

A STATISTICAL ANALYSIS  
of the Failures at the Pre-Degree  
Examination of the Poona University, 1960

[ For Official Use Only ]

By : V. K. KOTHURKAR  
V. M. DANDEKAR



University of Poona  
Poona 7

Printed by M. H. Patwardhan at Sangam Press (P) Ltd., 383, Narayan Peth, Poona 2  
and published by W. H. Golay, Registrar, University of Poona, Poona 7.

## FOREWORD

Hardly any educational authority is ever satisfied with the prevailing system of testing the merit of its students. Where numbers are small, the testing personnel is itself largely the guiding personnel, and where the result of examination is dependent not on one or a few rigidly applied tests the cumulative assessment based on close and continuous mutual contact is found to be least unsatisfactory. Unfortunately almost none of our examining bodies in the field of higher education answer to this description. Starting from the post-graduate examinations as we approach the initial academic year at a college the obstacles of large numbers, lack of direct contact between teachers and the taught, different personnel for teaching and testing a candidate, and reliance on rigid tests become more and more insuperable. Especially when a whole barrier is created by the medium of instruction being for the first time a foreign language, as contrasted with the regional language which is the medium at the school leaving stage, the situation becomes almost insufferable. It is through this impasse that we expect our youngsters of 15 to 16 years of age to find a way to qualify for entrance to the University course.

Recently the situation in this respect assumed a stage at which it would have been thoroughly indefensible to allow the educational waste of over 60% of candidates to continue without undertaking a searching inquiry and adopting suitable measures. It was felt that as a first step towards a fuller understanding of the problem, investigations by a study-team composed of statistical as well as psychological and educational experts would be of indispensable value. Accordingly I requested Dr. V. M. Dandekar and Prof. A. R. Kamat of the Gokhale Institute of Politics and Economics, and Prof. V. K. Kothurkar of the University Department of Experimental Psychology to examine all the data bearing on a significant part of the latest Pre-Degree examination (April 1960) and to find out what appear to them to be meaning-

ful correlations. In addition to statistical data gathered from several sources, it was also possible to gather the reactions of a few persons who as teachers and examiners had first-hand experience of operating the system of instruction and examination. When the several authorities of the University apply their mind to an understanding and solution of the problem, the material so presented is bound to be very useful. It is hardly necessary to add that what is presented here are the findings of an objective study by experts each of whom bears full responsibility for his views, which do not necessarily represent the views of any University authority.

The problem of examination system is attracting the attention of educationists everywhere. The contents of this study will thus evoke wide academic interest.

I take this opportunity to convey to the authors the appreciation of the University for their valued assistance. I must also thank Principals and members of the staff of the colleges in Poona who placed their experiences and views at the disposal of the authors without any reserve.

**D. G. KARVE**  
Vice-Chancellor,  
University of Poona.

## INTRODUCTION

Until recently, the degree courses in Arts, Science and Commerce at the University of Poona like those at many other Indian universities, were spread over a period of four years after the Secondary School Certificate Examination. The courses led to the B.A., B.Sc. and B. Com degrees. They were divided into two stages of two years each. At the end of the first two years, the students appeared at a university examination called the Intermediate examination. The passing of this examination was obligatory for promotion to the third year of the course. At the end of the fourth year, was the Degree examination, again conducted by the University. The promotion from the first to the second year and also from the third year to the fourth year was done on the basis of an internal assessment by the College attended by a student. In particular, these promotions were not governed by any university examination.

With the adoption of the new Three-Year Degree course, the student still attends the college for four years. But the period is now divided unequally between two stages of one and three years respectively. The first year in the college is now called the Pre-degree year. This is followed by the Three-Year Degree course proper. At the end of the Pre-degree year the student is required to appear for an examination held by the University and the admission to the Three-Year Degree course is governed by the results of this examination. The University of Poona recently adopted the Three-Year degree course and held its Pre-degree examination for the first time in 1959. The results of this examination were very poor. It was then reasonable to expect that those who had satisfied this severe test might show better results at the First Year examination of the new Three-Year degree course (corresponding to the old Intermediate examination). However, these hopes were for the most part belied when the First Year examination was held in 1960. Also, in the same

year, the Pre-degree examination was held for the second time and the results were almost as disappointing as in 1959. This series of unwelcome events naturally attracted much attention.

There existed naturally a large body of informed opinion, particularly among the college teachers, regarding the Pre-degree courses, teaching and examination. We therefore thought it appropriate as a first step to meet and hold discussions with Principals and teachers in the different colleges in Poona and secure their views on the subject. It was also thought to be desirable to scrutinize in some detail the examination results generally and, particularly, cases of failure. For the sake of convenience, we decided to divide the enquiry into these two parts, an opinion survey and a statistical analysis, and make a separate report on each. In the following pages are presented both these reports, Prof. Kothurkar and we are responsible for the former and Professors Kamat and Dandekar for the latter. As the whole purpose of the enquiry was exploratory no attempt has been made at this stage to put the two parts together.

For the sake of convenience the first stage of the enquiry was confined to the colleges in the Poona area and to the candidates appearing at the Poona City and Poona Camp centres of the Pre-degree examination. It is hoped that the results of this exploratory enquiry will indicate ways in which the study may be expanded so as to cover a wider area.

## CONTENTS

Foreword	...	..	...	...	...	...	iii
Introduction	...	...	...	...	...	...	v
An Inquiry into the Causes of Failures at the Pre-Degree Examination: Opinion Climate among Principals and Staff of Arts, Science and Commerce Colleges of Poona:							
—By V. K. Kothurkar	...	...	...	...	...	...	1
A Statistical Analysis of the Failures at the Pre-Degree Examination of the Poona University—1960							
—By V. M. Dandekar	...	...	...	...	...	...	5

**AN INQUIRY INTO THE CAUSES OF FAILURES AT THE  
PRE-DEGREE EXAMINATION OPINION CLIMATE: AMONG  
PRINCIPALS AND STAFF OF ARTS, SCIENCE AND  
COMMERCE COLLEGES OF POONA:**

**V. K. KOTHURKAR**

As stated earlier, we decided as a first step, to interview the Principals of Arts, Science and Commerce Colleges of Poona, for understanding their views on the problem of large failures at the Pre-Degree Examination of the Poona University. A note detailing the principal issues of the inquiry, as also, some of the important factors in the situation was mailed to the principals, well in advance of the actual date of a meeting with them. We had full and interesting discussions not only with the Principals but also with Vice-Principals, Heads of Arts and Science Departments and several other teachers in the respective colleges. In the context of these informal discussions, we present below some of the views on the central and peripheral problems in the situation revealed by the large number of the Pre-Degree failures. We have tried in this study, to present, as objectively as possible, the state of thinking as regards the possible factors in the situation, among those who are vitally concerned with this problem.

**Structure of Courses, Syllabii and their load :** We thought it would be worth while trying to ascertain the opinions on the question 'how does the work-load under the new curricula compare with the load under the old structure.' The importance of the problem of work-load under the new curricula was readily appreciated and as was only to be expected, quite divergent views were freely expressed. In our opinion, the view that requires further consideration and more intensive examination, is that the Pre-Degree Courses and syllabii have become either heavier or more heterogeneous and diverse or both. Now, courses, and syllabii are exclusively the province of the subject-specialists in the various Boards of Studies and, so far as the scope of each Board is concerned, its judgement as to what is academically necessary and desirable must be regarded as *prima facie* sound. Teachers and academicians themselves must, in the light of all relevant considerations, decide such questions as : ( a ) the number of different subjects for the Pre-Degree Examination, ( b ) the number of separate heads of passing and the possibility of grouping of subjects, ( c ) the place of Economics in the Pre-Degree Science course, ( d ) the quantum of content of each paper and ( e ) possibilities of revision and modification in respect of each one of the above. We have, however, noticed a somewhat curious trend in this respect. In accommodating all points of reformist view, more often than not, revisions



tend to be incremental. It may be as necessary to drop out out-of-date and relatively less essential portions as to include more up-to-date and more essential knowledge and methods

**Quality of entrants :** Again and again, our discussions veered round to the point of poor quality of entrants to the Pre-Degree class and, in general their inadequate preparation to undertake collegiate studies. Shorter courses of English at schools were frequently pointed out as being the condition adversely affecting student preparation and level of comprehension. Similarly, inadequate preparation in Mathematics was also responsible, it was thought, for the academic maladjustments of students especially to Pre-Degree Science Courses. Students showed a tendency to rush indiscriminately to Science Courses, irrespective of the level of competence attained in Mathematics. Consequently, they experienced great difficulties, quite a number of them changing over to Arts subjects causing a great deal of inconvenience and dislocation all round.

