
**Report of the
Review Committee on
The Curriculum for
The Ten-Year School**



सत्यमेव जयते

**MINISTRY OF EDUCATION & SOCIAL WELFARE
GOVERNMENT OF INDIA ★ NEW DELHI**

1977

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The Ten-Year School**

(INCLUDING SYLLABUS FRAMES)



**MINISTRY OF EDUCATION & SOCIAL WELFARE
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CHAPTER 1

INTRODUCTION

1.1. Need for a Review Committee

The recommendations of the Education Commission (1964-66) were considered by the Government of India and a resolution on the National Policy on Education was adopted after consulting both Houses of Parliament (1968).

Among other things the resolution "laid great emphasis on the fulfilment of the Directive Principle contained in Article 45 of the Constitution regarding the provision of universal and free education for all children in the age-group 6-14. At the secondary stage, it highlighted the urgency to adopt the new pattern of 10+2+3 for school and college classes with an intensive effort to diversify and vocationalise the +2 stage."*

The Ministry of Education and Social Welfare appointed an expert Group in 1973 to develop curriculum for the 10+2 pattern. The Group drafted an Approach Paper in 1975, which was circulated for opinion of the State Governments and of teachers, planners and educational administrators.

A publication entitled "The Curriculum for the Ten-Year School—A Framework" was published by the National Council of Educational Research and Training (NCERT) in 1975.

In 1975 NCERT prepared syllabuses, textbooks and other material in consultation with experienced teachers, subject-specialists and representatives of State Institutes of Education and of Science Educa-

tion, within the framework of the NCERT publication. This work was carried out in a phased manner: for the 1975-76 school session, materials for Classes IX and X were prepared in a few subjects; for 1976-77 materials for Classes I, III and VI were prepared.

The Central Board of Secondary Education adopted some of the textbooks prepared by NCERT for Classes IX and X for the first set of candidates appearing for the secondary public examination held by that Board, at the end of Standard X, in April, 1977.

1.2. Criticisms

The syllabuses and textbooks prepared by NCERT, specially for Classes IX and X, evoked criticism from the public: teachers, parents and children. The main criticisms were that the scheme of examination contained too many subjects for study, the textbooks were too many and too voluminous and, therefore, there was no time for self-study and physical activities.

Another major criticism was that Work Experience, which was intended to be an integral feature of the curriculum, at all stages, did not find a proper place in the teaching-learning process that followed the introduction of the new pattern, thus giving the impression that the curriculum and the syllabuses developed by NCERT would perpetuate the same old system of bookish education.

Dr. P.C. Chunder, Union Minister of Education and Social Welfare, in his capacity as President of NCERT felt that an objective assessment of the

*From the Resolutions adopted by the Standing Committee of the Central Advisory Board of Education (July 1976).

syllabuses and textbooks should be made and, therefore, in June 1977 he appointed a Review Committee under the Chairmanship of Shri Ishwarbhai J. Patel, Vice-Chancellor, Gujarat University, consisting of 30 members representing the Central Board of Secondary Education, State Boards of Secondary Education/State Governments, Teachers' Association, Parent-Teacher Associations, educationists, practising teachers and members from NCERT. (A list of the members is given in Section 1.4).

1.3. Terms of Reference of the Review Committee

The terms of reference of the Review Committee are :

- (1) to review the stagewise and subjectwise objectives identified in the NCERT document "The Curriculum for the 10-Year School.
- (2) to scrutinise the NCERT syllabus and textbooks, in the light of the review as per (1) above.
- (3) to scrutinise the scheme of studies, as given in the said document, and examine whether any suitable modifications in either the scheme of studies or the timetable or both should not be made and to propose suitable staffing pattern.
- (4) to review the present scheme of studies and the time allocated for various subjects with a view to ensuring that :
 - (i) the institution/teacher has adequate time for experimentation, creative work, remedial instruction, etc.
 - (ii) to accommodate the needs of the bright child for advanced level courses; the specific interests and aptitude, or the lack of it, in children, in only certain subject areas, keeping in view the national goals of development and objectives of education.

In the opinion of the Committee the terms of reference were wide enough not only to permit a review of the objectives and scheme of studies set out in the document "The curriculum for the Ten-Year School" but also to identify the principles for formulating a new scheme.

1.4. List of Members

1. Shri Ishwarbhai J. Patel, (Chairman),
Vice-Chancellor,
Gujarat University,
Ahmedabad (Gujarat).
2. Prof. Ram Lal Parekh, M. P.,
4, Ferozeshah Road,
New Delhi.
3. Shri A.E.T. Barrow, M. P. (Secretary),
Council for the Indian School
Certificate Examinations,
Pragati House, 3rd Floor,
47-48, Nehru Place,
New Delhi.
4. Smt. Shanti Kabir, (Chairman),
Parent Teacher Association,
S-47, Panchshila Park,
New Delhi.
5. Prof. S. M. Chatterji, (President),
West Bengal Board of Secondary Education,
77/2, Park Street,
Calcutta (West Bengal).
6. Shri A. R. Dawood,
24, Delamar,
141, Marine Drive,
Bombay (Maharashtra).
7. Dr. (Smt.) Chitra Naik, (Director),
Indian Insitute of Education,
49/A/23-Erandavana,
Pune (Maharashtra).
8. Dr. A. K. Narayanan Nambiar,
Director of Research and Studies,
Trivandrum (Kerala).

9. Dr. S. N. Mehrotra,
Director of Education,
18, Park Road,
Lucknow (Uttar Pradesh).
10. Shri U. T. Bhelande, (Chairman),
Maharashtra Board of Secondary Education,
Pune (Maharashtra).
11. Shri S. P. Singh Bhandari, (Chairman),
Board of Secondary Education, Rajasthan,
Ajmer (Rajasthan).
12. Shri Manubhai Pancholi,
Lok Bharati,
Sanosra (Western Railway),
Distt. Bhavnagar (Gujarat).
13. Dr. G.L. Bakhshi,
Chairman,
Central Board of Secondary
Education,
Indraprastha Estate,
New Delhi.
14. Smt. Lotika Ratnam,
39, Bharati Nagar,
New Delhi.
15. Dr.(Kumari) A. Nanda,
Joint Director of Education,
Education Directorate,
Delhi Administration,
Old Secretariat,
Delhi.
16. Dr. R.C. Sharma,
Additional Deputy Commissioner,
(Academic),
Kendriya Vidyalaya Sangathan,
Nehru House,
Bahadur Shah Zafar Marg,
New Delhi.
17. Shri S.N. Bhanot,
President,
Joint Council of Delhi Teachers
Organisation,
L-8-A, Malaviya Nagar,
New Delhi.
18. Shri Rana Pratap,
Delhi Adhyapak Parishad,
C/o 51-Satya Niketan,
Moti Bagh II,
New Delhi.
19. Shri R.K. Mohta,
Secretary,
All India Science Teachers Association,
C/9, Sardar Patel Vidyalaya,
Lodi Estate,
New Delhi.
20. Shri R.R. Biala,
Principal,
Govt. Higher Secondary School,
President's Estate,
New Delhi.
21. Shri R.P. Singhal,
Vice-Chairman,
Central Board of Secondary
Education,
Indraprastha Estate,
New Delhi.
22. Shri Babia Naidu,
5/9/684, Gun Foundry,
Hyderabad
(Andhra Pradesh).
23. Shri A.L. Subrahmanyam,
28, New Colony,
Chrompet,
Madras (Tamil Nadu).
24. Shri G.S. Dhillon,
Principal,
Shri Guru Harikrishan Public
School,
Purana Qila Road,
New Delhi.
25. Smt. R. Kumar,
Principal,
Springdales School,
Pusa Road,
New Delhi.

26. Prof. B. Sharan,
Head of Department of Education
in Science and Mathematics,
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Sri Aurobindo Marg,
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27. Dr. Manmohan Singh Arora,
Professor of Mathematics,
Department of Education
in Science and Mathematics,
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Sri Aurobindo Marg,
New Delhi.
28. Prof. B.S. Parekh,
Head of Department of Education
in Social Sciences & Humanities,
NCERT,
Sri Aurobindo Marg,
New Delhi.
29. Prof. Anil Vidyalankar,
Department of Education in
Social Sciences & Humanities,
NCERT,
Sri Aurobindo Marg,
New Delhi.
30. Dr. A.N. Bose, (Member-Convener)
Dean (Co-ordination), NCERT,
Sri Aurobindo Marg,
New Delhi.

1.5. Meetings

The Committee met five times and had the privilege of being addressed by Shri Morarji Desai, Prime Minister of India, on 8th July 1977.

(A copy of the Prime Minister's speech is given in Appnedix I).

(Details of the meetings of the Committee are given in Appendix II).

1.6. Acknowledgements

The Committee records its respectful thanks to Shri Morarji Desai, Prime Minister of India, for finding time to meet the members on two occasions.

The Committee is grateful to Dr. P.C. Chunder Union Minister of Education and Social Welfare, for his encouragement and help.

Particular thanks are due to NCERT for the help and assistance given, to the teachers who worked on the different Subject Sub-Committees and to members of the public who showed their interest, in the work of the Committee, by sending a large number of suggestions for its consideration.

(A list of teachers who worked on the Subject Sub-Committees is given in Appendix III).

CHAPTER 2

OBJECTIVES AND STRUCTURE OF SCHOOL EDUCATION

2. 1. General

Having considered the NCERT Framework and keeping in mind the Constitutional Directive contained in Article 45 which enjoins that “the State shall provide free and compulsory education for all children until they complete the age of 14 years”, we feel that the objectives at the compulsory stage of school education must necessarily be distinct from the objectives of education beyond this stage.

We also consider that the objectives of education, when viewed comprehensively, should enable an individual to acquire, knowledge, skills, habits, attitudes and values necessary for

- (i) a successful performance of his responsibilities as a citizen; and
- (ii) a rewarding personal life by development of
 - (a) innate talents,
 - (b) powers of creative enterprise, and
 - (c) the capacity to appreciate the splendour of life revealed from communion with nature and man with man.

2. 2. Learning : formal, non-formal

Every child, from birth, is influenced by the culture of the family and the community and, though he acquires useful skills and attitudes, nevertheless he continues to be influenced by his immediate environment which if properly utilised can become an instrument of education modifying traditional patterns of living and removing their inhibitive aspects. We, therefore, feel that education must

be organised as a learning system to take the individual and society progressively towards higher reaches of human thought and behaviour.

We are of the view that the learning system should be organised through formal or non-formal arrangements—some institutional, some partly personal—and that the institutional arrangements should not be so rigid as to exclude those learners who wish to make use of them partially. It is our opinion that, linked with such flexible arrangements within the learning system, the content of learning must also be flexible and arranged so as to suit the needs of individual learners or groups of learners. The curriculum too must be capable of catering to the requirements of a wide range of learners and learning circumstances. The curriculum, we feel, has to be built round local situations, though there must be a core of basic content for comparability of educational attainment and the acquisition of further skills and knowledge. This core should be minimal.

We know that primary and secondary education which, at present, is mainly given through institutions is generally linked with age-groups. Anyone who has missed any stage of primary or secondary education, and who desires to re-enter at any age and at any point, in our opinion, should find it possible to do so either in an institution or through some non-formal arrangement.

2.3. Attitudes and values

It is our belief that the educational system must inculcate attitudes and create values so that every individual should promote the concepts of socialism, secularism and democracy and not only revere but actively strive for the realisation of the principles of

justice, liberty, equality and fraternity, enshrined in the Preamble of our Constitution.

The present educational system, we are aware, is urban-oriented, bookish in outlook and almost entirely divorced from manual activity. In terms of opportunity this has proved discriminatory against the poor and weaker sections of society. We, therefore, feel that the principles of Basic Education as evolved by Mahatma Gandhi and accepted in the Kothari Commission Report with the stress on work education need to find a central place in the educational system.

Summarising our views, we consider that education during these 10 years should be capable of :

- (a) promoting an understanding and appreciation of our cultural heritage while simultaneously stimulating desirable changes in our traditional culture-pattern ;
- (b) moulding the learner after the image of the citizen as visualised in the Constitution ;
- (c) releasing learning from its bookishness and elitist character so as to relate it closely to socially productive manual work and the socio-economic situation of the Country ;
- (d) encouraging rationalism and the scientific attitude ;
- (e) emphasising the qualities of simplicity, integrity, tolerance and cooperation in all aspects of life ;
- (f) being available to every individual irrespective of caste, creed, sex, age, place of birth, or economic circumstances and in such a way that working and learning can always be combined.

2.4. Specific objectives of Primary and Secondary education

In specific terms we, therefore, feel that the objectives of the structure and curriculum content

for primary and secondary education should be reformulated as below.

It should be remembered that the objectives of primary education have to be distinct from those of the other stages of education in view of the Constitutional obligation to make it universal.

