year. In Phase II, these teachers will form the nucleus for carrying out the training of other teachers through institutes, workshops and/or supervised research. Moreover, most of the universities offer M.Phil. programmes for teachers, as well as for fresh postgraduates. There is, however, a wide variation in standards. The contents of this programme, therefore, need to be so devised as to make it an effective instrument of teacher training.

A.6.12 One of the most difficult tasks in the implementation of Faculty Development Programme will be to induce teachers to undergo training. In this context, a very close cooperation between UGC, universities, state education departments and colleges would be essential.

A.6.13 The UGC is vested with the responsibility of providing overall leadership to fulfil its obligation for ensuring high academic standards in universities. In addition, it should coordinate its efforts with the State Governments, ICSSR and other agencies to ensure the availability of sufficient funds to universities for organising short courses/institutes/workshops and also award fellowships to teachers enabling them to spend longer periods of time at selected universities.

A.6.14 Many State governments (including economically advanced ones) have been dodging this responsibility. For example, faculty improvement programmes like the ULPs, etc. can be continued on a regular basis only if the State Governments agree to finance them permanently on a cent-per-cent basis after the UGC assistance ceases. Although some State Governments have adopted these programmes after considerable persuasion, the grants made are found to be inadequate causing in the process undue strains on the resources of the state universities. Sometimes, only the salaries of teaching posts approved earlier by the Commission are considered for assistance by the State Governments; for the non-salary part (i.e. Refresher Courses, Workshops, Summer Institutes, etc.) which has also high academic value, and which is an integral part of the whole programme, grant is denied. The universities

find it difficult to continue with these programmes on a regular basis as their funds are very meagre. Naturally such activities face discontinuation once Commission's assistance stops.

A.6.15 The universities, on their part, should organise institutes/workshops during vacations in consultation with principals so as to ensure active participation by college teachers. The Institutes/short courses may be organised in a sequence with a view to cover the subject matter starting with the basics and ending up with recent developments. Thus, it may become possible to cover more or less the course work of an M.Phil programme of a 'good university'. The teachers who attend the minimum required number of such short courses/institutes successfully may be exempted from participation in a regular M.Phil course work and be allowed to appear in M.Phil course work examinations. This will certainly encourage a large number of college teachers to participate in these institutes/short courses, who otherwise may not bother about them.

Further, the universities should grant affiliation only to those colleges which have the suitably trained staff. The affiliation rules should be strictly observed. The cooperation of the state governments upon whom the state universities largely depend for finance, would be essential for maintaining the required standards. Needless to add that political pressures need to be checked.

A.6.16 At this point the methods of teacher training need not be fully elaborated, but the following points should be kept in mind. The package of contents of an institution's short course may be so designed that it leaves sufficient time for participants to pursue self-study for supervised assignments, projects/reports. Further, there should be opportunities for participants to contribute to training directly by giving lectures/seminars in the areas of their specialization. The number of formal lectures should be kept minimum. Team work may be encouraged by organising workshops in which small groups are given specific problems to solve under expert supervision.

**APPENDIX A:**  
**GUIDELINES FOR CURRICULUM DEVELOPMENT CENTRES (UGC)**





UNIVERSITY GRANTS COMMISSION

Guidelines for Curriculum Development Centres

PREAMBLE:

The Commission has felt the need for establishing Curriculum Development Centres in the different regions of the country for preparation of a model curriculum in each subject. The major task of such centres would be to undertake a critical review of the existing syllabi and courses of study at different levels and to suggest measures for modernising the same and restructuring them to unit courses besides developing alternative models emphasising different aspects of study of the subject concerned. These centres are also expected to prepare necessary textual material and other supporting materials to fortify these courses. They will also develop the necessary aids and impart the necessary training to the teachers. The suggestions and guidelines made by the various subject panels for modernising the syllabi would be kept in view.

THE THRUST OF THE SCHEME:

With increasing awareness of the importance of learning process, more learners-oriented or enquiry-oriented teaching method should be introduced in the instructional system, which enable the learner to engage himself in creative and divergent thinking, problem solving, self learning and to explore new avenues of communication, productive work as well as innovation through such methods as simulation games, project work and the like. Accordingly, the main thrust of the proposed curriculum should aim at shifting emphasis from teaching to learning which has to be an important element in the new approach to education. This will necessitate re-organising the curricular packages, possibly in a modular form. Greater emphasis should be placed on the students motivation to learn than to the teachers ability

to lecture. Further, the curriculum should be so designed that it would make the education more meaningful to the needs and aspirations of its beneficiaries as well as to make it socially relevant. Students shall be encouraged to study some part of the syllabus themselves and shall be given assignments so as to make them use the library or laboratory etc.

Lectures should be supplemented by tutorials and/or problem solving sessions (which shall be around 25% of the lecture workload), term papers etc. so that a student derives maximum benefit from his programme of study. Hence, tutorials, problem solving exercises, seminars, project work etc. should form constituent parts of the proposed curricula.

#### OPERATIONAL DETAILS:

For the coordination, modernisation and improvement of standards of education at tertiary level it is imperative to have a model curriculum in each of the major disciplines offered at the undergraduate level (main and subsidiary), one year postgraduate diploma courses, two years Masters degree courses, etc. This endeavour will enable the institutions of higher education to offer generally an uniform pattern of education in the colleges and universities in the country which in turn may facilitate the mobility of students from one region to other. The curriculum could be framed by a group of experts drawn from among such university departments which have already shown positive evidence in their capability to update the curriculum.

While a university department would be the nodal body in curriculum development the university/college faculty members drawn from different regions of the country from different sub-disciplines of a main discipline would be involved in the work. For undergraduate curricula formulation some college teachers should also be associated as they are the persons who would implement the new curricula. It would also be appropriate to involve some potential employers be they industries or public agencies, in formulating the curricula.