In this connection, we would invite attention of all concerned to the present practice of nonselective admissions to college courses. Sooner or later, we believe, educators will have to apply their minds to the problem of student selection, at least on the science side. \*

The pressure of numbers, on the limited science facilities of colleges, is fast increasing. Can we not develop procedures of student guidance and counselling whereby admissions, at least to science courses, will bear greater relation to the probability of reasonable progress? Though, under the existing conditions, some kind of University education should be kept open to all, we think, we shall be justified in exploring the possibilities of choosing such students as are suitably prepared, at least on the science side. We are under an obligation to consider seriously the educational wastage involved in the large number of failures, which are an accompaniment of indiscriminate admission to the various courses.

**Adequacy of amount of teaching and teaching methods :** It was obvious that the colleges were experiencing great difficulties in containing the continuing pressure of increased numbers. In the context of the lower initial ability of entrants to the Pre-Degree classes, more personalized form of instruction becomes necessary during that year. In our opinion, at the Pre-Degree stage, the student needs more individual guidance, supervision, and help in his adjustment to a different pattern of instruction, preparation and examination. Such kind of individualised instruction does not seem to be generally

\* In February, 1961, the University has passed a Statute providing for a selective eligibility for entering upon the study of different courses in colleges. While almost everybody who has passed the S.S.C. Examination with University subjects can join the Arts Course, and while those who pass that examination with a total of 50% marks can take up any course in their Pre-Degree class, for the rest selective guidance in keeping with the needs of each course is necessary.

available, at present. The one way communication of lectures has to be supplemented by some genuine and workable method of tutorials. However, immediately difficulties crop up in the form of lack of personnel, lack of space, lack of time, lack of organization, lack of finances etc.

Generally all Principals have reported favourably on the beneficial effects of the introduction of Marathi medium. Comprehension was reported to be quicker and better and writing and expression have also improved. Here is a direction in which natural progress towards more successful education may be made.

**Examinations :** In the field of examination, many changes have occurred during recent years. The old First Year College Examination is replaced by the new Pre-Degree Examination which is a public or University Examination. In fact, the two are very different in several important respects. The problems created by the large number of failures might be no more than what one might expect when a shift is being attempted from the old college—F. Y.—type examination, to the new Pre-Degree-type University examination. During the Pre-Degree stage, the student experiences a sudden shift from the school to the college and there is need to help him in his process of adjustment so as to make the change-over as smooth as possible. In the olden days, the first two years of the college had come to be regarded as a unit, the first year of which was meant for a gradual process of adjustment. During this period of adjustment, the student was expected to work, though he did not have to face any really searching public examination. Under the new provisions, even before the student has fully recovered from the stress and strain of the S. S. C. Examination, he has to start thinking of the Pre-Degree Examination. The student has to take the Pre-Degree Examination immediately in the succeeding year before he has been sufficiently adjusted to the collegiate pattern of learning, teaching and examination. It is thus clear that there is need to pay special attention and to alert him, in time, to his tasks in the several choices of the Pre-Degree Course.

The general reactions to the provisions of internal assessment during the Pre-Degree year were favourable. However, the need of specifying some necessary minimum percentage of marks, in the final external examination, was also stressed, as a check against the possible misuse of the provision of internal assessment.

Similarly, there was general agreement as to the desirability of keeping down the number of general discussion questions to be set at the Pre-Degree Examination.

The idea of having some form of moderation in the standards of a large number of examiners in one and the same subject was favourably received.

**Student Motivation :** We also heard numerous complaints about the inability and/or unwillingness of students to buy books—even text books. It should not be difficult to devise ways and means of providing books to

deserving and desiring students. There were also complaints about the weak motivations of students in preparing for the examination which was a part cause of their poor performance. Motivation certainly is the most crucial point in all educative process.

---

## A STATISTICAL ANALYSIS OF THE FAILURES AT THE PRE-DEGREE EXAMINATION OF THE POONA UNIVERSITY — 1960

V. M. DANDEKAR

This statistical analysis of the failures at the pre-degree Examination of the Poona University was undertaken at the instance of the Vice-Chancellor and forms part of a wider enquiry into the nature of and reasons for the large number of failures. The analysis relates to the candidates who appeared for the Pre-Degree examination conducted in March 1960 and among them it is confined to only those who sat for the examination at Poona City and Poona Camp centres.

In all 2108 candidates appeared for the Pre-Degree Science examination and 1824 candidates appeared for the Pre-Degree Arts examination. Among the candidates who appeared for the Arts examination, more than 40 per cent. had appeared externally that is, not through any college. More particulars of the candidates are given in Table No. 1. The Table also gives a classification of the candidates according to the results of the examination. In a sub-table, the results for the candidates in each category are shown in percentages.

If we confine attention to the percentages of failures, we have the following :

	<i>Science</i>	<i>Arts Internal</i>	<i>Arts External</i>
Men	55·9	67·6	78·0
Women	50·8	50·5	69·3
Total :	55·2	59·7	75·7

Thus, clearly, the results of the women candidates are uniformly better than those of the men candidates. It is noteworthy that this is also true among the Science students. Among the men, the Arts results are worse than the Science results. And among both men and women, the results for the External candidates are very much worse than for the Internal candidates.

This last evidence is important while considering remedial measures. It is clear that the external candidates must be put through a more careful screening than is at present done. For instance, the external candidates may be required to appear for the Preliminary ( and also Terminal, if possible ) examination at a College and their applications may be required to be forwarded through the college with an endorsement from the Principal on the strength of the results of the examinations for which he appeared at the college.

The regulations for the Pre-Degree examination require a candidate to pass in every one of the 7 subjects he has to offer. There are however certain rules which condone certain marginal cases in this respect. In Table No. 2, are given the number of candidates who failed in one or more subjects and the number of candidates who were ultimately declared to have failed. It will be seen that the condonation rules are liberal and effective—they reduced failure percentages by between 8 and 11 points.

In Table No. 3 are given the number of candidates in different categories who appeared for the several subjects. In Table No. 4 are given the percent age failures in each subject, taking 35 marks to be the passing requirement in each. Only a few among the Arts candidates had offered Mathematics and though the percentage of failures in Mathematics among the Arts candidates was a little higher than that among the Science candidates, the latter was high too. Therefore, if we leave out Mathematics as not being much offered by the Arts candidates, we might group the subjects being offered by the Arts candidates in broadly two groups : Languages and Social Sciences. The incidence of failure in these two groups may be briefly summarised as follows :

#### Percentage failures

	<i>Modern Indian language</i>	<i>Classical language</i>	<i>English</i>
Women — Internal	4·7	12·6	30·7
External	5·7	17·4	55·2
Men — Internal	14·3	28·9	47·9
External	23·6	40·7	50·2

Thus, English is a problem subject for all. Classical language is a problem subject to men candidates though not so much to the women candidates. As to the men candidates appearing externally, even the Modern Indian language presents a problem.

In the following are the percentage failures in the other four subjects :

#### Percentage failures

	<i>Ancient Indian Culture or History</i>	<i>Economics</i>	<i>Civics &amp; Administration</i>	<i>Geography</i>
Women — Internal	26·9	25·4	28·4	27·4
— External	28·4	34·5	41·2	43·5
Men — Internal	29·6	39·8	38·0	41·2
— External	40·2	49·6	44·3	56·8

It will be noticed that in all the four subjects and in all the categories of candidates, the failure percentage was above 25 per cent. Therefore, we may restrict attention to only those cases where the failure percentage was nearly or more than 40 per cent. It will then be seen that both Civics and Geography present difficulty to all candidates except women appearing internally. This is even more true of Geography. Economics presents difficulty to all men candidates while Ancient Indian Culture or History present difficulty to only the men candidates appearing externally. The need to look into the applications of the External candidates more closely is again obvious.

We might similarly group the subjects being offered by the Science candidates in two groups. The percentage failures in different subjects are as under.

	<i>Modern Indian Language</i>	<i>English</i>	<i>Optional subject from Arts group</i>
Women	8.4	18.3	26.1
Men	12.7	18.7	27.6

It will be seen that among the Science candidates, the percentage of failure in the Modern Indian Language is about the same as among the Arts candidates appearing internally and is sufficiently low. Percentage of failures in English is strikingly lower among the Science candidates than among the Arts candidates even if we confined attention to only those who appeared internally. The real difficulty, relatively speaking, is presented by the optional subject which the Science students have to offer. In view of this, the academic merit of this requirement may be re-examined.