A. Objectives of Primary Education (I-VII/VIII)

- (1) acquisition of tools of formal learning, namely, literacy, numeracy and manual skills ;
- (2) acquisition of knowledge through observation, study and experimentation in the areas of social and natural sciences ;
- (3) development of physical strength and team-spirit through sports and games ;
- (4) acquisition of skills for planning and executing socially useful productive work with a view to making education work-based ;
- (5) acquisition of skills of purposeful observation ;
- (6) acquisition of habits of cooperative behaviour within the family, school and community ;
- (7) development of aesthetic perception and creativity through participation in artistic activities and observation of nature ;
- (8) development of social responsibility by inculcating habits (individually as well as collectively) of appreciation of the culture and life styles of persons of other religions, regions and countries; and readiness to serve the weaker and the deprived.
- (9) development of the desire to participate in productive and other processes of community life and to serve the community.

B. Objectives of Secondary Education (VIII/IX-X)

- (1) acquisition of the skills and habits of self-learning ;
- (2) acquisition of a broad-based general education consisting of science, mathematics, social sciences, languages and socially useful productive labour ;
- (3) acquisition of habits of helpful living and participation in games, sports, and athletics for the maintenance of physical fitness ;
- (4) developing aesthetic appreciation and creativity through participation in artistic activities ;
- (5) exploring the world of work and understanding the realities of life in order to prepare for a confident entry into the world outside the school ;
- (6) participation in and promotion of social activities in the school and the community in such a way as to imbibe democratic values and to work towards the achievement of equality through service to the weak and the deprived.

Keeping in view the objectives of primary and secondary education enumerated above and also keeping in view the Constitutional obligation under Article 45 and realising that the stage of school education which is sometimes termed 'middle', ending at VII/VIII, is a terminal stage of formal education for the great majority of the children in our Country, we recommend that a general broad-based education be provided up to the end of the stage of compulsory education, so that children leaving school should have acquired a knowledge of our heritage and culture and are enabled to exercise their rights as citizens in a responsible manner.

Taking into consideration differences in aptitude and ability of children, we feel that while in Classes VIII/IX and X there should be general broad-based

education, provision must be made for developing any special interests or talents in at least one area, outside the broad framework of general education.

Realising that a broad-based general education can make heavy demands on the capacity and energy of children at the secondary stage, we strongly recommend that the content of courses of individual subjects of learning must be designed, so as to keep the quantum of knowledge to the minimum essential for the understanding of the subject.

2. 5. Structure, curriculum pattern and time allocation

We give below the structure, curriculum pattern and time allocation for the different sub-stages of school education which is illustrative and which we believe may apply in general throughout the Country.

In Chapter 4, we will endeavour to explain the background of some of the main features of the scheme. At this point, however, we would draw attention to "Languages" in the scheme. We are of the view that the recommendations of the Kothari Commission in this regard should be the basis for the formulation or re-formulation of any policy. We have, therefore, added at the end of the scheme a Note on Languages, in which the recommendations of the Kothari Commission are reproduced.

STRUCTURE, CURRICULUM PATTERN AND TIME ALLOCATION

Classes I—IV/V	Time Allocation
1) One language*	20%
2) Mathematics	20%
3) Environmental Studies (Social Studies, Nature Study and Health Education)	20%
4) Socially Useful Productive Work	20%
5) Games and Creative Activities, such as, Music, Dancing and Painting.	20%

* See Note on Languages.

Classes V/VI—VII/VIII	Time Allocation (per week)
1) Languages*	7 hours
2) Mathematics	4 hours
3) History, Civics and Geography	4 hours
4) Science—An Integrated course	4 hours
5) The Arts (Music, Dancing, Painting)	3 hours
6) Socially Useful Productive Work and Community Service.	6 hours
7) Games, Physical Education and Supervised Study.	4 hours
	<u>Total 32 hours</u>

7) Games, Physical Education and Supervised Study.	4 hours
	<u>Total 32 hours</u>

Important Note ; 1. The scheme for classes VIII/IX—X is illustrative only and States/Education/Examination Boards may decide to make some subjects Compulsory and the others Elective.

2. In the public examination at the end of Class X the number of subjects for external evaluation should not exceed seven.

NOTE ON LANGUAGES

(1) Three-Language Formula

The recommendations in the Report of the Education Commission 1964-1966, (Pages 334-336) published by the National Council of Educational Research and Training, 1971, are reproduced :

“8.34.

We, therefore, recommend a modified or graduated three-language formula to include :

- 1) The mother-tongue or the regional language :
- 2) The official language of the Union or the associate Official language of the Union so long as it exists : and
- 3) A modern Indian or foreign language not covered under (1) and (2) and other than that used as the medium of instruction.”

“8.35.

Implications of the Modified Formula. At the lower primary stage only one language should be studied compulsorily—the mother-tongue or the regional language, at the option of the pupil. In the case of the vast majority of pupils, the language

Classes VIII/IX—X	Time Allocation (per week)
1) Languages*	8 hours
2) Mathematics : Alternative I : or Alternative II :	4 hours
3) Science : Alternative I (Theory and or Practical Alternative II :	5 hours
4) History, Civics and Geography —as one course.	3 hours
5) One of the following : The Arts (Music, Dancing, Paint- ing etc.), Home Science, Agriculture, Commerce, Economics, Social Recons- truction, Classical Languages* etc.	2 hours
6) Socially Useful Productive Work and Community Service.	6 hours

* See Note on Languages

of study at this stage will be the regional language which will also be their mother-tongue. Some children belonging to the linguistic minorities may also opt for instruction in the regional language, because of its great advantages ; but this cannot be forced on them, and they have the right under the Constitution to have facilities provided for their primary education through their mother-tongues. The State Governments should, therefore, provide primary schools teaching through the mother-tongue for the children of linguistic minorities if they desire to have such an education, subject to the usual condition approved by the Education Ministers' Conference (1949) that the minimum number of such children should be 10 in a class or 40 in a school. It is desirable that such children should have a working knowledge of the regional language also. Facilities for its study should, therefore, be provided, on an optional basis, from Class III onwards. We do not favour making the study of regional language compulsory at this stage for children of linguistic minorities, as has been done in some States at present. We are also not in favour of teaching English as a second language at this stage. This has been discussed further in a later section."

"8.36.

At the higher primary stage only two languages should be studied on a compulsory basis : (1) the mother-tongue or the regional language, and (2) the official or the associate official language of the Union. For almost all the pupils in the Hindi areas and for a majority of them in the non-Hindi areas, English will probably be the second language, but a large proportion of the pupils in non-Hindi areas may also opt for Hindi. In addition, facilities should be provided for the study of a third language on an optional basis, so that the children in Hindi areas whose mother-tongue is not Hindi and the children in non-Hindi areas who have taken English as the second language may study the official language of the Union, if they do desire."

"8.37.

At the lower secondary stage (Classes VIII-X), a study of three languages should be obligatory ; and a student should be under an obligation to study

either the official language of the Union or the associate official language which he had not elected at the higher primary stage. By and large, the pupils in the Hindi areas will study Hindi, English and a modern Indian Language, while the vast majority of pupils in non-Hindi areas will learn the regional language, Hindi and English. In the selection of the modern Indian language in Hindi speaking areas, the criterion should be the motivation of the pupils for studying that language.

For instance, in the border areas of a State, people are generally interested in studying the regional language across the border and this could well be the third language to be studied."

"8.38.

It is true that English will be the most important library language to be studied at this stage. We, however, think that it is also necessary to encourage the study of other important library languages like Russian, German, French, Spanish, Chinese or Japanese. Facilities for their study should be provided in a few selected schools in each State and it should be open to the students to study them, either in addition to, or in lieu of English or Hindi. Similarly, provision should be made, in a few selected schools in the non-Hindi areas, for the study of modern Indian languages other than Hindi and the regional language. It should be open to the students to study these languages, as stated earlier with regard to library languages, either in addition to or in lieu of English or Hindi."

"8.39.

In the higher secondary classes, which will serve largely as a preparatory stage for higher education, only two languages need be made compulsory and the students should have the option to select any two of the three languages studied earlier or a combination of any two languages taken from the following groups : (1) modern Indian languages ; (2) modern foreign languages ; (3) classical languages— Indian and foreign. There is of course no bar to a student studying one or more additional languages on an optional basis."

(2) Study of Classical Languages

“8.48.

We recognize the importance of the study of classical languages and of the special claim that Sanskrit has on the national system of education. But we do not agree with the proposal to include Sanskrit or other classical languages in the three-language formula.

In our opinion, this formula has to be restricted to the modern Indian languages only. We are in favour of the proposal of adopting a combined course of the mother-tongue and Sanskrit. But this is not a very popular proposal. Under these circumstances, classical languages can be provided in the school curriculum on an optional basis only. This may be done from Class VIII onwards.”

CHAPTER 3

SOCIALLY USEFUL PRODUCTIVE WORK

I. THE FRAMEWORK

3.1. Central Place in Curriculum

A review of the present position of the system of education reveals that it is still predominantly bookish in character and generally irrelevant to the needs of society.

The National System of Education as conceived by our leaders during the national movement for freedom and as propounded by Mahatma Gandhi has its genesis in work-based education. Gandhiji was against education leading to the search for white-collared jobs. He was of the opinion that if education is based on **Socially Useful Productive Work**, it would be an instrument for personality development and social transformation.

After Independence, a number of committees and commissions have been appointed to recommend changes in the system of education. All of them have expressed their appreciation of the Gandhian philosophy of Basic Education as the best solution for our educational problems. It may be mentioned here that although few in number, some Gandhian voluntary organisations have successfully implemented educational programmes based on this philosophy. Tradition, however, dies hard and the system of education continues to be bookish in character and divorced from the needs of society. **Socially Useful Productive Work** must, therefore, be given a central place in the curriculum at all stages of school education and the content of the academic subjects should be related to it, as far as possible.

3.2. The Concept

Socially Useful Productive Work may be descri-

bed as purposive, meaningful, manual work resulting in either goods or services which are useful to the community. Purposive, productive work and services related to the needs of the child and the community will prove meaningful to the learner. Such work must not be performed mechanically, but must include planning, analysis and detailed preparation, at every stage, so that it is educational in essence. Adoption of improved tools and material, where available, and the adoption of modern techniques will lead to an appreciation of the needs of a progressive society, based on technology.

It will be recalled that programmes of **Work Experience** were introduced as a result of the recommendations of the Kothari Commission with the objective of relating education to productivity. These programmes, however, lacked the component of social usefulness and, in practice, were not even casually correlated to other subject areas.

The purpose of demarcating a distinct curricular area as **Socially Useful Productive Work** is to emphasise the principle that education should be work-centred, as the concept of **Socially Useful Productive Work** is to be developed in the light of the Gandhian philosophy of Basic Education, in and through work.

3.3. Aim

The aim of this curricular area is to provide children with opportunities of participating in social and economic activities inside and outside the classroom, enabling them to understand scientific princi-

ples and processes involved in different types of work and in the setting in which they are found in the physical and social environment.

3.4. Criterion for Selection of Activities

The criterion for selection of activities should, thus, be that the work involved is **productive, educative and socially useful**. It is felt that if **Socially Useful Productive Work** is given a central and dominant place in the curriculum the gap between work and education will be reduced, the school will not remain isolated from the community and the gulf that divides the affluent from the weaker and poorer sections of the community will be bridged. Such a scheme will provide equality of opportunity for working and learning to all children irrespective of caste, creed, sex and economic status.

It is unfortunate that those who receive education migrate from the villages to the towns, deserting the community which had nurtured them and spent money on their education. A cleavage is thus created between the so-called educated and the rural masses, resulting in lack of harmony, where previously there was community of outlook. Those who have been thus educated are soon disenchanted as education brings unemployment. A paradoxical situation arises in that national resources are spent on their education only to help them join the ranks of the unemployed.

3.5. Social Service

The component of Social Service in the curriculum is allied to **Socially Useful Productive Work**. For example, when children participate in an environmental cleanliness programme by way of social service, they can simultaneously prepare compost pits for manure. Similarly, if children conduct surveys of population, habitations or cattle, they can use the information for planning programmes for child-care and sanitation. During the harvesting season when the entire village is under pressure of intensive work, the schools, instead of remaining in isolation, can render valuable help.

3.6. Help from and to other agencies

Activities under **Socially Useful Productive Work**

must not be confined to the four walls of the school, nor can they be provided by the teacher only. Programmes should, therefore, be so planned and implemented that the local community, community development organisations and governmental agencies participate in them and cooperate with the school. For example, no school can, by itself achieve effective results in the environmental cleanliness programme unless the village panchayat extends full cooperation and support to the school. In fact, many governmental and social organisations such as Khadi and Village Industries Commission, All India Handicrafts Board, Harijan Kalyan Samiti do render valuable help to the community. If their programmes can include participation by school children, they will be introduced to activities in which they will realise that they are cooperating with adults.

3.7. Decentralisation

The planning for **Socially Useful Productive Work** should be decentralised as far as possible. The Central and State agencies should prepare model programmes which will serve as specimens for developing programmes by local institutions. District, taluqa and village level committees should be set up by including representatives from various departments and organisations. These committees should provide plans and programmes to the schools well in advance; these programmes should be reviewed from time to time. The committees should also consider the feasibility of making provision for the supply of raw material and the sale of finished products.