As far as postgraduate education is concerned, the curricula can be formulated by a group of eminent subject experts drawn from among different universities of the country in different sub-disciplines of any major discipline and they would associate potential employers (like industries; commercial organisations, public bodies and various Govt. departments like D.S.T., D.O.E., C.S.I.R. etc.) to have the first-hand knowledge of the manpower need vis-a-vis the major areas which are to be incorporated in the curriculum to make the course more relevant to the needs and aspiration of the society as well as to make our course comparable to those followed in developed countries.

These draft curricula will then be sent to the Commission and they will be circulated among the universities and colleges to consider its adoption and adaption if necessary according to local conditions. The schematic diagram for this operational process is shown at Annexure-A.

#### COMPOSITION OF THE CURRICULUM DEVELOPMENT COMMITTEE:

##### A. For college level:

- i) it may have atleast 5 university level teachers drawn from the universities in the different regions of the country and of various sub-disciplines. Retired teachers may also be associated.
- ii) the committee may also have 5 college teachers in the relevant subject drawn from different regions of the country.
- iii) the committee may have at least 2-4 representative from potential employers.

##### B. For university level:

- i) it may have 6 university teachers drawn from different regions of the country in such a manner that each major sub-discipline in each of the

discipline is well represented, it may also have retired teachers.

- ii) it may have representatives from industries, commercial organisations, different Govt. departments engaged in developmental activities as well as representatives from research institutes of the respective area (discipline).

TERMS OF REFERENCE OF THE COMMITTEE:

1. The Committee will examine the existing curriculum in the respective subjects of different universities in the country in terms of quality as well as the workload.
2. The Committee will examine how the new curriculum would promote human resource development and identify the areas which are crucial to make education meaningful in the task of national development.
3. The Committee will devise a model curriculum which will be relevant to the requirements of the country.
4. The Committee will suggest textual material which would be required to follow the new curriculum.
5. The Committee will suggest ways and means for preparing text books, teaching aids, library as well as laboratory requirements in implementing the proposed curriculum.
6. It should also indicate how the teachers are to be trained in order to impart education according to the revised curriculum.

BUDGET:

On the average each curriculum committee shall have about 10-12 members and on this basis the budget would be as follows in each centre:

T.A./D.A. for resource persons (@ Rs.2000/- per head x 12 for atleast 8 meetings) as per approved norms.	Rs. 2,50,000.00
Secretarial Assistance i.e. Stenographers, honorarium etc.	Rs. 10,000.00
Stationery items, stamps/postage contingencies etc.	Rs. 20,000.00
Books/Teaching Aids/Reprographic work.	Rs. 20,000.00
	<hr/> <hr/>
	Rs. 3,00,000.00

**APPENDIX B:**  
**REPORT ON THE DISCUSSION-MEETING HELD**  
**IN BANGALORE ON NOVEMBER 8, 1986**



UGC CURRICULUM DEVELOPMENT CENTRE (ECONOMICS)

(Rapporteur: Dr. K.K. Balachandran)

Discussion-Meeting in Bangalore held on November 8, 1986

1. The University Grants Commission has set up a Curriculum Development Centre (CDC) in the Department of Economics, University of Bombay, to prepare a model curriculum in Economics for implementation in Indian universities. The emphasis of the proposed changes will be to make the curriculum more socially relevant and developing practical skills among students for problem solving. The UGC is keen to implement this task expeditiously and on a priority basis.

2. In this context, the CDC (Economics), as a first step, planned to hold three or four meetings in a few important centres for intensive consultation and exchange of ideas with as large a number of academicians/experts/employers as possible, as it would be difficult to call more than, say 12 members for meetings in Bombay. Such an exchange would also help in providing the Centre with variegated viewpoints and experiences in the teaching-learning process.

3. One such discussion-session was held in Bangalore on 8th November 1986 at the Indian Statistical Institute, Bangalore Centre. Thirty teachers/academicians/research workers from Bangalore, Mysore, Mangalore and Karnatak universities/colleges, some future employers and economic journalists participated in this discussion. From the 5-hour discussions emerged many shades of viewpoints and suggestions for modernising and restructuring the curriculum and courses of study in Economics at both undergraduate and postgraduate levels. Among the several suggestions made by the participants, the one relating to the teaching of Indian Economics in an analytical framework received great emphasis. The discussion underlined also the importance of developing teaching/reading materials in regional languages.



4. At the outset, Professor Ranganath Bharadwaj, Co-ordinator of the CDC in Economics (and Director, Department of Economics, University of Bombay), gave a brief account of the objectives of the Centre. He stated that the new curriculum would be developed in the country by a twelve-member committee of experts and that the Background Papers on the present state of economic education in the country are being prepared and would be ready by December 1986. The idea/suggestions drawn from the discussions would be pooled and presented before the 12-member Committee to be set up shortly, along with the Background Papers.

According to Professor Bharadwaj, the main areas of discussion would concern the contents and the methods of teaching the new syllabus. The curriculum in its present form, may not meet the challenge of developing human resources, and hence the need for preparing a new curriculum acquires an immediacy. While there is a good demand for economists in the country, there is a lacuna between what students learn in the courses and their performance at jobs taken up when they leave college/university. To make the proposed curriculum operative, it is also necessary to train teachers to teach Economics according to the revised curriculum so that the course becomes more learner-oriented and based on practical aspects.

One major flaw in the present curriculum, Professor Bharadwaj added, is its insufficient coverage of the Indian economy. This has to be rectified and the interaction of students with Indian trade, agriculture and industry be encouraged. He spelled out the two major tasks of the CDC as:

- (a) To develop Curriculum in Economics - including sub-disciplines - so that teaching gets re-oriented, both at the undergraduate and postgraduate levels, in such a way that it becomes socially relevant from the viewpoint of human resources development.