The percentage of failures in the other group of subjects, namely, the Science subjects is as under :

	<i>Chemistry</i>	<i>Physics</i>	<i>Biology</i>	<i>Mathematics</i>
Women	18.8	24.8	21.2	43.7
Men	22.5	31.6	32.2	43.1

It will be seen that the proportion of failures in Mathematics is very large. Men candidates also show rather large failures in Physics and Biology but it is obvious that the main stumbling block is Mathematics. Mathematics is of course a necessary subject for the Science students. The large failures in Mathematics, therefore demands serious attention.

In order to show the margins by which the candidates failed in different subjects, we give in Table No. 5, the percentage of the candidates who secured less than a given number of marks in the respective subjects. Let us examine the failures in English. In the following is a brief summary :

**Percentage of candidates obtaining less than specified marks in English**

		32 marks	27 marks	22 marks
Arts candidates.	External	51·5	26·1	10·6
	Internal	40·2	19·7	6·5
Science candidates		18·7	6·9	1·3

It should be mentioned that though the passing marks in each subject are 35, in point of fact, rarely any candidate is given marks such as 32, 33 or 34. The examiner usually graces them on his own. Hence, those who fail in a subject actually secure less than 32 marks. Therefore, in the above, in order to examine the margins by which the candidates had failed, such as by 5 or 10 marks, we have considered the percentage of candidates who had secured less than 32, 27 and 22 marks. It will be seen that a large number of failures in English were by a small margin of less than 5 marks. In fact, half of the failures in English are seen to be lying within this small margin.

The same is true, though to a smaller extent, of the failures in other subjects. Consider, for instance, Geography which as we have seen causes large failures among the Arts candidates.

**Percentage of candidates, securing less than specified marks in Geography**

		32 marks	27 marks	22 marks
Arts candidates	External	53·3	33·0	19·0
	Internal	35·0	18·9	9·1

Or, again here are the results of Mathematics for the Science candidates.

**Percentage of candidates securing less than specified marks in Mathematics.**

		32 marks	27 marks	22 marks
Science candidates		47·5	36·1	26·3

Thus, in Geography, nearly 40 percent of the failures among the external candidates and nearly 50 percent of the failures among the internal candidates were by a margin of less than 5 marks. This is not so much true about failures in Mathematics among the Science candidates where only about 25 percent of the failures were by a margin of less than 5 marks. The same is true of the other Science subjects where only about  $\frac{1}{4}$ th to  $\frac{1}{3}$ rd of the failures were by a margin of less than 5 marks.

Failures in the whole examination are of course not all due to failures in a single subject. Candidates do fail in one or more subjects. In Table No. 6 is given a distribution of the candidates who were declared to have

failed the examination according to the number of subjects they failed in. The number of candidates in each category is then expressed in Table 6-A as a percentage to the total who appeared for the examination. This may be briefly summarized as follows :

**Percentage of candidates failing in One subject**

			2 or 3 subjects	4, 5, 6 or 7 subjects	Whole examination
<b>Arts</b>					
Women —	Internal	11.3	23.9	15.3	50.5
	External	9.0	38.0	22.3	69.3
Men —	Internal	9.5	30.9	27.2	67.6
	External	7.9	30.1	40.0	78.0
<b>Science</b>					
Women		9.9	23.4	17.5	50.8
Men		11.5	21.6	22.8	55.9

Two points emerge quite clearly. In the first instance, cases of single subject failures are not large. About 10 per cent of the candidates failed the examination because of a single subject failure. This proportion is about the same in all categories of candidates and in particular it is not larger in those categories which show larger overall failures, such as the men candidates appearing externally. Secondly, the larger failures in these categories of the candidates where being are large are due to not larger single subject failures but due to a larger proportion of the candidates failing in more subjects, particularly in 4 or more subjects. Clearly, therefore, the large incidence of failures is more due to an inadequate preparation of the candidates rather than a grave defect in the procedures of examination. Hence, one method of reducing the number of failures is to withhold the unprepared candidates from appearing for the examination. For instance, between 15 and 27 per cent of even the internal candidates are seen to have failed in 4,5,6 or 7 subjects. Surely, most of these unprepared candidates could be identified in the colleges and refused permission to appear for the examination. The same could be done with the even larger number of unprepared candidates appearing externally if they could be required to appear for the preliminary ( and also terminal, if possible ) examination of a college.

It is of course true that refusing permission to appear for the examination would only conceal the failures if it did not help in improving the preparation of the candidates. It is believed that such discretion in sending up candidates for the examination if fairly used will in fact help improve the preparation of the candidates. Moreover, in view of the greater stress being laid in various proposals for increasing internal assessment, such discretion must form an integral part of the proposed internal assessment. We shall return to this point later.



Single-subject failures are of course of special interest particularly in view of the fact that the examination procedures are generally far from satisfactory. The possibility of unjustified failures in single subjects cannot therefore be ruled out. This is usually taken care of in the manner in which rules for condoning marginal failures are applied. In Table No. 7, is given a distribution of the single subject failures according to the subject of failure. In a parallel column is also given the number of cases in which the failure was condoned. It will be seen that 50 per cent. of the single subject failures in the Arts examination and over 40 per cent. in the Science examination were condoned. It is obvious therefore that the condonation rules by themselves are sufficiently liberal and effective in reducing the cases of single subject failures.

If we leave out the condoned cases and confine attention to those who failed the examination because of the failure in a single subject, it will be seen that the failures in English alone account for nearly 40 per cent. of such failures in the Arts examination, both among the internal and the external candidates. Geography and Ancient Indian Culture or History are the two other subjects causing large failures in the Arts Examination—the two subjects together account for between 32 and 35 per cent. of the single subject failures. Among the Science candidates failing the examination because of a single subject failure Mathematics accounts for over 44 per cent. of the failures and Biology accounts for over 16 per cent. of the failures. The optional subject which the Science candidates are required to offer from among the Arts subjects, also accounts for 15 per cent. of the single-subject failures.

Among these, the failures in the Arts examination due to failure in Geography and the failures in the Science examination due to the failure in the optional Arts subject, deserve special attention. In both the cases the subjects are introduced in order to provide a slight science component in the Arts curriculum and a slight Arts component in the Science curriculum. This may be useful and desirable. It may be asked however whether failures in these subjects, particularly single subject failures, should not be condoned more liberally.

In Table No. 8, are given the cases of two subject failures by the more important subject-combinations in which the candidates had failed. It will be seen that over two-thirds of the two-subject failures in the Arts examination are due to failures in English or Geography in conjunction with some other subject. In the same way, over two-thirds of the two-subject failures in the Science examination are due to failures in Mathematics in combination with some other subject.

The causes of single subject or two-subject failures raises a question regarding the requirement to pass in each single subject separately. In order to show the extent of failures because of this requirement, we show in Table No. 9, a classification of the candidates who failed the examination according to their grand total marks expressed as percentage of the maximum marks. The Table is confined to only those candidates who appeared for the full

examination, that is to say, excluding those who were exempted from one or more subjects. It will be seen that among the candidates who had failed the examination, those whose grand total of marks was more than 35 per cent. of the total marks formed about 21·2 per cent. among the Arts (external) candidates; 30·5 per cent. among the Arts (internal) candidates and 38·8 per cent. among the Science candidates. This is the extent to which the failures could be reduced, if the requirement for independent passing in each one of the 7 subjects was waived and the candidates were judged only on their grand total. This is of course an extreme proposition. But it is worthwhile examining an intermediate position. Two alternatives may be considered. One is to keep only two passing heads in each examination. For instance, for the Arts examination, the two passing heads may be :

- (1) English, Modern Indian Language and Classical language;
- (2) Geography, Economics, Civics and Administration, Ancient Indian Culture or History.

For the Science subjects, the two passing heads may be :

- (1) English, Modern Indian language, Optional Arts subject;
- (2) Mathematics, Physics, Chemistry and Biology.

The other alternative is to require independent passing in each one of the 7 subjects as at present but at a lower level, say 25 per cent. of the marks and passing in the aggregate at a higher level, say 40 per cent. of the total marks.