3.8. Need for Core Programmes

Depending upon the needs and facilities available, the activities pertaining to **Socially Useful Productive Work** will differ from school to school.

But it should be possible to identify common core programmes, which should be undertaken by all schools. The overall programmes should be so designed as to involve regular and universal participation of the children throughout the year.

Productive work and services, where possible, should result in remuneration in kind or cash where possible; this will develop attitudes of self-reliance.

II. OBJECTIVES

The objectives of **Socially Useful Productive Work** will be to :

- (i) prepare pupils to practise and perform manual work individually and collectively;
- (ii) acquaint children with the world of work and services to the community and develop in them a sense of respect for manual workers ;
- (iii) develop a desire to be useful members of society and contribute their best to the common good ;
- (iv) indicate positive attitudes of team work and socially desirable values like self-reliance, dignity of labour, tolerance, co-operation, sympathy and helpfulness ;
- (v) help in understanding the principles involved in the various forms of work ; and
- (vi) lead children to participate increasingly in productive work as they go from one stage of education to another and, thereby, enable them to earn while they learn.

III. PROGRAMME

3.9. Problems solving approach.

In order to ensure that the educational objectives of this programme are achieved it is necessary to follow the problem solving approach. Children should be made aware of the problems related to their needs; they should be led to arrive at solutions by discussing the material, tools and techniques necessary for performing such work and services. A built-in system of evaluation should be developed to enable them to improve their performance and to enable teachers to give a fair assessment of their

work. As recommended later **Socially Useful Productive Work** must be given the status of a full-fledged subject in the final public examination taken at the end of Class X.

3.10. Teaching—learning process : three phases.

Children have a natural curiosity to explore their environment. They explore the world of work by observation, enquiry and manipulation of material and tools, they learn to work by imitation. They enjoy working together and enjoy helping adults in their work. Therefore, the teaching-learning process in **Socially Useful Productive Work** will have three phases :

- (i) study of the world of work through observation and enquiry;
- (ii) experimentation with material, tools and techniques; and
- (iii) work practice.

The first two are concerned with preparation for actual participation in productive work and services and the third may lead to remuneration.

3.11. Work situations : six areas.

Thus, productive manual work situations relating to production of goods and services will have to be drawn from the areas of :

- (i) health and hygiene;
- (ii) food;
- (iii) shelter;
- (iv) clothing;
- (v) culture and recreation; and
- (vi) community work and social service.

These work situations occur in the home, in the school and in the community. It has already been mentioned that such programmes will have two components :

- (a) a common core programme;
- (b) work practice.

The purpose of the common core programme will be to bring about attitudinal changes and to develop readiness for work practice.

The purpose of work practice is to give a vocational bias to the programme. It will, therefore, be repetitive in nature and, it is hoped, remunerative in kind or cash.

3.12. Programmes by classes

Such programmes will take the form of simple projects in classes III—VII/VIII and will include main and subsidiary crafts in classes VIII/IX and X.

The programme of **Socially Useful Productive Work** may be summarised as follows :

(a) Classes I and II

Helping in work situations in the home, in the school and in the community; manipulating simple material with simple tools for creative self-expression.

(b) Classes III—VII/VIII

Common activities pertaining to the six areas mentioned earlier.

(i) Health and Hygiene

Dusting of furniture; cleaning of classrooms, school buildings, the school compound and its vicinity.

(ii) Food

Vegetable gardening or pot culture; cooking of meals.

(iii) Shelter

Construction with plastic, pliable and rigid material.

Maintenance of articles of use.

(iv) Clothing

Spinning and simple handweaving or knitting; washing of clothes; stitching; mending.

(v) Culture and recreation

Decorating the classroom, school and home; flower gardening; preparation for important national days (including hoisting and saluting the National Flag), festivals and school functions.

(vi) Community work and social service

Cleaning the neighbourhood; preparation, maintenance and use of a compost pit; planting and care of shade trees; running of cooperative stores; the school panchayat; helping adults in productive work.

In classes V/VI to VII/VIII activities as in the previous classes will be continued but they will be of an advanced type.

Work practice will be in the form of projects selected from the list given below:

Two projects at least be selected from the following illustrative activities in each class.

1. Health and Hygiene

Making of tooth powder; soap; disinfectants; detergent powder; hair oil; brooms; waste-paper baskets; dust bins; compost manure; first aid boxes; health posters; booklets on health and hygiene; keeping health records; keeping the neighbourhood clean; working at health centres.

2. Food

Growing of selected vegetables and ornamental plants in plots or pots, where possible for sale.

Seed collecting; soil testing; experimentation with different kinds of soil, different types of seeds, different kinds of manure; vegetative propagation by cutting; vegetative propagation by breeding; vegetative propagation by grafting; vegetative reproductivity; layering; soil conservation.

Making of jam; jelly; ketchup sauce; pickles; fruit juices; confectionery or bakery items.

Working in canteens or stalls for a specified period.

Packing of food material.

3. Shelter

Making articles of use with the help of any material; making stationery items; white washing; polishing doors, windows, and furniture; caning chairs; repairs of furniture; casual labour work in the school.

4. Clothing

Spinning; making school bags; school uniforms; handkerchiefs; table-clothes; pillow-cases; knitting; making mats.

5. Culture and recreation

Toy-making; artificial flowers; pottery painting; making games material; cards for festivals; fancy covers for books and book-binding; fancy candle-making.

6. Community work and Allied social service

Helping adults in their work as Projects, such as, keeping a specified area clean; helping in the care of the sick; first aid; helping at functions and during festivals; traffic control; helping in the literacy campaign.

(c) Classes VIII/XI—X.

Greater emphasis should be placed on work practice in these classes.

Work practice will include one main craft or equivalent service and at least one subsidiary craft or equivalent service.

MAIN CRAFTS/SERVICES

(i) Health and Hygiene

Growing medicinal plants; eradication of communicable diseases; paramedical service.

(ii) Food

Agro-industries; kitchen gardening; pot culture; crop and seed production; repair of farm implements; soil conservation and desert control; horticulture animal husbandry and dairying; bee keeping; poultry farming; fish culture; bakery; confectionery; cooking.

(iii) Shelter

Pottery; masonry work; workshop practice (mechanical); workshop practice (electrical); workshop practice (electronics) cane and bamboo work; house-craft; blacksmithy; foundry work; carpet weaving.

(iv) Clothing

Production of cotton, wool, silk and other fibres; weaving; dress making; knitting; hosiery work; embroidery work; dress designing; leather work.

(v) Culture and recreation

Making toys and puppets; making and repairing musical instruments; making games material; printing; book binding; making stationery; photograph.

SUBSIDIARY CRAFTS/SERVICES

(i) Health and Hygiene

Cleanliness of the neighbourhood, well and pond and the disposal of garbage;

construction of toilet facilities and compost pits; making tooth picks; tooth powder; soap; detergents; disinfectants; first aid boxes; construction of waste-paper baskets; dust bins; garbage cans; brooms; brushes; cob-web cleaners; dusters; mops; etc. detection of adulteration.

(ii) **Food**

Distribution of fertilisers and insecticides; processing and preservation of food; hydroponics; mushroom culture; *khandsari gor* and candy making; catering; making jam, jelly, squashes, pickles, *bari* and *papad* etc., packing food; marketing.

(iii) **Shelter**

Home, village and town planning.
Lac culture.

Renovation and effecting minor repairs in buildings, fittings, furniture and household articles. Decorating the home; gardening; surface decoration; interior decoration; construction of decorative pieces; plaster of paris work; chalk and candle making; making limestone.

(iv) **Clothing**

Spinning of different fibres; dyeing and printing repair of garments; laundry work.

(v) **Culture and recreation**

Stage craft; making costumes; holding exhibitions.

IV. TEACHERS

3.13. Importance of teachers

The provision of properly skilled teachers for the

implementation of the programme of **Socially Useful Productive Work** is of the utmost importance. In order to give this area of work its proper place in the school programme it is recommended that :

- (i) the professional status of teachers of **Socially Useful Productive Work** should be the same as that of other teachers;
- (ii) there should be provision for the part-time employment of skilled personnel for different activities;
- (iii) there should be cells for **Socially Useful Productive Work** in the State Departments of Education and the State Institutes of Education to develop programmes of in-service training;
- (iv) a scheme of course content of **Socially Useful Productive Work** for Teacher Training Colleges should be produced by NCERT in collaboration with such other institutes which have included manual labour in their regular programmes.

V. IMPLEMENTATION

3.14. Committees

Coordinated efforts should be made for the implementation of the programme.

High level committees at the Central level and State levels should be constituted by the respective Departments of Education so that the decisions made by them should invariably be accepted and implemented without delay. These Committees meet regularly to review the progress of work in these areas and remove difficulties in implementation and also create a climate of opinion in favour of this area of the curriculum.

CHAPTER 4

IMPLICATIONS

4.1. Introduction

Towards the end of Chapter 2 we have indicated that explanations and the general background of the main features of the structure, curriculum pattern and the time allocation would be given.

We wish to make it clear that our endeavour has been to adjust imbalances and give a new emphasis to certain areas of educational activity, so that the ten-year pattern of School education should function effectively.

4.2. Realism and flexibility

In reappraising the ten-year pattern of School education, we have tried to maintain a sense of realism and, therefore, our recommendations have been based, as far as possible, on the principle of flexibility.

We know that a realistic appraisal of the objectives and content of courses of study would not have any meaning if we did not take into consideration the diverse circumstances, the different cultural elements, the local needs, the resources and facilities available and the background and abilities of the children who are to be exposed to such educational programmes.

We also wish to stress the fact that the classroom is not the only place or source from which children learn. The environment and society are also sources from which children acquire attitudes and knowledge. Educational programmes must be so arranged that all these factors are fully utilised, and hence rigid uniformity of educational programmes is neither desirable nor sound.

We feel, therefore, that State Governments, Local Authorities and Education/Examination Boards must have freedom in curriculum and syllabus planning, so that the work in schools will subserve local and special needs, such as those of minorities, and scheduled castes and tribes, which have been identified and determined in consultation with the local community and the interests concerned.

4.3. Main components of the scheme giving structure, curriculum pattern and allocation of time

The scheme that we have recommended has three main components—humanities, science and work (Socially Useful Productive Work and Community Service), together with aesthetic appreciation to illuminate the curriculum. At each of the three sub-stages of the ten-year school we have tried to give due emphasis to these components.

At this point it is necessary for us to stress the distortion that has crept into our educational system through the obsession with literacy and book learning. Book learning has dominated the whole system and this we feel must be corrected.

4.4. Socially Useful Productive Work and Community Service

We believe that the reaffirmation of the Gandhian concept of Socially Useful Productive Work is the very first step in giving the right direction to our present system of education.

We strongly recommend that Socially Useful Productive Work must find a central place in the school curriculum. We are advocating not merely education plus work but education in and through work; this is the basis of the Gandhian philosophy of Basic Education,

The merit of education through work is that it follows the natural instinct of man to translate thought into activity and activity into thought.

“Education”, the Kothari Commission has stated, “is a three-fold process of imparting knowledge, developing skills and inculcating proper interests and attitudes and values”.

At the risk of sounding pedantic we would like to stress the close coordination of the senses and also the reciprocal influence between brain activity and material creative activity.

We venture to suggest that the premium on bookish knowledge in India can only be removed by a complete change in the structure of the curriculum and allotment of time to the area of work. This can only be done if more emphasis is laid on activities and experience rather than formal instruction.

We also prefer the term **Socially Useful Productive Work** to that of **Work Experience**, as it is not only more expressive but it focuses attention on the practical aspect of this area of education.

(a) Increased allocation of time

In order to implement the scheme of **Socially Useful Productive Work** we recommend that the time allocation to it should be as under :

- (i) In Classes I to IV/V—20% ;
- (ii) In Classes V/VI to VII/VIII—six hours a week out of a total of 32 hours.
- (iii) In Classes VIII/IX to X—six hours a week out of a total of 32 hours.

Although we have stressed the need for flexibility, we wish to make it clear that in this programme of **Socially Useful Productive Work**, if flexibility means a reduction in the allotment of time to work-education then we are against flexibility in this area.

We recommend that if flexibility is to be exercised then it must be to increase the time for **Socially Useful Productive Work and Community Service**.

One way of achieving this is by implementing such programmes not only during school hours, but also outside school hours and during school holidays and vacations.

(b) Socially Useful Productive Work : Status of of a full-fledged subject

We feel that merely increasing the time for **Socially Useful Productive Work** will not in itself provide motivation to children and teachers.

In our view, **Socially Useful Productive Work** must be given the status of a full-fledged subject for the award of certificates at the end of Class X. By a system of internal assessment (which may be continuous) and external evaluation the work undertaken in the **Socially Useful Productive Work** programmes must be given credit and should be counted towards certificates awarded by Education/ Examination Boards. The weightage to be given to internal assessment and external evaluation should be determined by each examining body.

Very deliberately, we have devoted a special chapter in this report to **Socially Useful Productive Work** and have set out the objectives, programmes and role of teachers, as we feel that this recommendation is the core recommendation of this report and the implementation of programmes of **Socially Useful Productive Work** is of paramount importance to give work-education its proper and rightful place in the primary and secondary stages of education.