- (b) To operationalise the proposed curriculum. This is sought to be achieved by preparing the Syllabi, the textual and related reading materials and teaching aids, and training of the teachers to teach economics according to the revised curriculum.

5. With this general background, Professor Bharadwaj posed certain key issues before the participants to facilitate a well-focussed discussion:

- (1) Defining Social Relevance and Human Resource Development and formulating the aims and objectives sharply for devising curriculum.
- (2) What to teach? Whom to teach? How to teach? and how to evaluate?
- (3) Peculiar nature and needs of the science of Economics:
  - i) Social and historical context of theories.
  - ii) Social values and norms.
  - iii) Need to develop theories having relevance to planning, growth and welfare.
  - iv) Methodological issues:
    - 1-a Development of models which are relevant to existing socio-economic systems, (b) Epistemological issues, (c) Role of speculative thinking.
    - 2-a What to teach? - Framing or Syllabus
    - 2-b Types of students - studying for (i) general education (ii) career (iii) to become academicians.
    - 2-c Can it be job-oriented? If so, is it necessary and possible to have links with government and industries?

- 3 Should it reflect changing economic structure, environmental and ecological features?
- 4 Should it lead to quality improvements to create interest in the process of learning and better understanding of the economic system? The current system, it is felt, is geared to catering to "a mass learning clientele" and not to the development of the potential in each individual. If so, what are alternatives?

Structure of existing syllabi:- This relates to issues like the:

- (a) Micro-Macro division. How far is it relevant?
- (b) What should be the extent of emphasis on tool papers? - Maths, Stats-Econometrics.
- (c) Do papers on application of theories (e.g. Agriculture, Economics, etc.) need revision?
- (d) What is the role, in the syllabi, of the papers in Economic History and History of Economic Thought?
- (e) Should there be a change in the nature of (approach to) the paper on Indian Economy?
- (f) Relative emphasis to be placed on the teaching of various sub-disciplines:
  - i) Teaching Methods and Text books
  - ii) Evaluation system - its importance.
  - iii) How to operationalise learning as process.
- (g) What additional courses, if any, should be included in the new curricula to meet the emerging requirement?
- (h) Should project work/research be an integrated part of undergraduate and postgraduate education? If so, how is it to be properly integrated in the new curriculum?

- (i) Special difficulties that may arise in the process of implementation of the suggestions vis-a-vis a new curriculum, and then suggestions for training to be undertaken.

6. The 5-hour discussion on the state of arts of the discipline of Economics held in Bangalore was indeed gratifying and threw up several specific action areas such as:

1. Some uniformity in Curriculum is essential in the country and the same be updated at regular intervals.
2. Production of Books/Monographs (especially in regional languages) on specific areas in Economics should be taken up on a priority basis and later the same be integrated with teaching the subject. Special incentives, if necessary, be given to the authors who are willing to produce such materials. There has also to be a Text-Book Bureau at the State-level. Leading economists should involve themselves in this important task.
3. While framing the new curriculum, the methodological and epistemological issues which are also responsible for the present crisis in higher education, should be taken into account. The ability to face reality by the students should be sharpened. There is a general feeling that economists are not practical people and that economics is a boring subject. This feeling has to be removed. The new curriculum should be designed in such a way that the teaching-learning process in the discipline of Economics becomes socially relevant and more meaningful to the needs and aspirations of the students themselves. It should enable the learner to engage himself/herself in more creative, innovative and productive work. The human skill that the system prepares should be capable of understanding the working of the Indian economy and solving the problems that beset it.

4. A proper understanding of the Indian economy is very essential. The present course-structure ignores several aspects of the Indian economy. The Western system of economics that has been taught at present has made the students think more on Western lines, and Indian conditions are considered as irrelevant. What kind of theory is necessary for Indian conditions? A course like B.A. (Honours) be introduced for those who want to specialise in Economics. Intensive course are necessary for select students.
5. The Reading List should be updated from time to time. Some important topics relevant to the Indian economy should be included in the syllabi.
6. Training in Quantitative Techniques for economic analysis should be strengthened. Teaching of Economic History is also very important.
7. The implementation aspect of the new Curriculum should be highlighted in the Report to be submitted to the UGC by the CDC. Proper monitoring and evaluation procedures should be evolved.

APPENDIX C:  
REPORT OF THE ULP WORKSHOP ON  
CURRICULUM DEVELOPMENT IN ECONOMICS  
HELD IN BOMBAY ON JANUARY 15, 1987



Report of the ULP-Workshop on  
CURRICULUM DEVELOPMENT IN ECONOMICS  
held on January 15, 1987

(Department of Economics, University of Bombay)

(Rapporteurs: Drs. A.V. Karnik and A.M. Pethe)

1. An interesting and stimulating Workshop on Curriculum Development in Economics was conducted by the Department of Economics, University of Bombay, under its University Leadership Programme, on January 15, 1987, at Vidyanagari, Bombay.

Professor Ranganath Bharadwaj, Director of the University Department of Economics and Coordinator, CDC (Economics) was in the Chair. He emphasised two major tasks with regard to Curriculum Development: (a) developing a suitable curriculum in Economics - including sub-disciplines - so that teaching gets reoriented, both at the undergraduate and postgraduate levels, in such a way that it becomes socially relevant from the viewpoint of Human Resource Development; and (b) operationalising the proposed curriculum which is sought to be achieved by preparing the syllabi, the textual and related reading materials and teaching aids, and training of the teachers to teach Economics according to the revised curriculum.

Forty teachers from affiliated Colleges of the University of Bombay participated in the deliberation. The discussion threw up many shades of viewpoints and suggestions for modernizing and restructuring the curriculum and courses of study in Economics at the undergraduate level.

2. The discussion at the workshop centred around two main areas:

- (i) Teaching of Indian Economy to students of economics.
- (ii) Nature and sequencing of papers to be taught at undergraduate level.