It is worth examining the implications and consequences of such modifications in the passing requirements. These may be useful in reducing cases of marginal failure. However, as was earlier indicated, a large number of cases of failure are not quite marginal, they are basically due to inadequate preparation. It was then suggested that it might be advisable and useful to refuse such ill-prepared candidates the permission to appear for the examination and that the colleges should do this more rigorously. We might now go a step back and examine if there is not something to do even at the stage when the students are admitted for the Pre-Degree courses. The relevant data for this purpose is the performance at the Pre-Degree examination in relation to the performance of the candidates at the S.S.C. examination. In Table No. 10, we have classified the candidates according to when they had passed the S.S.C. examination and for each such category is shown the percentage of failures at the Pre-Degree examination. In the following is a summary of this statement :

Thus, the percentage of failures among the fresh candidates, that is to say among those who had passed the S.S.C. in March 1959, is much lower than among the others. Secondly, the percentage of failures among candidates passing the S.S.C. examination in March of any year is generally lower than among those passing the examination in October. The reasons are obvious. It is also obvious that all candidates other than those who had passed the S.S.C. examination in the immediately preceding March need

## Percentage of failures

<i>Year of passing S.S.C.</i>	<i>Arts Internal</i>	<i>Arts External</i>	<i>Science</i>
March 1959 ...	51.8	67.2	48.5
March 1958 ...	65.9	75.5	67.5
March 1957 ...	70.4	89.8	67.7
October 1958 ...	71.3	80.0	72.5
October 1957 ...	79.5	84.6	73.7
October 1956 or earlier ...	68.2	74.4	72.2

extra attention. It may be difficult to give them any extra or special attention during the regular Pre-Degree courses. But it may be possible to do something before they are admitted to the Pre-Degree courses. The simplest and the least that may be done is to organize for such candidates, in one or more colleges, refresher and strengthening courses during summer, say for three months from the middle of March to the middle of June. Their subsequent admission to the pre-Degree courses in any college should be made to depend upon their performance in the refresher course. This is only by way of illustration but it seems that action on some such lines is necessary and may be useful.

These recommendations are based on the observation that the candidates who had passed the S.S.C. examination not in the immediately preceding March but earlier show large failures in the Pre-Degree examination. A refresher course is feasible in their case and seems desirable. We shall now consider the performance of the candidates at the S.S.C. examination and see whether it is related to their performance at the Pre-Degree examination. The relevant data are given in Table No. 11. A brief summary of the same is as under :

## Percentage failures

<i>Class at S.S.C.</i>	<i>Arts Internal</i>	<i>Arts External</i>	<i>Science</i>
I	14.5	44.4	17.7
II	49.5	68.4	71.5
III	77.6	89.5	94.4

The above results are strikingly clear and indicate that in spite of the vagaries of both the S.S.C. and the Pre-Degree examinations, the two are related. It also brings out the handicaps under which the candidates appearing for the Arts examination externally normally work. It will be seen that among the candidates appearing externally, even those with a First Class at the S.S.C. show 44.4 per cent. failures at the Pre-Degree examination.

It is therefore not surprising that those with a Third Class at the *S.S.C.* and appearing externally should show 89.5 per cent. failures. The relevance of the performance at the *S.S.C.* is even more striking among the Science candidates. Among the Science candidates, those with a First Class at the *S.S.C.* show only 17.7 per cent. failures. But those with even a Second Class at the *S.S.C.* show 71.5 per cent. failures. Further, those who had only a Third Class at the *S.S.C.* show 94.4 per cent. failures; in fact, here the incidence of failure is so high, that it is worthwhile considering whether these candidates should have been allowed to take the Science course.

Altogether refusing permission to the Pre-Degree courses to any category of candidates who have duly passed the *S.S.C.* examination raises many serious issues which must be considered only in a wider context. However, it seems legitimate to regulate the admission to the Science course as long as the admission to the Arts course is kept open. This is obviously indicated in the case of candidates who have only a Third Class at the *S.S.C.* It also seems legitimate to restrict the facility to appear for the Pre-Degree Arts examination externally. For instance, it will be seen that among the candidates who had only a Third Class at the *S.S.C.* and who appeared for the Arts examination externally, the incidence of failure was as high as nearly 90 per cent. It is legitimate to insist for instance, that those who had only a Third Class at the *S.S.C.* may not appear externally.

Finally let us examine the failures in the specific Pre-Degree subjects in relation to the performance of the candidates in the same subjects at the *S.S.C.* In relation to the Pre-Degree Arts examination, we should note, to begin with, that the three languages, namely, English, Modern Indian Language and the Classical or Modern European language, are usually offered by the candidates at the *S.S.C.* examination though there do appear a few cases where the candidates offer a different classical or Modern European language than the one they had offered at the *S.S.C.* Their number is small but they show slightly higher failures. It would be desirable to insist that, except for very specific objectives and purposes, the candidates did not offer at the Pre-Degree, subjects they had not offered at the *S.S.C.* Leaving out these few cases, we may examine the performance of the candidates in the three languages at the Pre-Degree examination in relation to their performance in the same subjects at the *S.S.C.* This is done in Table No. 12. For purposes of illustration, let us examine the situation in English. We may classify the candidates according to whether the candidates had First, Second or Third class marks in English at the *S.S.C.* and examine in each category of candidates the percentage failures in English at the Pre-Degree. This is shown below :

The indications are obvious. The performance of a candidate at the *S.S.C.* does offer a relevant clue to his likely performance at the Pre-Degree examination, if no extra attention is paid to him. It is obvious that the candidates with Third class marks at the *S.S.C.*, do require additional assistance during the Pre-Degree course. The failures in the Modern Indian language and the Classical or Modern European language suggest the same.

## Percentage failures.

<i>Class of Marks in English at S.S.C.</i>	<i>Internal candidates</i>	<i>External candidates</i>
I	6.9	29.4
II	33.4	40.3
III	57.5	61.4

The situation is a little more complicated in relation to the remaining Arts subjects, namely, History, Geography, Civics and Economics. There is no comparable subject like Economics at the S.S.C. If for any reasons it is felt that the number of subjects to be offered at the Pre-Degree should be reduced, the position of Economics may be examined more carefully. Not only there is no comparable subject at the S.S.C., but there is also no continuation of it in the first year of the new Three-Year course. The dropping of this subject from the Pre-Degree courses may therefore be found justifiable.

A candidate can offer the three subjects at the S.S.C., namely, History, Geography and Civics. In fact Geography is apparently offered by a large number of candidates. But History and Civics is not offered by many. Instead, they are content with only the subject called Social Studies. Some candidates do not offer even Social Studies at the S.S.C. In the following is given the proportion of the candidates who had offered History, Geography or Civics, who had offered only the Social Studies and who had offered neither the specific subject nor the Social Studies. The data are in respect of the Internal candidates only. The data were not available in respect of a number of External candidates and they were excluded from the following table.

	<i>History</i>	<i>Geography</i>	<i>Civics</i>
1. The specific subject with or without Social Studies	3.8	46.7	17.6
2. Only Social Studies	68.0	38.7	55.2
3. Neither the specific subject nor the Social Studies	28.2	14.6	27.2

In Table No. 13, we give the percentage of failures in the respective subjects at the Pre-Degree examination for each category of candidates. The candidates in each category are also further divided according to the Class of marks obtained by them in the specific subject or the Social Studies at the S.S.C. In this Table, the Internal and the External candidates are also combined though only those candidates in respect of whom the relevant information was available could be included. It will be noticed from the Table that those who had offered only the Social Studies and not the specific sub-

jects, do not generally show higher failures than those who had offered the specific subjects. In fact, even those who had offered neither the Social Studies nor the specific subjects do not show any higher incidence of failures. However, the general relation between the level of performance at the S.S.C. and failures at the Pre-Degree persists. Those with First class marks in the related subject at the S.S.C. do show smaller failures in the corresponding subject at the Pre-Degree than those with Second or Third class marks. This indicates that only the general ability rather than specific knowledge in the subject is called into play. This is possibly an evidence of the fact that the subject content of the college courses is materially different from that of the high school courses and that there is much less continuity between the two than one would have expected or thought desirable.

We may next turn to the failures in Pre-Degree Science examination. In Table No. 14 are given the percentages of failures in English, Modern Indian Language and the Optional subjects in groups of candidates classified by their marks in the same subject at the S.S.C. examination. The general relation obviously holds good. The most important subject for the Pre-Degree Science examination is however Mathematics. We might therefore examine the situation in respect of Mathematics more closely. The related subject at the S.S.C. is either Elementary Mathematics or Algebra-Geometry. Out of the 1962 candidates appearing for the Science examination, 349 had offered only Elementary Mathematics at the S.S.C. The remaining had offered Algebra-Geometry with or without Elementary Mathematics. We might examine the failures in Pre-Degree Mathematics in both these groups. In both the groups, the candidates may be classified by the class of marks obtained in Elementary Mathematics or Algebra-Geometry as the case may be. In the following are shown the percentage failures in the different categories of students :

**Percentage failure in Mathematics**

<i>Class of Marks in the subject at S.S.C.</i>	<i>Candidates offering Algebra-Geometry at S.S.C.</i>	<i>Candidates offering Elementary Mathematics at S.S.C.</i>
I	25.6	33.1
II	68.1	73.4
III	80.2	89.6

Here too, it seems that the specific subject knowledge of Algebra and Geometry at an advanced level at the S.S.C. does not prove greatly useful at the Pre-Degree stage. The percentages of failures in the group of candidates offering Algebra-Geometry are generally smaller than in the group offering only Elementary Mathematics, but the difference is not large. In comparison, the difference between groups of candidates with different levels of performance in Algebra-Geometry or Elementary Mathematics as the case may be is very large. It is obvious for instance that candidates with

no more than Third Class marks in Algebra-Geometry or Elementary Mathematics at the S.S.C. should either be discouraged from taking the Science course or must be given extra attention and assistance during the Pre-Degree course.