4.5. Place of languages in the scheme

Policy decisions with regard to the languages to be taught and the number of such languages, at the different stages of school education, have already been made by State Governments and are being implemented.

We feel that in determining the pattern of languages to be taught the recommendations of the Kothari Commission should be given due consideration and that these recommendations should be used as guidelines in formulating or reformulating any policies on the teaching of languages.

4.6. Educational Structure

While the Kothari Commission in its chapter on the "Educational System : Structure and Standards" visualised a flexible educational structure covering :

"a pre-school stage of one to three years ;

"a primary stage of seven or eight years divided into two sub-stages—a lower primary stage of four or five years and a higher primary stage of three years ;

"a lower secondary or high school stage of three or two years in general education or one to three years vocational education ;",

in its chapter on **School Curriculum** it has described the structures of the sub-stages of school education in definite terms of Classes, as under :

Lower Primary Stage : Classes I-IV

Higher Primary Stage : Classes V-VII

Lower Secondary Stage : Classes VIII-X.

In the Scheme we have formulated the structural division into Classes has been made flexible because we have taken into consideration the different, existing schemes in the States.

The flexibility we have suggested will, we believe, permit States and Local Authorities to adapt the division of the ten-year period into sub-stages to suit local needs.

4.7. Classes I-IV/V

We now turn to certain aspects which would be consequential to the structure that we have recommended :

(i) Instructional Hours

We wish to stress the need for a change in the approach to the learning process in these classes. We feel that there is need for more creative and joyful activities than formal instruction. Formal instruction, must be reduced to a minimum and we, therefore, recommend that children in Classes I-IV/V

should not be required to remain in school for more than 2½ to 3 hours a day.

One of the benefits that flow from such a reduction in the hours of formal instruction is that trained teachers can be freed to teach at the pre-primary stage, give help to drop-outs who wish to re-enter the stream of formal education, run second shifts in single-teacher schools or assist in programmes of adult education.

As in many Countries, help from the community should be arranged in activities in which such persons are interested, such as, gardening, cooking, physical education.

(ii) No rigid time-table

In our scheme we have deliberately allotted the time at the primary stage in terms of percentages rather than in terms of periods because, we believe, that at that stage a rigid distribution of time into class periods is educationally unsound.

(iii) Textbooks

We have referred earlier to the obsession with literacy resulting in the dominant position of textbooks in our system of education. This has assumed serious proportions in that we have the not uncommon spectacle in cities, at least, of young children carrying loads of books to and from school because of the emphasis given to book learning by parents and teachers.

We are of the view that except in the case of language there is no need for textbooks in Class I-II; in Classes III-IV/V there should be one textbook for Language, one book in Mathematics and one for Environmental Studies.

(iv) Teacher's guide books and teaching aids

Teacher's guide books and teaching aids, we believe, are necessary and these should cover the whole range of activities for all classes and that in the preparation of guide books the principle of correlation should be the basis. We feel that special

guidance must be given on music, dance, dramatic activities and physical education. In the field of physical education we find that at the primary level proper guided activities are not provided, so that when children come to the next sub-stage, their body capacity is not developed sufficiently to undertake physical education which is provided by specialist teachers.

(v) No homework : Classes I-IV/V

One of the most pernicious educational practices is giving children unlimited homework. At present a child works four to five hours in school and is then faced with the prospect of two to three hours of homework, thus a child is a prisoner either in the four walls of the school or of his house for the greater part of the day. Many children are, therefore, unable to take part in activities that make life joyful.

We are, therefore, constrained to condemn the practice of prescribing homework and recommend that no homework should be set for children in Classes I to IV/V.

In the scheme we have suggested, if there is self-study then this must be made possible within school time as supervised study. This arrangement for self-study will be more beneficial as it can be done under the supervision of teachers.

(vi) No rigid academic year

In view of the fact that more than 80% of primary schools are in rural areas, we are strongly of the view that no rigid academic year should be prescribed. The school sessions should be scheduled according to local needs.

4.8. Classes V/VI-VII/VIII

(i) Flexible time-tables

We have recommended that for Classes I-IV/V there should be no rigid time-tables. At this stage it will be necessary to introduce formal time-tables for proper teaching of the different subjects. However, we feel that where it is possible time-tables should be flexible,

(ii) Textbooks

We realise that there will have to be textbooks for each of the areas of study, but the number of these can be reduced by having one book for Science and one in which Civics and History are combined.

We are of the view that the number of pages in each textbook should be reduced to the minimum and that the language used should be easily understood by children of this age-group.

(iii) Supervised Study

At this stage we commend the introduction of supervised study in preference to homework. We are of the view that any form of self-study must be carefully regulated to limit the number of subjects and the time devoted to each subject. This may be done by introducing self-study time-tables for each class. Thus, in Classes V/VI the number of subjects each day may be limited to two and the time allotted for each subject may be half-an-hour. Gradually the time may be increased, but we feel that even in Class VIII this should not exceed two hours.

In order to encourage habits of self-study, we are of the opinion, that the publication of illustrated books and supplementary readers in simple language should be encouraged and that such publications should be made easily available to schools.

4.9. Classes VIII/IX-X

As we have made some changes in the curriculum at the secondary stage and as there will be an external examination at the end of Class X, some explanations are necessary.

(i) Alternative courses in Mathematics and Science

We have stated earlier that at this stage a broad-based education is necessary and, therefore, the study of Mathematics and Science forms part of the scheme. However, we feel that it is necessary that courses in these subjects should be so framed that they take into consideration the availability of teachers, the needs of children and in addition, in

Science, the extent of laboratory facilities and apparatus available.

We have, therefore, recommended alternative courses in Mathematics and Science and, as will be seen in the section given below on syllabuses, we have recommended only **Syllabus Frames**, that is, the main points of the syllabuses. This has been done so that courses of studies prescribed should be tailored to suit local needs, specially the background of the children who have to study such courses. We would, however, stress that the alternatives in Mathematics and Science must be considered alternatives and not higher or lower courses.

We, therefore, recommend that for admission to the plus two stage of education, attainment in either of the alternative courses in Mathematics or Science must be accepted as a qualification for admission to specialised courses in these subjects.

(ii) History, Civics and Geography

We are of the view that the one area in which the present scheme is overloaded is in 'Social Studies' or 'Social Sciences'. In some of the courses prescribed by Examining Bodies under one or other of these headings, the subjects included are History, Civics, Geography, Economics, Commerce and Psychology.

We agree with the conclusions of the Kothari Commission that History, Civics and Geography only should be taught in this area of the curriculum and that such correlation as is natural and possible should be introduced.

We have, therefore, recommended definitely that a course in History, Civics and Geography should be included in the scheme as, we believe, that such a course will, with the other areas of study, be sufficient to provide a broad-based general education.

(iii) Optional Subjects

To permit candidates to develop special interests or talents, we have recommended the study of one optional subject from a list of subjects such as the Arts (Music, Dancing, Painting, etc.), Home Science,

Agriculture, Economics, Commerce, Social Reconstruction, Classical languages, etc.

4.10. Syllabus Frames

In the appendix on syllabuses, we have given **Syllabus Frames** in most subjects and not detailed syllabuses. The Frames give the main topics in each subject and it will be for the States, Local Authorities, Education/Examination Boards and Schools to plan and fill in the details.

We believe that uniform courses of study designed to serve the needs of average schools cease to be meaningful as there is a large variety of schools in each State and there are many variable factors, such as the quality of teachers, facilities available and the needs of children to be taken into consideration.

A single rigid scheme of studies for all schools may prove to be beyond the competence of some schools and may not provide a sufficient challenge to other schools.

The content of the courses finally framed must be capable of being taught or studied within the time allotted per week as given in the scheme. We believe that in each subject, only the main ideas should be introduced; these should be few and important and that in teaching they should be thrown into every possible combination so that the children will make these ideas their own and understand their application. In the words of a distinguished educationist:

"We enunciate two educational commandments: 'Do not teach too many subjects' and again 'What you teach, teach thoroughly.'"

We believe that the main concepts in each subject should be studied and that unnecessary details, which overload the syllabus, instead of developing knowledge, inevitably lead to the memorising of scraps of information, never interconnected, never utilised.

Another value of providing syllabus frames only lies in the fact that the limits of knowledge to be expected at the end of the ten year period will be clear

to those responsible for framing courses at the higher secondary stage.

4.11. Freedom to develop textbooks

We are also of the view that by not giving details of the courses, but only the main topics, it will be possible for Education Authorities to prepare textbook material to suit the needs of schools under their control.

We recommend that NCERT should concentrate on the production of instructional material and that State Governments, Education/Examination Boards, Schools and other Educational Agencies should be free to adapt and develop this material to suit their particular needs.

4.12. Multiple entry

We wish to reiterate what we have stated earlier that opportunities through formal and non-formal educational arrangements must be made so that drop-outs are enabled to re-enter the stream of education without any difficulty at any stage.

Non-formal educational arrangements should be encouraged so that these drop-outs are not handicapped throughout their lives because of difficulties in improving their academic background.

4.13. Staffing Pattern

We do not propose to suggest any formula as the constraints of finance and availability of teachers are important variables which make the application of a single formula generally impracticable.

We suggest two principles : appraise the needs of each area separately and where the teaching conditions are most difficult provide extra teachers and provide also the best available teachers.

4.14. Experimentation and creative work

It is our view that in the conditions prevailing in the majority of schools experimentation and creative work depend on factors other than time.

A young teacher full of enthusiasm and brimful with ideas arrives to find that the school is a shed or a dingy, depressing building. The classroom is ill-ventilated and badly lighted. In the average classroom situation he finds himself surrounded all day by 40 to 50 lively and active children. When the load of daily corrections is added to this, the urge to experiment and undertake creative work is progressively reduced.

We, therefore, feel that while teachers should be made aware of the areas of experimentation which require their creative effort, help through guidebooks, frequent seminars and conferences is essential to foster new ideas and to sustain interest in their work.

We are of the view that schools should be encouraged to frame their own curriculum and courses of study and that teachers should be encouraged and helped to attend seminars and in-service courses and to visit other schools. We also recommend sabbaticals for school teachers, where possible.

We are strongly of the view that physical conditions in which teachers and children work must be improved by providing suitably designed buildings, classroom space, teaching aids, science equipment, facilities for **Socially Useful Productive Work** and recreation.

We feel that if teaching conditions are made reasonably congenial, creative and experimental work will develop and thrive.

APPENDIX I

WELCOME ADDRESS BY THE CHAIRMAN
AND
SPEECH BY THE PRIME MINISTER
(8 JULY 1977)

WELCOME ADDRESS
BY
THE CHAIRMAN
AND
SPEECH BY THE PRIME MINISTER
(8th July, 1977)

Mr. Ishwarbhai Patel :

Respected Morarji Bhai, Shri Chunderji and friends.

I am very happy to welcome Shri Morarji Bhai and the Honourable Minister for Education amongst us this afternoon. Sir, the task that is entrusted to the Committee is very responsible, and in the course of our discussion during the last two days, we have been able to arrive at an understanding that whatever be the educational programme we offer to the school children, we should do so keeping in view the capacities of the children, the needs of the society around and the limitations of the teachers and also the total limitations of the schools. We, therefore, thought that the first principle should be flexibility and elbow room should be provided to every State to make adjustments according to their own needs—the needs of not merely the States but those of the region as well. We have also, during the course of the two days discussions, agreed that this kind of work should be related to life, that we should provide to young people what we call gainful and productive work and it is this that will really lead them to understanding life properly. While we thought that if we want sometime for our children for learning, we also thought that we should not assume that we alone are the agency that would teach the children every thing. Besides the classroom and the teachers, the society is there, mass media is there, and life itself is there and if we are able to expose children to life and create interest in them, well, we should consider that we have done our job. Therefore, besides the core programme, there should be options provided to cater to the interests and capabilities of the children both individually as well as in groups. The Committee also tentatively drew out some objectives and during tomorrow's sitting

ing we will try to give our first draft of the objectives as well as the scheme of studies. And then we have also to decide about the number of subjects that children have to offer and see whether the content is related to their life and their capacities of understanding and the teachers' capacity to put it across—all this has also to be looked into. What I was trying to convey is that we have agreed that the whole programme should be simplified with regard to the content and the scheme studies. After tomorrow's meeting, we intend to entrust this work to working groups in various subjects and next month when we meet at about this time, we might be having with us the material ready on which we can collectively think and prepare a short first draft for presentation to the Government. I would like to thank the members for the understanding with which they have been working. Sir, I may add that the position that we have adopted is that we are here to create a better understanding and present a programme that should be understood by the people of this country. I am very happy and thankful to you that you could have found time to come over here to kindly give your views and give us guidance. I would also like to thank the Honourable Minister for Education not only for being present here, but for giving us the opportunity to go into this question. Thank you, may I now request Morarji Bhai to give his guidance.