Two papers - one by P.V. Borwankar and the other by Ajit Karnik and Abhay Pethe - provided the framework for the discussion.



3. Some of the problems, associated with the teaching of Indian Economy which exercised the minds of the participants were:

- (i) Theoretical knowledge imparted to students has a tenuous relation with Indian conditions. In such circumstances students do not appreciate the finer points of theory and tend to lose interest.
- (ii) Because of (i) above, students tend to shy away from studying Indian economy and this is reflected in their avoidance of questions related to Indian conditions at examinations.
- (iii) The contents of the Indian Economy paper need to be suitably altered to hold interest of students. Currently, the paper is essentially data-based which is hardly conducive to an analytical treatment of the Indian Economy. Analysis of problems should precede provision of data, which should be provided to substantiate analytical arguments. More often than not, the soft option of data-based approach is adopted.
- (iv) Currently there exists a kind of compulsion to include in the paper on Indian Economy all that needs to be known about it. Naturally, this leads to over-burdening of the students who hardly get a respite from the flood of data-based information.

Can these problems in the teaching of Indian Economy be overcome? Yes, but there are no soft options. It certainly is more difficult and calls for a substantial amount of creative effort.

The first task is to make the paper 'issue-based' rather than 'data-based'. This task is itself daunting because we have to decide whether students should be exposed to all issues facing Indian economy or only to a core subset of these. And what would constitute a core subset? The teaching of select issues of Indian Economy could be supplemented with a section/paper on current topics dealing with India. The list of current topics could change from year to year and this would have the advantage of familiarising students with contemporary problems facing India.

The issue based treatment could be supplemented with practical work. Students, having been instructed in the major issues could use their analytical skills to draw meaningful inferences from data. This would represent a happy marriage of theory with empirical work.

An interesting suggestion proposed by one of the participants was to make the course on Indian Economy a pure reading course. There would be no formal lectures, though, presumably, students would be given appropriate guidance.

4. Discussions on the nature and sequencing of papers threw up very interesting ideas and suggestions. Attention was focussed on the macro-micro dichotomy and on whether courses at starting points should be 'issue centric' or 'concept-centric'. Another important problem faced in teaching economics was getting students to see the relevance of economics to real world problems. Students would feel reassured if they were to observe some of economic concepts actually being used in the real world. A paper in micro-economics with managerial economics orientation could perhaps fit the bill perfectly; it would introduce students to concepts and, at the same time, demonstrate their practical workability.

Sequencing of papers was unanimously accepted as follows:

- (i) Micro-economics
- (ii) Macro-economics
- (iii) Indian Economy
- (iv) Planning and Development
- (v) Economic Systems.

These five papers, in the order given above, would be common to Honours and General students. In addition, some "innovative papers" could be offered as optionals. These would include among others:

- (a) Econometrics
- (b) Indian Economic Thought
- (c) Experience of New Industrial Countries
- (d) Women's Studies
- (e) Government Economics.

Practical orientation to Indian Economy paper on any other paper could be provided through project work. This would be compulsory for all students.

5. Some of the other suggestions offered by participants for improving the teaching of economics were:

- (i) Papers on History of Economic Thought and Economic History should be introduced.
- (ii) A paper on Development Experience of Third World Countries should be taught.
- (iii) It is necessary to introduce courses which train students for specific jobs, e.g. insurance, banking, etc.
- (iv) Students should be encouraged to write and publish articles. Avenues for this need to be made available to students.
- (v) Students should be allowed to specialise from First Year itself to avoid overburdening at the Third Year level.
- (vi) Students should be taught elementary data processing and data analysis.
- (vii) Reforms in the field of evaluation are necessary. Extent of choice of questions available at examinations should be curtailed. Setting up of questions banks should be considered.
- (viii) The Workshop also noted the importance of developing teaching/research materials, especially in regional languages.

The Workshop was marked by lively discussions and threw up interesting ideas for syllabus modification. The deliberations of this workshop can be a useful guide in the functioning of the CDC in Economics.

MINUTES OF THE UGC GROUP DISCUSSION  
ON REPORT OF

CURRICULUM DEVELOPMENT CENTRE IN  
ECONOMICS

HELD ON 5TH DECEMBER 1988

AT  
DELHI SCHOOL OF ECONOMICS  
UNIVERSITY OF DELHI  
DELHI



The University Grants Commission had organised a one-day National Seminar on Monday, December 5, 1988, at the Delhi School of Economics, University of Delhi, Delhi, to discuss the Report "Curriculum Development in Economics" submitted by a team of experts to the Commission in January 1988. The following experts were invited to attend the meeting.

List of Invitees

1. Professor R. Bharadwaj, Coordinator (CDC)  
Department of Economics, University of Bombay, Bombay 400 098
2. Professor S. Chakravarty, Chairman, ICSSR,  
New Delhi 110 001
- \*3. Professor D.M. Nanjundappa, (Covenor),  
Vice-Chancellor, Bangalore University, Bangalore 560 056
4. Professor P.R. Brhahmanada, ICSSR National Fellow,  
Department of Economics, University of Bombay, Bombay 400 098.
5. Dr. N.S. Iyengar, Professor & Head, Economics Analysis Unit,  
Indian Statistical Institute, (Bangalore Centre), Bangalore 560 059.
6. Professor K.L. Krishna, Department of Economics,  
Delhi School of Economics, Delhi University, Delhi 110 007
7. Professor (Mrs) K. Shabbir Khan, Department of Economics,  
Aligarh Muslim University, Aligarh 202 001.
- \*8. Professor G. Parthasarathi, Department of Economics,  
Andhra University, Waltair 530 003.
- \*9. Professor (Mrs.) Kanta Ahuja, Department of Economics,  
Rajasthan University, Jaipur 302 004.
- \*10. Professor Alak Ghosh, Department of Economics,  
University of Calcutta, Calcutta 700 064
11. Professor A.L. Agarwal, Department of Economics,  
Indian Instt. of Techonology, New Delhi 110 016.
- \*12. Professor D.S. Kushwaha, Department of Economics,  
Allahabad University, Allahabad.
13. Professor J.D. Sethi, Department of Economics,  
University of Delhi, delhi 110 007
- \*14. Professor K.C.G. Seth, Economics Department,  
Economics Department, Lucknow University, Lucknow.