Finally, we have the group of Science subjects, namely, Physics, Chemistry and Biology. In respect of Physics and Chemistry, the candidates can offer Physics-Chemistry as a subject for the S.S.C. and nearly 90 per cent. of the Science students seem to have offered it. This is usually in addition to the general subject called General Science. Only a small number seem to have offered not even the General Science. In respect of Biology, there is no comparable subject at the S.S.C. except probably Physiology and Hygiene. Only a few students had offered this latter subject. The S.S.C. background for Pre-Degree Biology is therefore only that derived from the General Science. In Table No. 15, we have classified the candidates according to the class of marks obtained by them in the relevant subject at the S.S.C. Physics-Chemistry in the case of Physics and Chemistry and General Science in the case of Biology. The failure percentages in the respective subjects at the Pre-Degree are shown for each category of students. The indications are the same as in the case of other subjects.

The present analysis is based exclusively on the performance of the candidates at the Pre-degree examination together with such data as became available regarding their performance at the S.S.C. examination. It could not therefore more than focus attention on groups of candidates which showed rather large incidence of failure. It was seen that in a number of cases of failure, the candidates were not in fact prepared for the examination. Therefore, either they should not have been permitted to appear for the examination or more properly, they should have been paid more attention to during the course so as to improve their preparation. This raises the larger issue of improving the instruction in the colleges and this analysis could offer little guidance on the subject. The analysis has however emphasized the fact that certain groups of candidates do in fact need special assistance. The large attendance at the several coaching classes in the city is another proof of this need. In the light of this, there is no reason why the college instruction must be confined to the conventional course of lectures. It must be possible to provide special assistance to those who need it within the framework of the college teaching. This is a matter which obviously deserves serious consideration.

Another important aspect of the question on which this analysis could throw little light is the problem of objectivity, reliability and fairness of the examination procedures. The examination by an external agency has been much condemned time and again. There is also a substantial element of truth in the criticism. Nevertheless, the above analysis has shown that in the majority of cases, the failures were not due to either the whim of the examiner or the vagaries of the examination. In many cases, the candidates were ostensibly unprepared and in most of these cases the candidates could have been singled

out on the basis of their *S.S.C.* performance and given special attention with advantage. The analysis has therefore emphasized the fact that there is greater need of reform in the field of teaching and instruction rather than in the matter of examination procedures. In any case, it is obvious that any reform in the examination procedures may at best improve their objectivity and reliability while any reform in teaching and instruction will lead to an improvement in the content of knowledge that is passed on to the students.

This is not to suggest that there is no need or little scope for reform in the examination procedures. Even a number of minor adjustments may reduce hardship in the marginal cases. These have been indicated in the above analysis. The more difficult question of improving the objectivity and reliability of the examination is ultimately tied down to the scale of operations. As long as a large number of candidates have to be externally assessed, there are distinct limits to the objectivity and reliability attainable consistent with the basic purpose of the examination, namely, to test the attainments in specific subject fields. Therefore, a basic reform in the examination procedures consists in reducing the number of candidates who must be assessed by means of an external examination. In relation to the Pre-Degree examination, it is often suggested that the examination may be handed over to the respective colleges in which case, presumably, the University would conduct the examination only for the benefit of the candidates appearing externally. Because this suggestion may or may not be acceptable, an intermediate suggestion is put forward in the following.

Supposing that an external assessment is necessary and unavoidable, we should see how we may reduce the number of candidates who must be assessed externally. This may be done by limiting the external assessment to only the marginal candidates while assessing the very good and the very bad candidates internally. What is suggested is that on the basis of the college final examination, the University should classify the candidates from each college into three groups: A, B and C. The candidates in the A group may then be exempted, at their own option, from appearing for the University examination. At the other extreme, the candidates in the C group should be refused permission for appearing for the University examination. Both these groups should be judged on the strength of their college examination. It is only the candidates in the group B who should be asked to appear for the examination. Their answer scripts at the college examination should be deposited with the University and they should be judged on the combined evidence of the college and the University examination. Where the two show great divergence, both should be subjected to close scrutiny.

There is no need here to go into the merits and implications of this suggestion. It is put forward mainly to indicate the lines on which further analytical work in this field of inquiry may be undertaken. For instance, a comparative study of performance at the college final examination and the University Pre-Degree examination may provide certain guidance in this matter.



**TABLE No. 1: Number of candidates appeared at P.D. Science and Arts examination of March 1960 from Poona City and Camp Centre.**

<i>Performance at P.D.</i>	<i>P.D. Science</i>						<i>P.D. Arts</i>					
				<i>Internal</i>			<i>External</i>			<i>Total Arts</i>		
	<i>Men</i>	<i>Women</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>
1st class ... ..	92	20	112	1	1	2	—	—	—	1	1	2
2nd class ... ..	427	73	500	33	83	116	20	18	38	53	101	154
3rd class ... ..	253	31	284	146	152	298	83	33	116	229	185	414
Failed ... ..	978	128	1106	376	241	617	366	115	481	742	356	1098
Total appeared ... ..	1750	252	2002	556	477	1033	469	166	635	1025	643	1668
Absent for admission cancelled ...	98	8	106	21	10	31	104	21	125	125	31	156
<b>TOTAL REGISTERED</b> ... ..	<b>1848</b>	<b>260</b>	<b>2108</b>	<b>577</b>	<b>487</b>	<b>1064</b>	<b>573</b>	<b>187</b>	<b>760</b>	<b>1150</b>	<b>674</b>	<b>1824</b>
Percentage with total appeared = 100												
1st class ... ..	5.3	7.9	5.6	0.2	0.2	0.2	—	—	—	0.1	0.1	0.1
2nd class ... ..	24.4	29.0	25.0	5.9	17.4	11.2	4.3	10.8	6.0	5.2	15.7	9.3
3rd class ... ..	14.4	12.3	14.2	26.3	31.9	28.9	17.7	19.9	18.3	22.3	28.8	24.8
Failed ... ..	55.9	50.8	55.2	67.6	50.5	59.7	78.0	69.3	75.7	72.4	55.4	65.8

NOTE:— In the successive tables only candidates who appeared for the Examination will figure.

**TABLE No. 2: Actual failures and declared failures at P.D. examination 1960.**

<i>Examination</i>	<i>Actual failures in one or more subjects</i>	<i>Declared failures</i>	<i>Percentage failed</i>	
			<i>Actual</i>	<i>Declared</i>
<i>P.D. Arts: Internal</i>				
Men	437	376	78.6	67.6
Women	293	241	61.4	50.5
Total	730	617	70.7	59.7
<i>P.D. Arts External</i>				
Men	395	366	84.2	78.0
Women	132	115	79.5	69.3
Total	527	481	83.0	75.7
<b>P.D. ARTS TOTAL</b>	<b>1257</b>	<b>1098</b>	<b>75.3</b>	<b>65.8</b>
<i>P.D. Science</i>				
Men	1127	978	64.4	55.9
Women	142	128	56.3	50.8
Total	1269	1106	63.4	55.2

NOTE:—Actual failures taken as those failing in one or more subjects below 35 per cent.