The Prime Minister :

Friends, I am glad that you have given me this opportunity of meeting all of you and for giving you my views on the scope and content of education on which will depend the purpose of education that we want to provide. Whatever Ishwarbhai Patel has said about the system of education or about

its aims and objectives, I hope he will not quarrel with me if I say that education is meant to train people to use their capacities, intellectual and physical, to the best extent possible. This becomes possible only if the person who receives education develops fearlessness and truthfulness. Both together they cannot be separate, can be the basis of real character, especially according to our culture. Have we gone anywhere near it in the education that is being imparted so long in this country? This should be got examined.

I am afraid Macaulay attempted and ultimately succeeded in converting Indians to his school of thought. That is why he devised this educational system and he made no secret of it. I do not know why we have forgotten all that and we are still slavishly following that pattern of education.

I had expressed my views a few years ago before the Commission appointed under the Chairmanship of Dr. Kothari. I do not know whether they had considered those views. But I would like to tell you in brief what my conception of education is and what I would like education to be.

I feel very deeply about this matter because I no doubt in my mind that education can be the only instrument of reconstructing our society as we want it to be reconstructed. There is no other instrument which will enable us to achieve this objective. And we are to do it economically and in such a way that human personality becomes richer and happier. Education can be the only instrument of achieving all that. I do not know whether we are paying any attention to it at all. I might say that in India today the illiterates are not a liability, it is the educated people who are more of a liability. It is not their fault. Please do not misunderstand me. I am in the same boat. I do not claim to be different from them. That is what I have realised and many of us have realised and most of us engaged in education have realised.

Education needs complete overhauling. The whole attitude to education will have to be changed. Unless that is changed, this 10+2+3 system will not

solve any problem; it will add to problems, complicate it and disturb the whole fabric which has already been disturbed. Those are not the ways in which education can be made more efficient.

We must first of all be clear about the purpose of education and then the contents of it. If the purpose of education is not to imitate England or America but to embody and express the real India with its culture and heritage, then we have to bear in mind certain things. I can give you one instance. What is the uniform prescribed for children in many of the schools? Has it any relation to Indian culture? Nobody has thought about it. There are many such things which I can point out. Look at our public schools: What do they manufacture? I repeat the word 'manufacture'. Education is not merely the capacity to talk well or to be snobbish. Education ought to give what is called Manavata. But we are forgetting all that—how is it to be brought about? I personally feel that unless the teachers are able to see this point of view, all efforts that we may make will not succeed.

A teacher teaches throughout his life. This is the real essence of our culture. We must not be hypocrites. That means that we must follow truth. That means the thoughts, words and deeds must synchronise. It is the teachers who can ensure that. Therefore, the teacher was given the highest status in our society. That did not necessarily mean that he should get the highest reward in monetary terms. That, however, seems to be a paramount consideration today. The teacher was called a Guru:

गुरु ब्रह्मा गुरु विष्णु गुरु देवो महेश्वरः ।
गुरु सक्षात् पर ब्रह्म तस्मै श्री गुरुवे नमः ॥

But unless they become the real teachers, how will education improve? It is not the fault of the teacher either. It is the fault of the whole system. First of all, we should free education from the strangle hold of Government. I do not want Government to run education. Education must be run more non-officially than officially. That does not mean Government should not give money. Government collects money from all people and if it gives for many things, it is obliged to give for education.

What it could say is that the standards of education, the principles of education are properly observed. That should be the only task of Government: and to see that the funds that are given by Government are not misappropriated. Beyond that, I do not think Government should have any say in this matter. I want you to express your opinion and frankly tell me what you feel about these things. But I do not think that there can be any difference of opinion about the principles of education.

What then are we suffering from ? We are suffering from centuries of wrong thinking, in which we have got trapped by our own fault; because we started quarrelling between ourselves. Therefore, we were subjected to alien rule. It was not British Government that conquered India; we conquered India for the British and ran it for them. That is what we did. It was only when that fact dawned on me that I resigned Government service, because I convinced myself that I was a traitor to my country serving a foreign Government and I had no other option but to resign and then make up for that by serving my country for the rest of the life, so that I did some expiation for what I had done. Education does not teach us all this. I got some of it from Mahatma Gandhi. He was responsible for this awakening in me. Mahatma Gandhi has also told us about education and this Government is now pledged to follow his thoughts and philosophy of education.

We have first of all to grasp exactly what Gandhi wanted. He also considered education as a greatest instrument of rejuvenating the country. He, by his experience, provided us with basic education and then the commissions started entering into the spirit of it but began speaking in some other terminology.

Work experience I do not know what it means ? I do not know why they were shy of basic education. They perhaps felt Gandhiji was not an educationist and this is the thinking of which we have to disabuse our minds. I do not think there was a greater educationist than Mahatma Gandhi and yet some people think otherwise.

In the first place, we have lost respect for labour. We want all to be white collar people, because that is what the Britishers were. So we imbibe this. I believe that this country is capable of labour, the like of which hardly any other country is capable. This country has intelligence which I think is not inferior to that in any other country. This is not mere rhetoric or patriotism. This is what I have been saying during my visits to other countries.

I will give you an instance. Whenever we have conferences outside with Governments of various advanced countries, when it comes to drafting of final communique, the help of our officers is taken by most of them. They ask for it. What does it show ? Yet we suffer from inferiority complex: we do not value our own inherent capacity and our ancient culture. That is why we go astray. Should we not come back to it ? This is what I am asking you. 30 years experience should have taught us this. That is why we should realise that we forsake the Gandhian way by straying from his path we made this country what it is today. Those who were scoffing at the Gandhian Philosophy before, have now accepted it. There is thus a great advance. We are capable of completely acting upon it. But if all of us understand this and have sympathy for each other, I think we can collectively do what he alone was able to do. We need not have misgivings on this. What he could do alone in rejuvenating the county, we can collectively do by following his precept and example. According to it we must first understand what exactly we want.

I do not expect you to come to a conclusion today. I would be very sorry if this meeting is to disperse and then go on working in its own way. I would like you to discuss this matter amongst yourselves seriously, so that, you come to conclusions which can be implemented. Ultimately that should be the criteria of what should be done. There are many good ideas but they are not capable of implementation. Every action is preceded by a thought but any thought which cannot be implemented is not thought. It should be discarded. Therefore, we have to do it in a Gandhian way. He was the most practical man I have seen. His

feet were solidly on earth. Therefore, we ought to pay as much attention to do things as Gandhiji did, and not merely say that all this is airy, idealistic. Otherwise the whole thing will go and that is why things have gone wrong.

Now about work experience. I may say that work experience has not much of a meaning unless you make children learn the value of labour and to give more respect to it than anything else. We will not have a just society, if equality is not there. We want to have a proper society with equality for all people—equal not in the physical or material sense, but equal in the sense of spirit, equal in the sense of treatment. I cannot say that I am the Prime Minister and, therefore, I am superior to all. When we sit down and talk, I must not impose myself on you. I should be considered equal among you all. I should not consider myself more important. If a person starts to consider himself more important than others, then he loses the importance. I want to see a day when the smallest man in society—may be smallest in his stature or material possession—he, who, if he finds the Prime Minister talking to him roughly, has the courage to reprimand him and also not to accept his point of view. When that courage comes, this country has reached its proper level.

Many educated people said that democracy is not meant for India—not natural for India. I must say that democracy was known to India before it was known anywhere else. It was here before it was conceived by anybody in the outside world. More than 2500 years back, there were republics here and they were fully democratic. It was only after that it spread. Democracy has been described in Vedas—how the head of the State should be elected and what instructions should be given to him and if he does not carry out his duties properly, what steps should be taken to replace him. When all these things are described, how can we think that democracy is not natural to us. Not only that the culture of India believes in the equality of all human beings, not only of human beings but the whole creation. That is why non-violence came here, that was true and was so important. If all these things are not borne in mind, education would not give consciousness and the strength on consciousness.

The first thing must be that the teachers must be guided to receive the proper guidance or be properly trained, so that they understand. Unless they accept it they would not be able to give it. And it has to be accepted voluntarily. That is why we must go on with the training programme. Yes, we have to have training programmes, sometimes very rigorous programmes. The time has come to think of all this. I am saying all these things because these should be considered. Therefore, I said productive work is to be introduced from the very beginning and through that we should have education. Then we go further on and it should be brought to the highest stage. If we do that, the need to give vocational training to a large extent involving large expenditure will not be necessary. Of course, vocational training has certain fundamentals. That can be given in the higher standards. But most of the students will go only up to the early stage and these are the most basic factors for the country. Therefore, unless you think in those terms, I do not know how education is to be overhauled.

Then I see that education has been burdened; the students are burdened with how many subjects I do not know. Note-books are to be used from the very first standard. I did not use note books until I was in the Matriculation. I think my education was better than it is today. The books that I did not carry in college, are being carried by school students today. Slates have gone out of fashion. But we talk of poverty. Therefore more and more people use paper, and paper becomes more and more costly, and we complain about it. All this has been handed down to us with the system. Of course students should have a knowledge of various subjects. But are all these subjects necessary? Can anybody learn all of them? I do not know whether I should call them wiser. I do not know what the idea behind it, is. That is how we call ourselves advanced. Why are we becoming imitators? Imitation is the quality only of monkeys, not of human beings. Human beings must have their own personality. Unless we give them that content, that personality, what have we given them? I would like to discuss with you,

rather than lecture to you; then we will be able to understand each other more. Then we can appreciate each other's point of view. I have tried to make some points. But I should like to have an opportunity of discussing this issue. I cannot force all of it. We can sit for two or three hours and discuss it. Please do not think I have no time, I know how to find time. I am never short of time for things which are necessary. Therefore, on that score you need not have any constraint.

Thank you very much for listening to me patiently. Then, I request you not to hesitate putting any questions you like. Please do not be offended by my replies either. Neither you nor I should be offended. We will have more discussion on equal terms.

Question :

There are three contents of basic education. One, education should be imparted through mother-tongue. Second, it should be imparted through basic craft. Third, it should be self-supporting, that it should include productive work. So much so that it should support the cost of education. So in the changed society today, do you think that the same principle should be applicable to the type of education that we are planning for ourselves? There was a controversy between Gandhiji and Professor Parikh. Professor Parikh questioned the very propriety of having self-supporting education. Will you kindly give your views on these three.

Prime Minister :

The first two are absolutely essential. The third thing, should not be taken in its literal sense. It cannot be self-supporting in the sense that productive work alone will run the school fully. It is a mistaken notion. It is only making a parody of what Gandhiji said. But if it is evolved properly, it could give a lot for the expenditure of the institution and it can also enable the students to be self-supporting. That is the main purpose. But I would also say that we can give students an opportunity for earning while they are learning and we should see to it that nobody need say that he does not have means to study. Of course, primary educa-

tion should be free. In several places, I think even secondary education is free. But fees are not the only part of expenses. There are many other expenses.

But there is another thing. There are vacations according to the convenience of the teachers. Why should there be vacations in monsoon specially in those regions where they can in fact work more. And why should there be so many vacations? Do you mean to say that only teachers are doing intellectual work? Then, what am I doing? These are notions which should be exploded. You should get vacation, for a change of work. But give the students other training, but if you keep them free, there is mischief-making all the more. Both the teachers and the students have ample time at their disposal. An idle mind is the devil's workshop. That is what happens.

Question :

According to some, particularly those who are opposed to the scheme of basic education, spinning and weaving as basic craft is a retrograde step. Particularly in a society on which there is an impact of science and technology. As a person interested in basic education, I do not subscribe to this view. Will you kindly say something to dispel this?

Prime Minister :

Let it be any craft. I am not wedded only to one. But if you do it in all schools, you will find that you will have nothing more universal than spinning and weaving. Therefore, why unnecessarily confuse the issue. Only those who do not want to do anything, bring in such things. If I can spin I do not know why others don't? I have improved my spinning, more than anybody else. My speed was 400 and in detention it went to 600 and my count was 30 and it has gone to 80-90 and I find there is no waste. It is not only the young who can earn; the old can do it better because they have more experience, but we should not make a fetish of it and Gandhiji was the last to make a fetish of it. Making a fetish of anything is denying the truth and that we should never do. What is essential is

to give productive work, but when you come to do that, you find that this is the only universal thing that you can give to most of them. I am not trying to say that it should be done. You decide. If no one wants to do spinning, I will have nothing to say. Do you want anything more than that. But all this may be discussed when the friends have convenience.

Shri I.B. Patel :

Some time next month.

Prime Minister :

I want an early conclusion of this so that we can attend to it more quickly, because the more you wait, the more we have lost time in converting the country.

Shri I.B. Patel

We have been asked to submit the report within three months and we will do that within this period. Immediately I got the resolution, I convened a meeting in seven days.

Prime Minister :

You do it. I would like to discuss it with others and with each one of you so that a climate is crea-

ted. It is not only we who can make the change quickly. we have got to carry the people, I should be happy if you can meet this month. Procrastination that is the way we do things. I thought you would tell me you will do it tomorrow and you are saying next month.

I am not trying to say do it tomorrow. I am saying it must not be delayed. You can do it in the last week of this month and not later than that. You do it according to your convenience.