- \*15. Professor M.R. Aggarwal, Department of Economics,  
Punjab University, Chandigarh.
- \*16. Professor Vikas Chitre,  
Gokhale Institute of Politics & Economics, Pune 411 004.
17. Professor Autar S. Dhesi, Panjab School of Economics,  
Guru Nanak Dev University, Amritsar.
18. Professor T. Krishna Kumar, Department of Economics,  
University of Hyderabad, Hyderabad 500 001.
19. Professor J.C. Sandesara, Department of Economics,  
University of Bombay, Vidyanagari, CST Road, Bombay 400 098
20. Professor B.V. Mehta, Department of Economics,  
South Gujarat University, University Campus, Surat 395 007.
21. Dr. Ruddar Datt, School of Correspondence,  
Courses & Continuing Education, University of Delhi, Delhi 110 007.
22. Professor Mahender Reddy, Department of Economics,  
Osmania University, Hyderabad 500 007
23. Professor M. Madalah, Department of Post-Graduate  
Studies & Research in Economics, University of Mysore,  
Mysore 570 006.
24. Professor U. Sankar, Madras University School of Economics,  
University of Madras, Madras 600 006.
25. Professor G.S. Kalyankar, Marathwada University,  
Department of Economics, Aurangabad 431 004
- \*26. Dr. A.S. Nadkarni, Indian School of Political Economy,  
Pune 411 016.
27. Professor R. Sankrar Ramalingam, Department of Economics,  
Madurai Kamaraj University, Madurai 625 021.
28. Professor M.J.M. Rao, Department of Bombay,  
University of Bombay, Bombay 400 098.
29. Professor P.K. Bhargava, Department of Economics,  
Banaras Hindu University, Varanasi.
30. Professor Anita Banerjee, Department of Economics,  
Jadavpur University, Jadavpur.
31. Professor A.L. Nagar, Economics Department,  
Delhi School of Economics, University of Delhi, Delhi 110 007

32. Professor Suresh D.Tendulkar, Department of Economics,  
Delhi School of Economics, University of Delhi, Delhi 110 007.
33. Professor Dharma Kumar, Department of Economics,  
Delhi School of Economics, University of Delhi, Delhi 110 007.
34. Professor Suraj Gupta, Delhi School of Economics,  
University of Delhi, Delhi 110 007.
35. Professor Kaushik Basu, Department of Economics,  
Delhi School of Economics, University of Delhi, Delhi 110 007.
36. Professor Om Prakash, Delhi School of Economics,  
University of Delhi, Delhi 110 007.
37. Professor V.Shanmugasundaram, Dept. of Economics,  
Madras University.
38. Dr.K.K.Balachandram, Dept.of Economics,  
Bombay University.
39. Dr.C.S.Deshpande Dept.of Economics,  
Bombay University.
40. Dr.B.P.Singh Director (Sc) UGC

The Commission had invited 39 teachers in Economics drawn from different parts of the country to participate in the Seminar. As many as 31 actively participated in the deliberations of the Seminar and only (\*) starred ones could not attend.

The Inaugural Sessions was chaired by Professor S. Chakravarty. At the outset, Professor B.P. Singh, Director (Science), University Grants Commission, welcomed the participants. He stated that the recommendations/suggestions emerging from the Seminar will be appended to the Document, and the entire package will be sent to all the universities in the country.

Later, the Seminar was conducted in four separate sessions. In the first Session, which was chaired by Professor Suresh D. Tendulkar (Delhi School of Economics), the participants gave their general comments on the Document. In the second Session, chaired by Professor P.R.Brahmananda (ICSSR National Fellow), the focus of the discussion was on the Implementation of the Programme. The third Session, chaired by Professor (Mrs.) K. Shabbir Khan (Aligarh University), deliberated in detail on the future work of the Curriculum Development Centre and Teachers' Training Programme. The fourth and concluding Session, chaired by Professor Anita Banerjee (Jadavpur University) summarised the day's deliberations and recommended that the Report should include all the important suggestions emerged at the Seminar and the same be forwarded to the UGC for further action.



The Inaugural Session began with the presentation of the Document by Professor R. Bharadwaj, Coordinator of the CDC in Economics. He highlighted the major thrust of the Document, i.e. (i) developing a Curriculum in Economics, both at the under-graduate and post-graduate levels, wherein the entire process gets reoriented in such a way that it becomes socially relevant from the viewpoint of human resources development; and (ii) making economics education more of a learning process than a teaching one. The main Economics, he stated, was therefore in gearing people to think, reason out and generate knowledge by themselves. The curriculum also reflected the changing socio-economic environment in the country, at the same time taking into cognizance the latest developments in economic thought, analysis and techniques. Moreover, the curriculum also considered the needs and expectations of the prospective employers of the product and therefore due considerations were paid to the employability of students undergoing different courses in order to ensure that what they learn has definite relevance to their occupations in life. The CDC Committees, Professor Bharadwaj mentioned, have tried in short to identify the areas which, in their opinion, are crucial in making the subject of Economics meaningful to national development in general and the National Education Policy (1986) in particular.