**TABLE No. 3: Number of candidates appeared for different subjects at Pre-degree Examination 1960.**

<b>P. D. Arts</b>											
<i>P.D. Subject</i>				<i>English</i>	<i>Mod. Ind. Language</i>	<i>Classical Language</i>	<i>Mathematics</i>	<i>Geography</i>	<i>A—Indian Culture or History</i>	<i>Economics</i>	<i>Civics and Administration</i>
<i>Internal</i>											
Men	...	...	...	553	526	539	11	539	543	552	550
Women	...	...	...	471	448	453	35	438	461	472	475
Total	...	...	...	1024	974	992	46	977	1004	1024	1025
<i>External</i>											
Men	...	...	...	468	457	457	8	456	465	468	469
Women	...	...	...	165	159	161	1	161	162	165	165
Total	...	...	...	633	616	618	9	617	627	633	634
<b>P. D. Science</b>											
<i>P.D. Subject</i>				<i>English</i>	<i>Mod. Ind. language</i>	<i>Physics</i>	<i>Chemistry</i>	<i>Biology</i>	<i>Mathematics</i>	<i>Optional subject</i>	
Men	...	...	...	1724	1664	1674	1650	1623	1723	1736	
Women	...	...	...	246	238	238	234	226	247	245	
Total	...	...	...	1970	1902	1912	1884	1849	1970	1981	

**TABLE No. 4: Percentage Failures in each Subject at P.D. Arts Science Examination.**  
(Failures—taken as those securing below 35 marks)

<b>P. D. Arts</b>												
<i>P.D. Subject</i>				<i>English</i>	<i>Mod. Ind. Language</i>	<i>Classical Language</i>	<i>Mathematics</i>	<i>Geography</i>	<i>A—Indian culture or History</i>	<i>Economics</i>	<i>Civics and Administration</i>	
<i>Internal</i>												
Men	...	...	...	47.9	14.3	28.9	55.0	41.2	29.6	39.8	38.0	
Women	...	...	...	30.7	4.7	12.6	60.0	27.4	26.9	25.4	28.4	
Total	...	...	...	40.2	9.9	21.5	58.7	35.0	28.4	33.2	33.6	
<i>External</i>												
Men	...	...	...	50.2	23.6	40.7	50.0	56.8	40.2	49.6	44.3	
Women	...	...	...	55.2	5.7	17.4	50.0	43.5	28.4	34.5	41.2	
Total	...	...	...	51.2	19.0	34.6	50.0	53.0	37.2	45.7	43.5	
<b>TOTAL P.D. ARTS</b>				...	44.4	13.4	26.5	57.3	42.0	31.8	38.0	37.4
<b>P. D. Science</b>												
<i>P.D. Subject</i>				<i>English</i>	<i>Mod. Ind. Language</i>	<i>Physics</i>	<i>Chemistry</i>	<i>Biology</i>	<i>Mathematics</i>	<i>Optional Subject</i>		
Men	...	...	...	18.7	12.7	31.6	22.5	32.2	48.1	27.6		
Women	...	...	...	18.3	8.4	24.8	18.8	21.2	43.7	26.1		
Total	...	...	...	18.7	12.2	30.8	22.1	30.8	47.5	27.4		

**NOTE:—**While calculating respective percentages cases of exemption are excluded and absentees are treated as failures.

**TABLE No. 5A: Pre-Degree Arts: Internal candidates—**

**Percentage of candidates who have scored marks below the specified marks in each P. D. Subject.**

<i>Marks</i>		<i>English</i>	<i>Mod. Ind. Language</i>	<i>Mathematics</i>	<i>Geography</i>	<i>Classical Language</i>	<i>Ancient Ind. Culture</i>	<i>Economics</i>	<i>Civics</i>
<b>Below</b>	20	3.8	1.6	21.7	7.3	2.7	9.9	7.4	4.3
	21	4.4	1.6	23.9	7.9	3.1	12.3	9.3	5.4
	22	6.5	1.6	23.9	9.1	3.8	12.7	10.6	8.5
	23	7.6	1.6	28.3	10.9	4.2	14.5	13.2	10.1
	24	9.6	1.9	32.6	12.7	5.4	15.7	14.6	11.6
	25	<b>12.5</b>	<b>2.3</b>	<b>39.1</b>	<b>15.0</b>	<b>6.5</b>	<b>17.7</b>	<b>16.7</b>	<b>13.1</b>
	26	16.2	2.7	43.5	16.5	8.5	19.3	20.2	15.0
	27	19.7	2.9	47.8	18.9	10.8	21.3	22.6	18.3
	28	22.8	3.2	52.1	22.0	12.4	23.6	25.8	20.1
	29	25.6	4.1	58.7	24.3	14.5	25.9	29.9	24.5
	30	30.6	5.0	58.7	28.1	16.7	28.3	33.2	28.6
	31	35.5	6.4	58.7	31.9	18.9	28.3	33.2	33.5
	32	40.2	7.8	58.7	35.0	21.4	28.4	33.2	33.5
	33	40.2	9.9	58.7	35.0	21.4	28.4	33.2	33.5
	34	40.2	9.9	58.7	35.0	21.5	28.4	33.2	33.5
	35	40.2	9.9	58.7	35.0	21.5	28.4	33.2	33.5

**TABLE No. 5B: Pre-Degree Arts External candidates —**

**Percent of candidates who have scored marks below the specified marks in each P.D. Subject.**

<i>Marks</i>		<i>English</i>	<i>Mod. Ind. Language</i>	<i>Mathematics</i>	<i>Geography</i>	<i>Classical Language</i>	<i>Ancient Ind. Culture or History</i>	<i>Economics</i>	<i>Civics or Administra- tion</i>
Below	20	5.9	2.9	50.00	14.3	5.2	9.1	11.1	7.7
	21	7.6	3.1	50.00	16.7	5.7	11.0	12.8	8.7
	22	10.6	3.4	50.00	19.0	7.1	12.3	15.8	10.7
	23	12.3	3.4	50.00	20.7	8.3	14.7	19.1	12.6
	24	14.1	3.9	50.00	23.5	10.8	16.3	22.3	14.8
	25	18.8	4.9	50.00	26.4	13.4	18.8	25.8	16.7
	26	22.0	5.2	50.00	29.5	15.4	20.9	28.4	18.6
	27	26.1	5.7	50.00	33.0	17.8	24.7	32.2	21.6
	28	29.6	6.3	50.00	37.7	20.4	28.1	35.1	25.6
	29	33.2	7.6	50.00	39.9	23.5	32.5	40.4	29.3
	30	41.2	9.2	50.00	46.2	25.7	37.0	45.7	36.5
	31	46.1	11.0	50.00	50.0	30.1	37.0	45.7	39.4
	32	51.5	15.1	50.00	53.3	34.6	37.1	45.7	43.5
	33	51.5	18.8	50.00	53.3	34.6	37.2	45.7	43.5
	34	51.5	19.0	50.00	53.3	34.6	37.2	45.7	43.5
Below	35	51.5	19.0	50.00	53.3	34.6	37.2	45.7	43.5

.Only 10 students: 5 below 20 marks and 5 above 35 marks

**TABLE NO. 5 C Pre degree Science All candidates, Per cent of Candidates who have scored below the specified marks in each P. D. subject.**

		<i>English</i>	<i>Mod. Indian language</i>	<i>Physics</i>	<i>Chemistry</i>	<i>Biology</i>	<i>Mathematics</i>	<i>Optional subject</i>
Below	20	0.9	1.0	9.6	4.7	7.4	22.4	7.0
	21	1.1	1.3	10.7	5.6	8.3	24.5	7.5
	22	1.3	1.4	12.1	6.3	9.5	26.3	8.5
	23	1.5	1.8	13.6	7.1	11.1	28.3	9.5
	24	2.2	2.2	14.9	8.0	12.5	30.9	10.9
	25	3.6	2.8	16.3	8.9	13.7	32.7	12.6
	26	5.0	3.2	17.6	10.1	15.4	34.4	14.1
	27	6.9	3.7	19.1	11.0	17.6	36.1	15.4
	28	8.5	4.5	20.5	12.6	19.6	38.3	17.4
	29	10.0	5.3	22.0	14.2	22.4	40.3	19.5
	30	12.5	6.7	24.2	15.7	21.1	43.0	22.2
	31	14.9	8.8	25.9	17.0	26.7	45.4	25.5
	32	18.7	10.6	27.4	18.5	28.6	47.5	27.4
	33	18.7	12.1	28.9	20.1	29.5	47.5	27.4
	34	18.7	12.2	29.8	21.2	30.3	47.5	27.4
Below	35	18.7	12.2	30.7	22.1	30.8	47.5	27.4

**TABLE No. 6 Declared failures according to number of subjects in which they failed at P. D. Arts and Science 1960 examination.**

<i>Number of subjects in which failed</i>	<i>Arts Internal</i>			<i>Arts External</i>			<i>Science</i>		
	<i>Men</i>	<i>Women</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>
1 Subject	53	54	107	37	15	52	201	25	226
2 Subjects	89	64	153	68	39	107	202	37	239
3 Subjects	83	50	133	73	24	97	176	22	198
4 Subjects	67	35	102	55	12	67	145	14	159
5 Subjects	23	21	44	51	13	64	121	18	139
6 Subjects	37	13	50	57	9	66	91	12	103
7 Subjects	24	4	28	25	3	28	42	—	42
<b>Total failures</b>	<b>376</b>	<b>241</b>	<b>617</b>	<b>366</b>	<b>115</b>	<b>481</b>	<b>978</b>	<b>128</b>	<b>1106</b>