Shri I.B. Patel :

We appreciate that.

Education Minister :

I am grateful to the Prime Minister for having come here and given us some of his thoughts. He has asked us to keep an open mind so that we can discuss our points of view further with him. Actually it is he who wanted to speak to you. Even now, he on his own has said he wants to have further discussion. We are all grateful to him for all this.

Prime Minister :

I should be grateful to you because you have enabled me to do my duty. I am thankful to you for helping me.

APPENDIX II
MEETINGS OF THE COMMITTEE

MEETINGS OF THE COMMITTEE

Inaugural : New Delhi—6th, 7th and 8th July 1977.

Inaugural address: Shri Ishwarbhai J. Patel
Chairman.

On the 8th July, Dr. S. K. Mitra, then acting Director of the National Council of Educational Research and Training placed his views before the Committee.

On the 8th July, Shri Morarji Desai, the Prime Minister, addressed the Committee. The meeting was held in Parliament House.

On the 9th July, the committee considered the terms of reference and identified certain areas as the bases of its deliberations.

The Committee drew up a programme of action and decided to set up two sub-committees as under :—

- (a) **Sub-Committee 1:** To consider the Objectives of School Education.
- (b) **Sub-Committee 2 :** To consider the structure of School Education.

Second Meeting : New Delhi—27th, 28th and 29th July 1977.

The Prime Minister met the Committee and gave his views on points raised by the members.

On 28th July, Mrs. J. Anjani Dayanand, Joint Secretary, Ministry of Education and Social Welfare, Government of India and Mr. S. N. Saraf, (Chief Education) Planning Commission placed their views before the Committee.

Sub-committees which included a large number of practising teachers were associated with the work of formulating schemes for :

(i) Languages; (ii) Mathematics, (iii) Environmental studies; (iv) Science; (v) History, Civics and Geography; (vi) Socially Useful Productive work and Community Service; (vii) Economics; (viii) Social Reconstruction; (ix) The Arts (x) Physical Education; and (x) Time Tables.

These Sub-Committees met from the 8th to the 12th August, the 16th to the 19th August, and the 22nd and 23rd August, 1977.

Third Meeting : New Delhi—24th to the 26th August 1977.

Fourth Meeting : New Delhi—26th and 27th September, 1977.

At this meeting, a Drafting Committee was set up consisting of Shri Ishwarbhai J. Patel..... (Chairman)

Prof. Ram Lal Parekh, M. P., Prof. S. M. Chatterjee, Dr. Manmohan Singh Arora, Dr. G. L. Bakhshi, Smt. Rajni Kumar, Dr. A. N. Bose, Shri A.E.T. Barrow, M.P.
New Delhi—23rd October, 1977

Meeting of the Drafting Committee.

Final Meeting : New Delhi — 8th and 9th November 1977.

The report as presented by the Drafting Committee was finalised and signed by members of the Committee

Valedictory Address : Shri Ishwarbhai J. Patel, Chairman.

APPENDIX III

TEACHERS CONSULTED FOR SUBJECT AREAS

TEACHERS CONSULTED FOR SUBJECT AREAS

ENGLISH

1. Shri R. C. Sharma,
Additional Deputy Commissioner,
Kendriya Vidyalaya Sangthan,
New Delhi.
2. Mrs. Sudarshan Sharma,
Govt. Girls Higher Secondary School,
Sarai Rohilla, Delhi.
3. Mrs. S. Bindra,
S.C.T.D. Girls Higher Secondary School,
Pul Bangash, Delhi.
4. Shri R.R. Biala,
Principal,
Govt. Co-educational Higher Secondary School,
Presidents Estate,
New Delhi.
5. Shri Kanwal Sud,
Principal,
Dayanand Model Higher Secondary School,
Jullundhar City, Jullundhar.
6. Shri Rana Pratap G.S.
Delhi Adhyapak Prishad,
Delhi.
7. Mrs. K. Krishnan,
Delhi Public School,
Mathura Road,
New Delhi.
8. Shri D. K. Shende,
Director,
State Institute of English for Maharashtra,
Bombay.
9. Shri Laxmikant Sharma,
Govt. Boys Higher Secondary School,
Kabuli Gate,
Naya Bazar,
Delhi-6.
10. Miss S.K. Ram,
Reader in English,
Department of Education in Social Science and
Humanities, N C E R T,
New Delhi-16.

HINDI (MOTHER LANGUAGE)

1. Shri Kaustubh Pant,
P. G. T.,
Govt. Boys Higher Secondary School,
R. K. Puram, Sector-2,
New Delhi.
2. Shri Mohan Lal Sharma,
P. G. T.,
Kendriya Vidyalaya,
I. N. A.
New Delhi.
3. Shri Tej Lal,
Govt. Middle School,
Trinagar,
Delhi-35.
4. Shri Anant Krishna Sharma,
Govt. Higher Secondary School,
Mehrauli
New Delhi.
5. Shri N. K. Singh,
Reader in Hindi,
Department of Education in
Social Sciences & Humanities,
National Institute of Education,
New Delhi-16.

HINDI (SECOND LANGUAGE)

1. Shri D. N. Chaturvedi,
La Martinier College,
Calcutta (W. B.)
2. Shri S.C. Pandey,
Lecturer,
DESSH,
National Institute of Education,
New Delhi-16.
3. Prof. Anil Vidyalankar,
DESSH,
National Institute of Education,
New Delhi-16.

SANSKRIT

1. Shri Hari Datt Joshi,
State Institute of Education,
Delhi.
2. Miss, Kusum Haridas,
Principal,
Govt. Girls Higher Secondary School,
Chhatarpur,
New Delhi.
3. Mrs. K. R. Mitra,
Kendriya Vidyalaya,
Gole Market,
New Delhi-1.
4. Shri Mohan Chandra Joshi,
D.A.V. Higher Secondary School,
Jangpura,
New Delhi.
5. Shri Nitya Nand Sharma,
P. G. T.
Govt. Higher Secondary School,
President Estate,
New Delhi-1.
6. Shri Damodar Swaroop,
Govt. Higher Secondary School,
Kabuli Gate,
Delhi-6.

7. Mrs. Urmil Khunger,
P. G. T.,
DESSH,
NCERT,
New Delhi-16.
8. Dr. M. G. Chaturvedi,
Reader,
DESSH,
National Institute of Education,
New Delhi-16.

MATHEMATICS

1. Dr. Manmohan Singh Arora,
Professor of Mathematics,
Deptt. of Education in Science
and Mathematics, NCERT,
New Delhi-16.
2. Shri R. S. Shakir,
Govt Boys Higher Secondary School,
Ashok Vihar Phase-I
Delhi-52.
3. Shri Babiah Naidu,
Govt. Junior College, Aliya,
Hyderabad.
4. Shri Shanti Narayan,
62-B, Gujarwala Town,
Delhi-23.
5. Shri R. S. Laguni,
Delhi Public School,
R. K. Puram,
New Delhi.
6. Shri G. L. Bakhshi,
Central Board of Secondary Education,
New Delhi.
7. Shri G. S. Dhillon,
Guru Harkrishan Public School,
New Delhi.
8. Mrs. Parveen Bhalla,
Central School,
Tagore Garden,
New Delhi.

9. Shri G. W. Mayer,
The Frank Anthony Public School,
New Delhi.
10. Shri B. V. Singhal,
T I F R
Bombay.
11. Shri Balbir Singh,
The Rajputana Rifles Heroes, Memorial
Higher Secondary School,
New Delhi.
12. Shri B. S. Fadnis,
Maharashtra Board of Sec. Education,
Nagpur University,
Nagpur.
13. Smt. S. Mohindru,
G. G. Higher Secondary School,
Malviya Nagar,
New Delhi.
14. Shri G. R. Kakkar,
Kendriya Vidyalaya,
Sector-47,
Chandigarh.
15. Shri G. D. Dhall,
D E S M, NCERT,
New Delhi-16.
16. Shri Ram Saran Das,
M. C. Primary School, J J Colony,
Near Rajouri Garden,
New Delhi.
17. Shri Arjun Lal Chawla,
M. C. Primary School,
Raghuvir Nagar No. II,
New Delhi-27.
18. Smt. Usha Sharma,
M. C. Primary School,
Sarai Peepal Thala,
Delhi.

Science

1. Dr. A. K. Misra,
DESM, NCERT, New Delhi.
2. Mrs. S. Gandhi,
Science Councillor,
Directorate of Education,
Basant Bihar, New Delhi.
3. Mr. Shaskar Sarma,
Ramjas School No. 1
Daryaganj, Delhi-6.
4. Mr. S. K. Srivastava,
P G T (Physics),
Kendriya Vidyalaya, IIT, New Delhi.
5. Mrs. M. C. Mathur,
Junior Councillor, Science Branch,
Directorate of Education, (Biology),
Link Road, Karol Bagh, New Delhi.
6. Dr. Utpal Malik,
DESM, NCERT, New Delhi.
7. Dr. M. N. Siddiqui,
Field Adviser,
Science Centre-cum-Central Workshop
Directorate of Education, Link Road,
Karol Bagh, New Delhi.
8. Mr. K. S. Bhandari,
Dy. Director of Education,
Science Branch, B-Link Road,
Karol Bagh, New Delhi.
9. Sh. G. Guru,
D E S M, NCERT, New Delhi.
10. Shri M. P. Chhaya,
Principal,
Bhartiya Vidya Bhawan, Kasturba Gandhi
Marg, New Delhi.
11. Shri R. S. Arora,
Science Branch, Link Road, New Delhi.

12. Shri J. C. Sharma,
PGT, Govt Boys Higher Secondary School,
Link Road, Karol Bagh, New Delhi-5.
13. Mr G. P. Sharma,
Govt Boys Higher Secondary School,
Link Road, Karol Bagh, New Delhi-5.
14. Shri R. S. Bhardwaj,
DAV Higher Secondary School,
Chitra Gupta Road, New Delhi.
15. Shri P. R. Sahwney,
P G T, Physics,
Govt Boys Higher Secondary School,
Shrinivaspuri, New Delhi.
16. Dr. B. Ganguly,
DESM, NCERT, New Delhi.
17. R. K. Mohta,
Secretary,
All India Science Teachers' Association,
Sardar Patel Vidyalya,
Lodi Estate, New Delhi-3.
18. Mrs. A George,
The Frank Anthony Public School,
New Delhi.
19. Dr. J Mitra,
DESM, N C E R T, New Delhi.
20. Shri R. Joshi,
Deptt. of Text Book,
NCERT, New Delhi.
21. Shri R. Prasad Tyagi,
Govt Boys Higher Secondary School,
Sakurpura, Delhi.
22. Shri Subhash Chandra Dewan,
Govt. Boys Higher Secondary School,
Punjabi Bagh, New Delhi.
23. Shri S. I. Banerjee,
Maharashtra Board,
Nagpur.
24. Shri S. K. Vakil,
E-89, Kirti Nagar, New Delhi.
25. Shri P. L. Batra,
Science Councillor.
Science Branch, Directorate of Education
Plot No. 3, Link Road, Karol Bagh,
New Delhi.
26. Dr. D. Lahiry,
DESM, NCERT, New Delhi.
27. Smt. S.R.K. Agarwal,
Govt. Boys Higher Secondary School, No. 1,
Shakti Nagar, New Delhi.
28. Shri J. P. Mathuria,
Sr. Science Councillor (Biology),
Science Branch, Directorate of Education,
Plot No. 3, Link Road, Karol Bagh,
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29. Shri G. C. Gupta,
St. Joseph Academy, Dehradun.
30. Dr. R. D. Shukla,
DESM, NCERT, New Delhi.
31. Shri S. L. Bhasin,
PGT (Chemistry),
Bal Bharti Air Force School,
Lodi Estate, New Delhi.
32. Mrs. Asha Saxena,
Kendriya Vidyalaya. Sector VIII,
R. K. Puram, New Delhi.
33. Dr. K. M. Pant,
DESM, NCERT, New Delhi.
34. Shri W. R. King,
Council for Indian School Certificate
Examination, Pragati House,
New Delhi-24.
35. Dr. J S. Gill,
DESM, NCERT. New Delhi.

36. Shri B. G. Pitre,
Dept. of Physics.
The Doon School, Dehradun.
37. Dr. S. N. Dutta,
DESM, NCERT, New Delhi.
38. Prof. A. K. Jalaluddin.
DESM, NCERT, New Delhi.
39. Shri Chhotan Singh,
DESM, NCERT, New Delhi.
40. Dr. R. P. Bhatia,
DESM, NCERT, New Delhi.
41. Shri K. J. Khurana,
DESM, NCERT, New Delhi.
42. Prof. B. Sharan,
DESM, NCERT, New Delhi.
7. Mrs. S. Jeet,
Delhi Public School,
Mathura Road, New Delhi.
8. Smt. Vinodini Shah,
Gujarat.
9. Mrs. Vidya Raghuvansi,
I I T Central School,
Hauz Khas, New Delhi-29.
10. Shri O. P. Taneja,
C.S.O. Bahadur Shah Zafar Marg, New Delhi.
11. Shri S. L. Mehta,
61, Krishna Nagar, New Delhi.
12. Shri T. C. Joshi,
Principal, Govt Adult School,
Jor Bagh, Kidwai Nagar, New Delhi.