Taking the above as the frame of reference, the contents of the Core Courses and a few Optional Courses (by way of illustration) were worked out by the two Committees (U.G. & P.G. levels). In this context, the students were identified into three target groups: The first target group (B.A. Pass) was supposed to comprise students who wish to obtain a general understanding of the subject with no desire to specialise in it; the second target group (B.A. Hons.) was supposed to comprise students who are interested in understanding the essential functioning of an economy so that they are able to pursue a career in Economics; and the third target group (M.A.) was supposed to comprise students who would like to pursue professional/academic careers in Economics for which an indepth understanding of the subject is very essential. To meet the requirements of these three target groups, the package of Core courses that has been drawn up, though similar (i.e. Economic Theory, Indian Economy and Quantitative Methods), varied in the level of intensity and sophistication. The New Curriculum also aims at diversification by including such optional courses as Agricultural Marketing, Computer Application for Economists, Accounting and Financial Management, Regional Economics, Urban Economics, Health Economics amongst others, - all of which are highly employment-oriented. Each of the Core and Optional courses was further structured by means of a systematic step-by-step decomposition methods into a series of self-contained modules as desired by the U.G.C. and those modules that were found absolutely essential for a thorough understanding of the subject were "starred"(\*). The logic underlying such an exercise was to ensure that the starred modules dovetailed into one another and ensured a complete module per se with no loss of continuity. This type of modular structure had the advantage of lending a certain flexibility in the formulation of the courses/papers by various universities and it was entirely upto the universities/colleges to choose the relevant modules in order to render an

operationally feasible paper. Moreover, the relevant source materials and minimum library requirements for each course have been provided modulewise. More important, Professor Bharadwaj stated, each of these courses, Core as well as Optional, has been provided with a "Preamble" specifically written to highlight the course-content of the paper to which it pertains. The Preamble identifies the interconnections that exist between the modules, the relative importance of each of the modules and, in certain cases, recommends a complementary optional paper which, if offered, will considerably enhance the understanding of the subject concerned. In this context, these preambles should not be viewed as a mere prelude to the paper but more importantly as a guide to the instructor as to the manner in which the paper could best be taught.

Professor Bharadwaj further observed that the CDC Committees have emphasised that the course on the Indian Economy in the Core papers package (at the undergraduate as well as the postgraduate levels) be treated on a level that permits early integration of economic theory with the relevant issues facing the Indian economy currently. Besides, in keeping with the Guidelines issued by the Ministry of Human Resource Development, the importance of Women's Studies has been heavily stressed. Theoretical and empirical issues relating to the economic status of women and their participation in the development process have been incorporated in the Curriculum.

The CDC Committees, Professor Bharadwaj pointed out, have fully realised that though the framed Curriculum is an attempt to modernise the currently anachronistic foci of many of existing syllabi in the country, to become really operational, it crucially requires the input of many other supporting and supplementary sub-systems including teacher training programmes, library/research facilities, teaching aids, amongst others. The Document has, therefore, tried to spell out the various efforts that could be undertaken to strengthen these sub-systems at every level of conceptualisation. The Curriculum, as proposed by the CDC, could be speedily, successfully and continuously implemented only if these sub-systems form a permanent component of the university system. In short, the Committees have attempted to deliver an integrated package.

In conclusion, Professor Bharadwaj observed that the CDC Committees have made a sincere attempt to prepare the Curriculum in such a manner that it fits into a structural outline consistent, as far as possible, with Guidelines provided by the UGC, the general philosophy of education as enunciated by the Government of India in the recent National Education Policy Document and the conclusions that emerged at the Regional Workshops conducted earlier by the UGC Panel on Economics. He pleaded for a detailed discussion on the issues raised in the Document and invited suggestions from the participants. Economics, as an academic discipline, he said, has arrived at a crucial cross-road after a long march. Let it not be said that our generation failed to give it a timely turn towards a new and meaningful dimension.

At the very outset, Professor Chakravarty congratulated the Coordinator and his colleagues for the excellent job they have done and commended the idea of having the CDC Report discussed threadbare by a group of eminent academicians who were professionals in their respective areas of specialization. He also noted that this carefully prepared Document would serve as a springboard for future ventures in this direction of curriculum development.

Regarding the Paper on "Quantitative Methods", included in the Core courses of all the three target groups, Professor Chakravarty was of the opinion that the methodological issues/debates underlying quantitative techniques should be clearly highlighted. In this context, the questions pertaining to interpretation vis-a-vis prediction of economic events need to be stressed. Moreover, clear methodological links have to be established between the papers on the "Indian Economy" and "Quantitative Methods", especially at the M.A. level. Thus, at all conceptual tiers, methodology would need to be introduced although not as an independent paper per se.

Professor Chakravarty also suggested that the Optional Paper on the "History of Economic Thought" be shifted from B.A. (Hons.) to M.A. and be substantially strengthened by the explicit inclusion of Marxian, Austrian and Walrasian Schools of thought. This would also imply an expansion of the reading list pertaining to this restructured paper. There was also, he felt, a need to include a follow-up Optional Paper on "Computer Applications for Economists" at the M.A. level as well.

At a much more advanced plane, Professor Chakravarty felt that the optional paper on "Optimization Techniques" at the M.A. level should pay more attention to nonlinear theory and discuss analytical (closed-form) solutions wherever applicable and dwell on the interrelationships between nonlinear differential equations and control theory to the extent that are relevant for explaining pertinent growth processes in an economy.

Professor Brahmananda stated that the CDC (Economics) has done an excellent piece of work which has been appreciated by all. Some minor deficiencies and gaps might however exist in such a collective work but these could be rectified, in his opinion, with the passage of time.