**TABLE No. 6A: Percentage distribution of declared failures according to number of subjects in which they failed at P.D. Arts and Science 1960 examination. ( Percentage to total candidates appeared ).**

<i>Number of subjects in which failed</i>	<i>Arts Internal</i>			<i>Arts External</i>			<i>Science</i>		
	<i>Men</i>	<i>Women</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>
1 subject	9.5	11.3	10.3	7.9	9.0	8.2	11.5	9.9	11.3
2 subjects	16.0	13.4	14.8	14.5	23.5	16.9	11.5	14.7	11.9
3 subjects	14.9	10.5	12.9	15.6	14.5	15.3	10.1	8.7	10.0
4 subjects	12.0	7.3	9.9	11.7	7.2	10.4	8.3	5.6	7.9
5 subjects	4.1	4.4	4.3	10.8	7.8	10.1	6.9	7.1	6.9
6 subjects	6.7	2.8	4.8	12.2	5.4	10.4	5.2	4.8	5.1
7 subjects	4.4	0.8	2.7	5.3	1.9	4.4	2.4	—	2.1
<b>Total failures</b>	<b>67.6</b>	<b>50.5</b>	<b>59.7</b>	<b>78.0</b>	<b>69.3</b>	<b>75.7</b>	<b>55.9</b>	<b>50.8</b>	<b>55.2</b>

**TABLE No. 7: Distribution of students declared failed in only one subject according to the subject in which they failed.**

<i>Subject in which failed</i>	<i>Arts Internal</i>						<i>Arts External</i>						<i>All Declared Failed</i>			
	<i>Men</i>			<i>Women</i>			<i>Men</i>			<i>Women</i>			<i>Actual</i>		<i>Percentage</i>	
	1	2	3	1	2	3	1	2	3	1	2	3	<i>Internal</i>	<i>External</i>	<i>Internal</i>	<i>External</i>
1. English	30	20	50	15	22	37	11	10	21	10	11	21	42	21	39.3	40.4
2. Modern Indian Language	1	1	2	1	—	1	2	—	2	—	—	—	1	—	0.9	—
3. Geography	12	8	20	6	9	15	10	10	20	3	1	4	17	11	15.9	21.2
4. Mathematics	—	1	1	4	5	9	—	1	1	—	—	—	6	1	5.6	1.9
5. Classical Language	4	5	9	3	2	5	1	—	1	—	1	1	7	1	6.5	1.9
6. Ancient Indian Culture or History	3	7	10	8	10	13	2	6	8	—	1	1	17	7	15.9	13.5
7. Economics	5	6	11	6	4	10	2	6	8	1	—	1	10	6	9.4	11.5
8. Civics & Administration	6	5	11	9	2	11	1	4	5	3	1	4	7	5	6.5	9.6
<b>Total</b>	<b>61</b>	<b>53</b>	<b>114</b>	<b>52</b>	<b>54</b>	<b>106</b>	<b>29</b>	<b>37</b>	<b>66</b>	<b>17</b>	<b>15</b>	<b>32</b>	<b>107</b>	<b>52</b>	<b>100.0</b>	<b>100.0</b>

1 = Deficiency condoned.

2 = Declared failed.

3 = Total number of students scoring less than 35 marks

**TABLE No. 7 A** Distribution of students declared failed in only one subject according to the subject in which they failed.

<i>Subject in which failed</i>	Pre-degree Science						<i>Total declared failed</i>	
	<i>Males</i>			<i>Females</i>			<i>Actual</i>	<i>%</i>
	1	2	3	1	2	3		
1. English	11	6	17	1	3	4	9	3.9
2. Modern I. Language	18	6	24	4	—	4	6	2.6
3. Physics	—	17	17	—	1	1	18	7.9
4. Chemistry	—	9	9	—	1	1	10	4.4
5. Biology	—	36	36	—	1	1	37	16.2
6. Mathematics	76	86	162	7	15	22	101	44.3
7. Optional Subject	43	31	74	2	4	6	35	15.4
8. Failed in one of the two parts — theory and practical	1	10	11	2	—	2	12	5.3
<b>Total</b>	<b>149</b>	<b>201</b>	<b>350</b>	<b>16</b>	<b>25</b>	<b>41</b>	<b>228</b>	<b>100.0</b>

1 = Deficiency condoned

2 = Declared failed.

3 = Total No. of students scoring less than the minimum for passing.

TABLE No. 8 Distribution of candidates failed in two subjects according to subject combinations in which they failed.

P. D. Arts Subject combination	INTERNAL				EXTERNAL				ALL ARTS	
	Men	Women	Total		Men	Women	Total		Total	
			Total (actual)	Per- cent.			Total (actual)	Per- cent.	Total (actual)	Percent cent.
Geography & Economics ...	10	12	22	14.4	12	1	13	12.2	35	13.4
English & Civics ...	8	11	19	12.4	7	7	14	13.1	33	12.7
English - Economics ...	12	3	15	9.8	8	4	12	11.2	27	10.4
English - Geography ...	8	7	15	9.8	4	8	12	11.2	27	10.4
English - History ...	7	6	13	8.5	2	5	7	6.5	20	7.7
Geography - Civics ...	6	1	7	4.6	5	5	10	9.4	17	6.5
Geography - History ...	2	4	6	3.9	7	1	8	7.5	14	5.4
Economics - Civics ...	6	4	10	6.5	1	2	3	2.8	13	5.0
English - Classical Language ...	7	—	7	4.6	5	—	5	4.7	12	4.6
History - Civics ...	2	6	8	5.2	—	3	3	2.8	11	4.2
History - Economics ...	1	4	5	3.3	2	2	4	3.7	9	3.5
Classical Language - Economics	2	2	4	2.6	4	—	4	3.7	8	3.1
Other combinations ...	18	4	22	14.4	11	1	12	11.2	34	13.1
Total ...	89	64	153	100.0	68	39	107	100.0	260	100.0

**TABLE No. 8 A: Distribution of candidates failed in two subjects according to subject-combinations in which they failed.**

P. D. Science Subject combination			Women	Men	Actual	Total Percent
Mathematics - Optional	...	...	32	12	44	18.4
Physics - Mathematics	...	...	36	6	42	17.6
Biology - Mathematics	..	...	26	1	27	11.3
English - Mathematics	...	...	20	4	24	10.0
Biology - Optional	...	...	17	1	18	7.5
Chemistry - Mathematics	...	...	9	2	11	4.6
M.I.L. - Mathematics	...	...	8	1	9	3.8
Physics - Biology	...	...	8	—	8	3.4
English - Biology	...	...	7	—	7	2.9
English - Optional	...	...	5	1	6	2.5
M.I.L. - Optional	...	...	5	1	6	2.5
Other combinations	...	...	29	8	37	15.5
<b>Total</b>			<b>202</b>	<b>37</b>	<b>239</b>	<b>100.0</b>

TABLE No. 9: Classification of the candidates who failed the Examination according to their grand total marks expressed as percentage of the maximum marks.

Percent to maximum 700 marks	Arts - Internal				Arts - External				Science			
	Men	Women	Total (actual)	Per- cent	Men	Women	Total (actual)	Per- cent	Men	Women	Total (actual)	Per- cent.
— 15	8	3	11	2.0	15	1	16	3.5	14	—	14	1.4
— 20	13	2	15	2.7	9	2	11	2.5	36	1	37	3.8
— 25	26	8	34	6.0	32	4	36	8.0	100	8	108	11.1
— 30	75	32	107	19.0	98	15	113	25.0	150	19	169	17.3
— 35	136	87	223	39.8	127	53	180	39.8	236	34	270	27.6
— 40	80	68	148	26.4	61	28	89	19.7	237	30	267	27.3
— 45	4	19	23	4.1	3	4	7	1.5	88	20	108	11.1
— 50	—	—	—	—	—	—	—	—	3	1	4	0.4
Total	342	219	561	100.0	345	107	452	100.0	864	113	977	100.0

NOTE : Failed candidates who had taken exemption in one or more subjects are excluded from this table.