SOCIAL SCIENCE

1. Shri S. N. Bhanot
President,
Joint Council of Delhi Teachers' Organisation
New Delhi.
2. Shri P. N. Pareek,
Academic Officer
Board of Secondary Education, Rajasthan.
3. Shri J. Fuste,
Deputy Secretary,
Council for the Indian School Certificate
Examinations, New Delhi.
4. Shri S. S. Rastogi,
Lecturer,
State Institute of Education, Delhi.
5. Shri E.A. Sadique,
PGT (History),
Govt Higher Secondary School,
No. I, Roshanara Road, Delhi.
6. Shri N. S. Verma,
Principal,
Govt. Boys Higher Secondary School,
R.K. Puram, New Delhi-22.
13. Shri T. C. Gupta
PGT, Govt Higher Secondary School,
Timarpur, Delhi.
14. Shri D. D. Saxena,
President, Delhi School,
Political Science. New Delhi.
15. Shri S. N. Goel,
Teachers' Association, Govt Boys Higher
Secondary School,
Naoroji Nagar, New Delhi.
16. Shri R. K. Gupta, PGT,
Govt Boys Higher Secondary School No. I
Ludlow Castle Road, Delhi.
17. Shri Arjun Dev,
D.E.S.S.H, NCERT, New Delhi.
18. Dr. D. S. Muley,
D.E.S.S.H.. NCERT, New Delhi.
19. Shri Ramesh Chandra,
D.E.S.S.H, NCERT, New Delhi.
20. Dr. S.K. Saini,
D.E.S.H. NCERT, New Delhi.

21. Smt. Savita Sinha
DESSH, NCERT, New Delhi.
22. Prof. B. S .Parekh, Head,
DESSH, NCERT, New Delhi.

FINE ARTS

1. Smt. Shanti Kabir,
Chairman,
Parent Teacher Association,
S-47, Panchseela Park,
New Delhi-47.
2. Smt. Lotika Ratnam,
39, Bharti Nagar,
New Delhi-3.
3. Shri R. S. Bawa,
Govt. Boys Higher Secondary School,
Ramakrishna Puram, Sector-II
New Delhi-22.
4. Shri S. B. Seth,
Kendriya Vidyalaya,
INA Colony, New Delhi.
5. Smt. Anjani Mittal,
Deptt. of Music,
University of Delhi, Delhi.
6. Km. Karunamayee,
Mother International School,
Sri Aurbindo Marg,
New Delhi.
7. Professor Anil Vidyalkar,
NCERT, New Delhi

SOCIALLY USEFUL PRODUCTIVE WORK

1. Shri Manubhai Pancholi,
Lok Bharti,
Sansora (W. Rly),
District Bhavnagar (Gujarat).
2. Shri Purshottam A. Patel,
Principal,
Gujarat Vidyapith, Ahmdabad.

3. Shri S. P. Singh Bhandari,
Chairman, Board of Education,
Rajasthan (Ajmer).
4. Shri S. N. Bhanot,
President,
Joint Council of Delhi Teachers
Organisation, Delhi.
5. Mrs. Prem Chadha,
Kendriya Vidyalaya,
Andrewsganj, New Delhi.
6. Shri Chatter Singh,
Kendriya Vidyalaya,
Sector-VIII, R K Puram,
New Delhi
7. Shri V. K. Agarwal,
Kendriya Vidyalaya,
Delhi Cantt.
8. Shri S. L. Girdhar,
Kendriya Vidyalaya,
INA Colony, New Delhi.
9. Smt. Basanti Sharma,
Kendriya Vidyalaya, Sector VIII,
R K Puram, New Delhi.
10. Shri K. N. Jeus,
Govt. Co-Edu. Teacher Training Institute,
Daryaganj, Delhi.
11. Shri M. C. Lahani
Science Branch, Link Road,
Karol Bagh, New Delhi.
12. Shri K. C. Dey,
Science Branch, Directorate of Education,
Link Road, Karol Bagh, New Delhi.
13. Shri S. S. Taneja,
Science Branch Directorate of Education,
Link Road, Karol Bagh, New Delhi.
14. Shri S. S. Yogi,
Science Branch, Directorate of Education,
Link Road, Karol Bagh, New Delhi.

15. Prof. S. M. Chatterji,
President, West Bengal Board of Sec. Education,
77/2, Park Street, Calcutta-16 (WB).
16. Dr. S. L. Sharma,
Secretary, Board of Secondary Education
Rajasthan, Ajmer.
17. Shri Govindbhai Rawal,
Principal, Training Institute, Anera,
Gujarat.
18. Shri M. N. Pandya,
Institute of Basic Training Centre,
Lok Bharati, Sansora, Dt. Bhavnagar,
Gujarat.
19. Shri Chhotalal Amritlal Joshi,
Principal, Manglatham Post Basic Higher
Secondary School, Shardagram (Saurashtra).
20. Shri Ghan Shyam Sukhwal,
State Institute of Science Education,
Udaipur (Rajasthan).
21. Dr. A. K. Jalaluddin,
DESM, NCERT, New Delhi.
22. Shri S. C. Chaudhuri,
Deptt. of School Education,
NCERT, New Delhi.
23. Dr. E. R. Goyal,
DSE, NCERT, New Delhi.
24. Prof A. N. Bose,
Dean (Coordination), NCERT, New Delhi.
(Convener Review Committee)
25. Shri Rama Pratap
51, Satya Niketan, Moti Bagh,
New Delhi.
2. Mrs. S. B. Chaudhary,
Govt. Girls Higher Secondary School,
Defence Colony, New Delhi-3.
3. Miss. U. Bartwal,
Govt Girls Higher Secondary School,
Sarojini Nagar, New Delhi-32.
4. Mrs. Asha Tripathi,
Kendriya Vidyalaya, Andrews Ganj,
New Delhi-49.
5. Shri K. B. Sehgal
Kendriya Vidyalaya, Delhi Cantt-10.
6. Shri I. J. Suri
Kendriya Vidyalaya, R. K. Puram,
Sector-VIII, New Delhi.
7. Shri Charan Jit Singh,
Kendriya Vidyalaya Tagore Garden,
New Delhi-27.
8. Shri Mukesh Kohli,
Kendriya Vidyalaya, INA Colony,
New Delhi-3.

TIME TABLE

1. Shri B. N. Bhanot,
President,
Joint Council of Delhi Teachers' Organization,
Delhi.
 2. Shri B. B. Chadha,
Ramjas Higher Secondary School, Karol Bagh,
New Delhi-5.
 3. Shri I. D. Sharma,
Kendriya Vidyalaya, I I T, New Delhi-49.
 4. Shri S. Luthra,
Govt Higher Secondary Girls School,
Kidwai Nagar, New Delhi.
 5. Shri N. C. Manglik,
Govt. Higher Secondary School, President's
Estate, New Delhi.
- PHYSICAL EDUCATION**
1. Mr. A.E.T. Barrow, M. P,
Secretary, Council for Indian School
Certificate Examination, Pragati House,
3rd Floor,
47-48, Nehru Place, New Delhi-24.

6. **Shri J. S. Saxena,**
Govt Higher Secondary School, IARI,
New Delhi-12.
7. **Shri N. K. Chowdhry,**
Govt Higher Secondary School, I.A.R.I.,
New Delhi-12.
8. **Shri Q. L. Bhagga,**
Govt Boys Higher Secondary School,
Bharat Nagar, Delhi-7.
9. **Shri Ravinder Narula,**
Kendriya Vidyalaya, Sector IV,
R. K. Puram, New Delhi-22.
10. **Shri C. M. Lugani,**
Govt. Girls Higher Secondary School,
Ashok Nagar, New Delhi-18.
11. **Shri R. R. Biala,**
Govt Higher Secondary School,
President's Estate, New Delhi.

APPENDIX IV

SYLLABUS FRAMES AND ILLUSTRATIVE TIME-TABLES

SYLLABUS FRAMES

FOR CLASSES I TO V

(This does not include syllabus on Games, Physical Education, Fine Arts and Socially Useful Productive Work. This will appear as a separate part)

मातृभाषा का पाठ्यक्रम (हिन्दी के सन्दर्भ में)

पहली और दूसरी कक्षाओं के लिये पाठ्यक्रम

इन कक्षाओं में निम्नलिखित भाषिक योग्यताओं को विकसित करने का प्रयत्न किया जाएगा :—

सुनने की योग्यताएं

(क) मातृभाषा की सभी ध्वनियों को सुनकर उनमें विभेद कर सकना ।

(विशेषतः—इ-ई, उ-ऊ, ए-ऐ, स-श, व-ब, ड-ड़, छ-क्ष आदि में अन्तर समझ सकना ।)

(ख) ध्यानपूर्वक सुनना, सुनने के शिष्टाचार का पालन करना और निर्देशों को सुनकर उनका पालन करना ।

(ग) कहानियां, कविताएं, चुटकले, वर्णन, वार्ताएं आदि सुनकर ज्ञानवृद्धि एवं मनोरंजन करना ।

(घ) वक्ता के स्वर से कथान, प्रश्न, आश्चर्य, झिड़की आदि को पहचानना ।

बोलने की योग्यताएं

(क) मातृभाषा की सभी ध्वनियों—इ-ई, उ-ऊ, ए-ऐ आदि स्वरों, स-श, व-ब, ड-ड़, छ-क्ष आदि व्यंजनों तथा प्र, ज्ञ, ध्य आदि व्यंजन-गच्छों का शुद्ध उच्चारण करना ।

(ख) विना शिक्षक और प्रवाह के साथ बोलने की योग्यता का विकास होना ।

(ग) अपने साथियों तथा अध्यापकों से निःसंकोच बातचीत करना ।

(घ) समूहगान, कविताओं तथा कहानियों को हाव-भाव, आरोह-अवरोह तथा नाटकीयता के साथ सुनाना ।

(ङ) प्रश्न, आश्चर्य, क्रोध आदि भावों को वाणी द्वारा व्यक्त करना ।

(च) संवादात्मक अभिनय में भाग लेना ।

(छ) बोलने में हिन्दी के मानक रूप का प्रयोग करने की योग्यता प्रारम्भ होना ।

पढ़ने की योग्यताएं

(क) देवनागरी लिपि के सभी संकेतों (स्वरों, व्यंजनों, मात्राओं व संयुक्ताक्षरों को पहचान कर पढ़ना) ।

(ख) इन लिपि संकेतों के योग से बनने वाले परिचित शब्दों और वाक्यों का शुद्ध रूप से मुखर वाचन करना ।

(ग) शब्दों, पदों तथा पदबंधों को अर्था की आन्वृति के अनुसार प्रवाह के साथ पढ़ना ।

(घ) पूर्णविराम, प्रश्नवाचक, अर्धविराम तथा आश्चर्यबोधक चिन्हों के अनुसार सही ढंग से पढ़ना ।

(ङ) सरल कहानियां, संवाद, कविताएं, वर्णन आदि अर्थ ग्रहण करते हुए पढ़ सकना ।

लिखने की योग्यताएं

(क) लेखन सामग्री (कलम, दवात, पेंसिल, स्लेट,

आदि) सही ढंग से रखना और प्रयोग करना तथा लिखते समय सही ढंग से बैठना ।

- (ख) लिखते समय आँख और हाथ की गति में समन्वय होना ।
- (ग) देवनागरी के सभी लिपि-संकेतों, स्वरों, मात्राओं व्यंजनों और संयुक्ताक्षरों को शुद्ध रूप से लिखना ।
- (घ) सुपाठ्य और सुडौल अक्षरों में लिखना ।
- (ङ) सरल शब्दों और वाक्यों का अनुलेख और श्रुतलेख । सभी परिचित शब्दों को शुद्ध रूप से लिख सकना ।

सोचने की योग्यताएं

पहली, दूसरी कक्षा के छात्रों में असीम जिज्ञासा होती है जिसकी तृप्ति अधिकतर मौखिक ज्ञान से होती है । उनमें विश्लेषणात्मक चिन्तन का प्रारम्भ नहीं हो पाता । वे तथ्य और कल्पना से प्रायः अन्तर नहीं कर पाते । फिर भी वे तथ्य के मिले-जुले क्षेत्र में दो या अधिक बातों को जोड़ सकते हैं और विगत के आधार पर आगामी बात का कुछ अनुमान लगा सकते हैं । इन दिनों कक्षाओं में बच्चों के प्रारम्भिक चिन्तन का विकास भाषा की अन्य योग्यताओं के साथ ही होता चलेगा ।

शिक्षण सामग्री

दोनों कक्षाओं में प्रत्येक कक्षा के लिए निम्नलिखित शिक्षण सामग्री उपलब्ध कराई जानी चाहिए :