According to him, there are two ways to approach the problem of syllabus formation under Indian conditions. Considerable literature is emerging on the special problems of developing economies and their significance for economic theory in general and it is possible to incorporate these in the Core papers in Economic Theory which would help to integrate topics like Development, Money and Public Finance. The second approach could be to keep the Core papers in the usual general setting but work out a separate course on the Indian Economy in which the theoretical ramifications concerning the working of the economy in India could be spelt out. As to which of the two approaches is better could only be decided on practical grounds. This second approach of the CDC in separating out the paper on the Indian economy for distinct analytical treatment, while commendable, has therefore to be viewed in the perspective of there being

an alternative approach as well; which of these two approaches will serve the goal of building suitable theories and analytical frameworks for understanding the Indian economy in its distinct setting, is ultimately a pedagogical question; and it is possible that at a later stage, the Core papers may be restructured if the present focus does not realize this goal.

Prof. (Mrs.) Shabbir Khan emphasised that the ongoing debates between the varying roles played by qualitative information and quantitative information should be included in the framework of the discussions on methodology an examined within the context of input-output analysis stressing interdependencies and linkages.

She recommended the strenghtening of the Reading List pertaining to the Optional paper on "Economic History" at the M.A. level and by way of illustration recommended that the book by Gerschenkron, A. (1962), Economic Backwardness in Historical Perspective, Harvard University Press, Cambridge, Mass. U.S.A., be included in this list. Moreover, the use of Palgrave's Dictionary on Economics be recommended for all instructors involved in the teaching of Economics, especially at the M.A. level. She also felt that there should be a correspondence between the total marks allotted to each paper and the total lecture hours devoted to the teaching of the concerned paper. In this context, she suggested that Annexure III(a) -p.64 - be modified to reflect this correspondence. Moreover, she was of the opinion that the revised curriculum be introduced gradually over a period of time so that there is no sharp departure, amounting to a structural break, from the current syllabi. Such gradualism would be advisable keeping in view the constraint on inputs, especially in terms of teacher training programmes, that would be binding for quite some perceptible time into the future.

In this context, Prof.(Mrs.) Shabbir Khan recommended the following desiderata concerning the future work of the CDC with respect to the Teacher Training Programme.

1. There should be a coordination between the UGC Committee concerned with the production of audio-visual cassettes on Economic and the CDC. The CDC should be given the task of examining the scripts thoroughly before these cassettes are produced.
2. On the basis of discussions regarding the role of the CDC and the teachers' training programme at various levels, the following important suggestions need to be acted upon.
  - a) For the purpose of an upgradation of subject knowledge, pedagogic skill (for shifting emphasis from teaching to learning) and evaluation technology, workshops and reorientation programmes stretching from two to four weeks should be organized in phases by the CDC at selected centres of learning. Further, the imparting of a specialized knowledge of the subject in selected areas, such as quantitative economics,

should be paid greater attention in such programmes. This work should in no case be assigned to Academic Staff Colleges.

- b) Research funding from the UGC should be more liberal than it has been hitherto. The provision of study leave for academic pursuits in Colleges/Universities as well as the provision of finances to teachers who wish to utilize their summer vacation in recognized and rational libraries could go a long way in encouraging teachers and researchers, in dedicating their spare time in the pursuit of knowledge.
- c) The abandoned Faculty Improvement Programme should be renewed and it should form an integral part of the quality improvement programme for teachers in Colleges.
- d) Considering that the utility of National Evaluation Tests (NET) as a device to measure the research aptitude and subject knowledge of a student was suspect even at its best, scholarships should be directly allotted to Universities which could then be left free to devise their own tests and peripheral stand-by facilities in order to ensure the best possible utilization of the scholarship funds allotted by the U.G.C.

Prof. Agarwal, while congratulating the CDC on bringing out such a good curriculum in Economics, was of the opinion that the Report must reflect the interdisciplinary characteristic of the teaching of Economics. In this context, he suggested that the optional course in "Development Economics" at the M.A. level should contain relevant portions from Sociology, Political Science, Psychology, etc. Moreover, he was of the opinion that the Core Paper on "Quantitative Methods" at the B.A. (Pass) level, while academically sound, may need restructuring in view of its focus on certain topics which, in his opinion, has little relevance to a quantitative understanding of economics.

Considering the fact that the Report gave a high weightage to Quantitative Economics which could possibly deter future aspirants from entering into the Economics mainstream, Prof. Agarwal felt that the Syllabi should be structured in such a way so that it deals either with (i) Economic Theory, (ii) Quantitative Economics, and (iii) a via media of both these. Such a coordination would cater to different streams of students with differing aptitudes towards each of these above mentioned degrees of concentration.

Keeping in view these points, he suggested that copies of the Report should be circulated amongst a wider circle of teachers and students all over India so as to invite their feedback on some of the more relevant aspects of the Report which are likely to affect them.

Prof. (Mrs.) Dharma Kumar was critical of the way in which the Optional Papers in "Economic History" at both the B.A. (Hons.) and M.A.

levels has been framed. She was of the unequivocal opinion that not only was the course - content of both these papers are subject to glaring lacunae, but the recommended books were palpably outdated. She suggested that Cambridge Economic History of India Vol.II be included in the Reading List which, in her opinion, had to be redone almost ab initio. She also felt that the Paper at the M.A. level dealt with too long a period and consequently not adequate justice could be done to each of the aspects highlighted in it. This would imply restructuring of this paper, in terms of compression, to include some very important topics which had been deleted in toto in the present versions of both these papers. Such a revised version, she opined, had per force to include the comparative economic systems of other countries including Japan, U.S.A., amongst others, at the B.A.(Hons.) level.

She also felt that the list module of the optional paper on the "History of Economic Thought" at the B.A.(Hons.) level needed to be revised; as also the optional paper on "Socialist Economics" at the M.A. level which, in her opinion, carried no reference to Chinese economic reforms or the ongoing debates over Third-World Socialist reconstruction. She also felt that some aspects of the Core Paper on the "Indian Economy" at the M.A. level should be studied in the context of an international setting as well.