**TABLE No. 10 Classifications of students according to their year of passing S.S.C. Examination and performance at P. D. Examination 1960.**

<i>Year of passing S.S.C. Examination</i>	<b>Arts - Internal</b>			<b>Arts - External</b>			<b>SCIENCE</b>		
	<i>No. of stu- dents appeared</i>	<i>No. of stu- dents failed</i>	<i>Percentage failed</i>	<i>No. of stu- dents appeared</i>	<i>No. of stu- dents failed</i>	<i>Percentage failed</i>	<i>No. of stu- dents appeared</i>	<i>No. of stu- dents failed</i>	<i>Percentage failed</i>
1. March 1959	571	296	51.8	107	72	67.2	1340	650	48.5
2. October 1958	136	97	71.3	20	16	80.0	102	74	72.5
3. March 1958	220	145	65.9	94	71	75.5	444	300	67.5
4. October 1957	44	35	79.5	13	11	84.6	57	42	73.7
5. March 1957	27	19	70.4	69	62	89.8	31	21	67.7
6. October 1956 or before	22	15	68.2	324	241	74.4	18	13	72.2
7. Not available	13	10	76.9	8	8	100.0	10	6	60.0
Total	1033	617	59.7	635	481	75.7	2002	1106	55.2

**TABLE No. 11: Percentage failures at P. D. Examination among the different class holders at the S.S.C. Examination.**

Class at S.S.C.	P. D. Arts									P. D. Science		
	Internal			External			Total			Men	Women	Total
	Men	Women	Total	Men	Women	Total	Men	Women	Total			
I	9.1	15.7	14.5	50.0	37.5	44.4	28.5	18.6	21.3	17.0	21.4	17.7
II	53.4	46.6	49.5	68.9	67.6	68.4	57.8	47.5	52.2	72.5	63.0	71.5
III	81.2	70.0	77.6	87.5	100.0	89.5	82.7	73.4	80.1	94.0	100.0	94.4
Data not available	71.5	60.0	67.3	79.1	69.6	76.8	76.0	64.4	72.6	62.9	65.2	63.2
Total	67.6	50.5	59.7	78.0	69.3	75.7	72.4	55.4	65.6	55.9	50.8	55.2

NOTE : Class at S.S.C. is defined as I — 60 and more II — 45 to 59 III — Below 44 and Exemption cases.

**TABLE No. 11 A: Classification of candidates according to their class at S.S.C. Examination.**

Class at S.S.C.	P. D. Arts									P. D. Science		
	Internal			External			Total			Men	Women	Total
	Men	Women	Total	Men	Women	Total	Men	Women	Total			
I	11	51	62	10	8	19	21	59	80	452	84	536
I	161	221	382	61	34	95	222	255	477	601	73	674
III	149	70	219	48	9	57	197	79	276	84	6	90
Data not available	235	135	370	350	115	465	585	250	835	613	69	702
Total	556	477	1033	469	166	635	1025	643	1668	1750	252	2002



**TABLE No. 12: Number of candidates appeared and percentage failed classified according to the class at the S.S.C. for subjects in Language group.**

<i>P. D. Arts; Internal</i>						
<i>P.D. Subject</i>	<i>Compulsory English</i>		<i>Modern Indian Language</i>		<i>Classical Language</i>	
<i>S.S.C. Subject</i>	<i>Compulsory English</i>		<i>Modern Indian Language</i>		<i>Classical Language</i>	
<i>Class at S.S.C.</i>	<i>Number appeared</i>	<i>Percentage failed</i>	<i>Number appeared</i>	<i>Percentage failed</i>	<i>Number appeared</i>	<i>Percentage failed</i>
I	86	6.9	59	1.7	114	1.8
II	248	33.4	316	4.1	277	12.6
III	292	57.5	245	11.3	207	31.4
Exemption	11	36.4	11	18.2	9	22.2
Different Second Language at S.S.C.	—	—	—	—	24	29.2
Data not available	387	38.2	333	15.4	401	30.5
<b>TOTAL</b>	<b>1024</b>	<b>39.9</b>	<b>964</b>	<b>9.9</b>	<b>1032</b>	<b>21.5</b>

**TABLE No. 12A: Number of candidates appeared and percentage failed classified according to the class at the S.S.C. for subjects in Language group.**

<i>P. D. Arts: External</i>						
<i>P. D. Subject</i>	<i>Compulsory English</i>		<i>Modern Indian Language</i>		<i>Classical Language</i>	
<i>S.S.C. Subject</i>	<i>Compulsory English</i>		<i>Modern Indian Language</i>		<i>Second Language same for two Examinations</i>	
<i>Class at S.S.C.</i>	<i>Number appeared</i>	<i>Percentage failed</i>	<i>Number appeared</i>	<i>Percentage failed</i>	<i>Number appeared</i>	<i>Percentage failed</i>
I	17	29·4	17	5·9	26	3·8
II	57	40·3	80	12·5	61	23·0
III	87	61·4	64	20·3	42	38·1
Exemption	9	44·4	9	11·1	4	25·0
Different Second Language at S.S.C.	—	—	—	—	38	28·9
Data not available	462	51·5	446	20·2	449	38·3
<b>TOTAL</b>	<b>632</b>	<b>51·2</b>	<b>616</b>	<b>19·0</b>	<b>620</b>	<b>34·6</b>

**TABLE No. 13: P.D. Arts Internal and External Students.**

**Percentage failures in History, Geography, Civics and Administration.**

<i>S.S.C. Subjects</i>	<i>P. D. Subjects</i>						
	<i>History</i>		<i>Geography</i>		<i>Civics and Administration</i>		
	<i>Number appeared</i> (1)	<i>Percentage failed</i> (2)	<i>Number appeared</i> (1)	<i>Percentage failed</i> (2)	<i>Number appeared</i> (1)	<i>Percentage failed</i> (2)	
<b>1. Specified P.D. Subject with or or without Social Studies</b>	I	14	14.3	42	26.2	21	19.0
	II	32	21.9	207	34.8	72	27.8
	III	44	45.5	133	56.4	45	33.3
<b>2. Social Studies only</b>	I	52	11.5	32	15.6	36	11.1
	II	262	26.3	135	37.0	217	30.4
	III	189	36.5	105	45.7	159	49.7
<b>3. Neither of (1) or (2)</b>		206	26.7	104	29.8	249	33.7
<b>TOTAL</b>		1631	31.7	1594	42.1	1659	37.4

**TABLE No. 14: Number of candidates appeared and percentage failures among candidates securing diferent class at S.S.C. in Language Group.**

<i>P. D. Science Subject</i>				<i>Compulsory English</i>		<i>Modern Indian Language</i>		<i>Optional Subject</i>	
<i>S. S. C. Subject</i>				<i>Compulsory English</i>		<i>Modern Indian Language</i>		<i>Optional Subject</i>	
<i>Class at S.S.C.</i> <i>( in each specified subject )</i>				<i>Number</i> <i>appeared</i>	<i>Percentage</i> <i>failed</i>	<i>Number</i> <i>appeared</i>	<i>Percentage</i> <i>failed</i>	<i>Number</i> <i>appeared</i>	<i>Percentage</i> <i>failed</i>
I Class	...	...	...	419	2.1	221	1.8	188	2.7
II Class	...	...	...	546	16.3	636	8.0	334	17.4
III Class	...	...	...	321	38.0	369	17.1	157	37.6
Exemption	...	...	...	4	50.0	—	—	1	100.0
Subject not offered	...	...	...	—	—	14	—	610	32.3
Data not available	...	...	...	680	21.3	612	17.8	691	32.3
TOTAL				1970	18.7	1902	12.2	1981	27.4

**TABLE No. 15: Number of candidates appeared and percentage failed among candidates securing different class at S.S.C. in following subjects.**

<i>P. D. Science Subjects</i>				<i>Physics</i>		<i>Chemistry</i>		<i>Biology</i>	
				<i>Physics and Chemistry</i>		<i>Physics and Chemistry</i>		<i>General Science</i>	
<i>S. S. C. Subjects</i>				<i>Number appeared</i>	<i>Percentage failed</i>	<i>Number appeared</i>	<i>Percentage failed</i>	<i>Number appeared</i>	<i>Percentage failed</i>
I Class	...	...	...	565	10.6	565	8.0	843	17.9
II Class	...	...	...	399	31.6	399	19.8	328	46.6
III Class	...	...	...	200	58.0	200	41.0	47	68.1
Exemption	...	...	...	7	85.7	7	57.1	7	85.7
Not specified S.S.C. subject	...	...	...	119	38.7	119	31.1	65	16.9
Data not available	...	...	...	622	37.6	622	28.5	559	38.8
<b>TOTAL</b>				<b>1912</b>	<b>30.8</b>	<b>1912</b>	<b>22.1</b>	<b>1849</b>	<b>30.8</b>