She ended with the caveat that this CDC report on the course content in economics should not be binding on all universities, but should only be considered as a guide to University Boards which should be given the utmost discretion as to what portion of the recommended course material need or need not be included during their syllabi reformulation exercises.

Prof. Sankar referred to the desired weightage between Core papers and Optional papers, both at the B.A.(Hons.) and M.A. levels, and pointed out that as the Report did not recommend any optional bifurcation between these two, the modalities of such a split vis-vis the marks to be assigned to each of these two components should be left to the discretion of the concerned universities.

He also suggested that Faculty Training Programmes should include some short courses in Quantitative Economics which must, in his opinion, cover relevant topics from Economic Theory, Econometric Theory and Optimization Techniques.

The recommended course outline which he felt was desirable is given below:

#### FACULTY TRAINING PROGRAMMES: SOME TOPICS FOR SHORT COURSES

##### ECONOMIC THEORY

1. Sraffa's Approach (Module 7, p.154)
2. Economics of Uncertainty (Module 11, p.155)

3. Disequilibrium Analysis (Module 16, p.156)
4. Macroeconomics in the Open Economy (Module 21, p.157)

### SOCIALIST ECONOMICS

Economic Reforms in Socialist Countries (Module III, p.186)

### ECONOMIC THEORY

1. Non-linear Estimation (Module VII, p.201)
2. Quantitative Response Models (Module VIII, p.201)
3. Model Selection Procedures (Module XI, p.201)

### OPTIMIZATION TECHNIQUES

1. Cooperative and Non-cooperative games, Shapley Value (Module II, p.210)
2. Dynamic Programming (Modul V, p.211)
3. The Theory of Optimal Control (Module VIII, p.211)
4. Economics of Uncertainty (Module VI p.215)

### PUBLIC ECONOMICS

Public Choice (Module IV, p.226)

#### Operationalisation Aspects

Some of the pertinent suggestions that emerged from the discussion regarding the operationlising of the CDC Report in Economics were:

- (i) There is a cogent need for more up-to-date text books and reading materials in most of the new areas that had been tapped by the Committees, and some of the other fields as well. In this regard, libraries would be well advised to follow the reading lists provided to follow the reading lists provided by the Committees which, apart from being comprehensive and up-to-date, were framed taking into account the budget constraints facing most Indian libraries.
- (ii) There should be incentives provided to experts to write up-to-date text books especially in those subjects which suffered from a dearth of any relevant reading materials upon which students could fall back upon. These incentives could either be in the form of pecuniary benefits and/or other cognizable advantages like sabbaticals, etc. The large-scale commissioning of books of second-

rate authors on a purely commercial basis is to be strictly avoided.

- (iii) Teacher training programmes stretching from 4-6 weeks need to be organised, preferably by the CDC at selected centres and as far as possible, should not be assigned to Academic Staff Colleges. In this way, the work and functioning of the CDC would be a continuous process, capable of evaluating and monitoring the progress of the implementation of the Report at every phase.
- (iv) There is an urgent need to strengthen the computing facilities of most of the colleges/universities in India. Considering the extensive emphasis paid to Quantitative Economics by the CDC Committees, the use of personal computers (PCs) is almost mandatory at almost every level of learning/teaching. In this regard, the allocation of funds towards the exclusive purchase of the PCs should be seriously considered by the UGC.
- (v) The role of tutorials, long since relegated to the background in most universities, needs to be strengthened. In this context, the Report clearly highlights its revised status; vide Annexure III (a), by specifying a ratio of 3:1 vis-a-vis lecture hours and tutorial hours per paper. Such an emphasis would provide for a more meaningful student-teacher relationship, which would lead to a far better comprehension of the subject than it is possible under the present-day system of depending only lectures per se.
- (vi) The Teacher Fellowship Programme, now defunct, should be immediately restarted by the UGC and the Faculty Improvement Programme would have to be strengthened. This recommendation can be considered high on the priority list because both these programmes form an essential input (namely, the teacher-training-programme input) to the implementation of the Report.
- (vii) The centralisation of the NET (National Entrance Test) which is currently conducted by the UGC should be avoided at all costs. Such tests should be conducted by each University which will then decide upon the required modicum of rigour at which it derives to test/admit candidates into their Ph.D. Programme. The reliance on a highly centralised examination system, as is currently the case, totally impervious to the varying needs of the different regions of the country, could be counter-productive in the long-run as far as the intake of Ph.D. students, especially in certain locally relevant fields of research, is concerned.
- (viii) The production of relevant teaching aids, especially audio-visual cassettes in economics, should be encouraged as far as possible as this would go a long way in the implementation of the proposed Report. However, the task of examining these scripts before production should be entrusted to the CDC in order to ensure that the quality of these teaching aids remains uncompromised.



- (ix) Research funding from the UGC needs to be more liberal than it is now, otherwise the ensuing consequences could have a deleterious impact upon the possibility of successfully implementing the Report.
- (x) Experts (two, at the most) could be invited to provide their comments on the curriculum derived by the CDC, although the Committees made it very clear that any recommendations made so obtained would be considered as suggestions and would not be binding upon the committees in so far as their incorporation into the curriculum is concerned.

With regard to the implementation and operationalising of the proposed Report, some present members put forth certain caveats which, in their opinion, ought to be considered seriously by the CDC. These included:

- (i) If the scheme, as proposed, is to be implemented, all universities must have two streams of students at the undergraduate level, i.e., B.A.(Pass) and B.A.(Hons.). If however, these two streams do not exist, in what manner should the university proceed has to be worked out carefully.
- (ii) The introduction of a Core paper on "Quantitative Economics" even at the B.A. (Pass) level could seriously affect the future intake of students into the mainstream of economics. This could jeopardise the existence of many economics faculties in universities all over the country.
- (iii) The transitional phase of switching from the current diverse syllabi to one unified syllabus is critical and all should be aware of the consequences such a transition entails.