- (क) पाठ्य पुस्तक
- (ख) अभ्यास-पुस्तिका
- (ग) सुलेख-पुस्तिका

पहली पुस्तक में जहाँ अक्षरों की पहचान और इनके योग से बनने वाले शब्दों और वाक्यों के पढ़ने पर बल रहेगा वहाँ दूसरी कक्षा में अनुच्छेदों को प्रवाह के साथ पढ़ने के पाठों के विषय निम्नलिखित हो सकते हैं :

- (क) पशु-पक्षियों से सम्बन्धित कहानियाँ
- (ख) बच्चों का दैनिक जीवन
- (ग) परिवार के सदस्य, पास-पड़ोस
- (घ) मेले और त्यौहार
- (ङ) विद्यालय से सम्बन्धित विषय
- (च) डाकिया, ग्वाला, माली आदि व्यावसायिक लोग
- (छ) स्वास्थ्य व सफाई
- (ज) खेल-कूद
- (झ) उपरोक्त विषयों पर सरल नाद-सौन्दर्य से युक्त कविताएं ।

इन पाठों की शैली मुख्यतया संवादात्मक और सरल वर्णनात्मक होगी । शब्दावली अधिकतर छात्रों की पूर्व परिचित होगी, पर पाठों में कुछ ऐसे शब्दों का भी समावेश हो सकेगा जो विद्यालय के वातावरण में छात्र सहज ढंग से सीख लेते हैं ।

कक्षा 3 से 5 का पाठ्यक्रम

छात्रों से अपेक्षित भाषिक योग्यताएं

सुनने की योग्यताएं

- (क) ध्यानपूर्वक सुनकर समझने की योग्यता का विकास होना ।
- (ख) मातृभाषा की ध्वनियों में विभेदीकरण और उनके ठीक-ठीक श्रवण की योग्यता आ जाना ।
- (ग) सुनी हुई बात के सम्बन्ध में प्रश्न करना ।
- (घ) कहानियाँ, कविताएं, वर्णन, संक्षिप्त भाषण, रेडियो के बाल कार्यक्रम आदि सुनकर समझना और उनका आनन्द लेना ।
- (ङ) वक्ता के मनोभावों [हर्ष, क्रोध, आश्चर्य, घृणा, झिड़की, करुणा, व्यंग्य आदि] को समझ सकना ।

बोलने की योग्यताएँ

- (क) हिन्दी की सभी ध्वनियों तथा परिचित शब्दों का शुद्ध उच्चारण करना।
- (ख) देखी और सुनी घटनाओं और स्थानों का मौखिक वर्णन करना।
- (ग) पाठशाला के सामूहिक क्रिया-कलापों में प्रभावशाली ढंग से कविता और कहानी सुनाना तथा वार्तालाप, नाटक, लघु भाषण आदि में भाग लेना।
- (घ) शुद्ध भाषा का प्रयोग करने की क्षमता का विकास होना।
- (ङ) नए सीखे हुए शब्दों का प्रयोग करना।
- (च) विचारों को क्रमबद्ध रूप से व्यक्त करना।

पढ़ने की योग्यताएँ

- (क) हिन्दी के परिचित शब्दों के साथ-साथ नए शब्दों को भी शुद्ध-शुद्ध पढ़ना।
- (ख) गद्य खण्डों और कविताओं में उचित आरोह-अवरोह एवं प्रवाह के साथ पढ़ना, मुखरवाचन करते समय पूर्णविराम, अर्द्धविराम, प्रश्नवाचक एवं आश्चर्यबोधक चिन्हों के अनुसार उचित विराम देते हुए पढ़ने की योग्यता का विकास होना।
- (ग) पठित वस्तु के महत्वपूर्ण तथ्य, विचार व केन्द्रीय भाव को जानने की योग्यता का विकास होना।
- (घ) शब्दों एवं मुहावरों का अर्थ प्रयोग के अनुसार समझना।
- (ङ) मनोरंजन एवं ज्ञान वृद्धि के लिए पाठ्यपुस्तक के अतिरिक्त अन्य सामग्री को भी पढ़ने की योग्यता व रुचि का प्रारम्भ होना।
- (च) विषय-सूची तथा पाठ्यपुस्तक में दिये गए शब्दकोष के प्रयोग की योग्यता का प्रारम्भ होना।

लिखने की योग्यताएँ

- (क) लिखावट का सुपाठ्य एवं सुडौल होना।
- (ख) हिन्दी के सभी परिचित शब्दों तथा वाक्यों को शुद्ध लिखने की योग्यता आ जाना।
- (ग) पूर्णविराम, अर्द्धविराम, प्रश्नवाचक एवं आश्चर्यबोधक चिन्हों के सही प्रयोग की योग्यता होना।
- (घ) व्याकरण-सम्मत शुद्ध भाषा का प्रयोग करना।
- (ङ) उचित भाँति से अनुलेख और श्रुतलेख लिखने की योग्यता का होना।
- (च) सरल वर्णन, साधारण पत्र तथा सरल विषयों पर छोटे-छोटे निबन्ध अपने शब्दों में लिखने की योग्यता का होना।

व्याकरण की योग्यताएँ

तीसरी कक्षा

संज्ञा, विशेषण तथा क्रिया शब्दों की पहचान और उन्हें चुनना।

चौथी कक्षा

- (क) संज्ञा की पहचान तथा उसके भेद।
- (ख) सर्वनाम की पहचान।
- (ग) विशेषण की पहचान।
- (घ) क्रिया पदों की पहचान, क्रिया के कर्ता व कर्म की पहचान।
- (ङ) समानार्थक व विपरीतार्थक शब्द जानना।

पाँचवीं कक्षा

- (क) संज्ञा—भेद, लिंग, वचन और कारक।
- (ख) सर्वनाम—पुरुष, वचन और कारक।

- (ग) विशेषण—विशेषण और विलेय का सम्बन्ध
- (घ) क्रिया—अकर्मक और सकर्मक की पहचान, भूत, वर्तमान एवं भविष्यकाल, कर्ता और कर्म के अनुसार क्रिया की अन्विति ।
- (ङ) क्रिया—विशेषण की पहचान ।
- (च) वाक्य और उसके मुख्य अंग-कर्ता, कर्म, क्रिया और क्रिया विशेषण ।
- (छ) ध्वनियाँ—स्वर व व्यंजन की पहचान, शुद्ध उच्चारण और वर्तनी का ज्ञान ।
- (ज) समानार्थक और विपरीतार्थक शब्दों के ज्ञान में वृद्धि :

चिन्तन की योजनाएं

तीसरी, चौथी पाँचवीं कक्षा के छात्रों में भी अपार जिज्ञासा होती है पर अब उस जिज्ञासा की पूर्ति मौखिक भाषा के अतिरिक्त किताबों के पढ़ने के द्वारा भी होने लगती है। बच्चे मूर्त जगत में वस्तुओं का पारस्परिक सम्बन्ध तथा उनके आधार पर कार्यकारण भाव समझने लगते हैं, पर व्यक्तियों के मन की बातों को समझने की योग्यता उनमें नहीं होती। मानव-जीवन की भी वे उसके बाहरी रहन-सहन के माध्यम से ही समझते हैं। उनके चिन्तन की योग्यता का विकास भी सामान्यतया भाषा की अन्य योग्यताओं के विकास के

साथ होता है, फिर भी चिन्तन के निम्नलिखित पक्षों पर विशेष ध्यान देना वांछनीय है :—

- (क) सुनकर या पढ़कर समझना तथा उसके बारे में प्रश्न करना और प्रश्नों के उत्तर देना ।
- (ख) सुनी हुई या पढ़ी हुई बात में ससंगतियाँ बता सकना ।
- (ग) पठित वस्तु का केन्द्रीय भाव खोजना । पठित वस्तु का सारांश बताना ।
- (घ) कार्यकारण सम्बन्ध समझना ।
- (ङ) दो वस्तुओं या स्थानों को समानता और असमानता को समझना ।
- (च) यथार्थ और कल्पना को समझ सकने की योग्यता का प्रारम्भ होना ।

शिक्षण सामग्री

तीनों कक्षाओं में से प्रत्येक के लिए एक-एक पाठ्य-पुस्तक और अभ्यास पुस्तिका निर्धारित होगी। तीसरी कक्षा के लिए सुलेख-पुस्तिका भी रहेगी। चौथी और पाँचवीं कक्षा के लिए एक-एक पूरक पठन की पुस्तक और पाँचवीं कक्षा के लिए एक सरल व्यावहारिक व्याकरण की पुस्तक भी निर्धारित होगी।

MATHEMATICS
SYLLABUS FOR CLASSES I—V

Class I

1. Numbers up to 100, addition and subtraction.
2. Recognition of Indian coinage, length, days in a week.

Class II

1. Numbers up to 999, four arithmetical operations.
2. Recognition of solids encountered by the child in his environment.
3. Money, length, and weight.

Class III

1. Numbers up to 10,000, four arithmetical operations, fractions, addition and subtraction.
2. Recognition of plane surfaces and solids.
3. Money, length, weight, time and capacity.

Class IV

1. Numbers up to 1,00,000 and several lakhs, four arithmetical operations, properties of numbers, Fractions—common and decimals, addition and subtraction.
2. Angles and their measures circle, simple mensuration—areas and perimeters.
3. Reading of Pictographs.

Class V

1. Numbers up to a crore. Whole numbers and their properties, Fractions—common and decimals, four arithmetical operations.
2. Angles and parallel lines ; Triangles, quadrilaterals and circles. Simple mensuration—areas and volumes.
3. Simple cases of applications of percentages to Simple interest and profit and loss, problems involving time and work and time and distance.
4. Graphs—reading of bar graphs and their use,

ENVIRONMENTAL STUDIES
CLASSES I & II

- | | |
|---|---|
| <p>1. Our family
life, structure & functions.</p> <p>2. Our home
shelter, facilities, love.</p> <p>3. Our school
teachers, buildings, learning.</p> <p>4. Our neighbourhood
life, work, cleanliness, space.</p> <p>5. Our earth
features, vegetation, water, minerals.</p> <p>6. Our sky
lights, heat, weather, stars.</p> <p>7. Man's life
interesting imaginative stories.</p> | <p>3. Life in our state
Location, relief, vegetation, resources, occupations, communications.</p> <p>4. Life in our country
Food, clothing, occupations, languages, festivals.</p> <p>5. Institutions which help us
Panchayat, cooperatives, health centres, education, transport.</p> <p>6. Our heritage
Stories of great men and women, and of early man.</p> |
|---|---|

CLASS III

SECTION A

1. **The world we live in**
Continents, oceans, our country in the world.
2. **Life in the district**
Setting, occupation, festivals.

SECTION B

7. **The earth and the sky**
Day and night, heavenly bodies.
8. **The weather**
Influence in our lives, soils and crops.
9. **Force and work**
Necessity and importance.
10. **Materials and their properties**
Solid, liquid, gas,
liquids dissolve things.

11. **Cleanliness**
Body, house, clothing, and surroundings.
12. **Living things**
Plants, birds, animals and their lives.
13. **The human body**
Nutrition and health, food, exercise and toilet habits.

CLASS IV

SECTION A

1. **India : Physical Divisions**
Mountains, plains, rivers and plateaus.
2. **India : Resources**
Human and natural (soil, water, minerals).
3. **India : Transport and communications**
On land, water and air ; post and telegraph and telephone.
4. **The people of India**
National symbols and festivals, one country.
5. **Indian heritage I**
Monuments, music, dances, religions, scripts, languages, handicrafts, festivals.
6. **Indian heritage II**
Stories of famous rulers, reformers, writers, scientists, saints.
7. **Our freedom struggle**
Briefly through some of the more prominent leaders.

SECTION B

8. **Earth and sky**
Planets around the Sun, Revolution of the earth on tilted axis.
9. **Air, water & weather**
Seasons affect the lives of the people, plants and animals, importance of clean water.
10. **Soil erosion & conservation**
Kinds of soil, wind and ways to conserve soil.
11. **Force, work & energy**
Difference between force and energy.
12. **Properties of matter**
Nature of soils-dissolved separate as crystals.
13. **Housing & clothing**
Care of house and clothes for various seasons and occasions.
14. **Living things**
Grasses, plants and animals useful to man.
15. **Human body, nutrition and health**
Food to energy, cooking, care & storage, production of food, harmful habits

CLASS—V

SECTION A

1. **The globe and map of the world**
Hemispheres, Equator, Poles, Tropics, Artic circles.
2. **India and neighbouring countries.**
Many ways of living
Life and occupations in some distinctive areas

of the world, eg. Tundra, Savannah, Desert, Equatorial, Mediterranean.

8. Our shrinking world

Transport & communications, land, sea air, Radio, Television, Newspapers, Cinema, Satellites.

4. How we govern ourselves

The State and Central governments, Fundamental Rights, Directive Principles, duties of a citizen.

5. The United Nations

Cooperation among nations, work of UNICEF, WHO, UNESCO, India in the UN

6. The changing world

Stories of scripts, numbers, trade, money. Discoverers and Scientists, Columbus, Galileo, Newton, Einstein.

Great men

Socrates, Lincoln, Lenin, Tolstoy, Mahatma Gandhi.

SECTION B

7. The earth and the sky

National & Artificial Satellites—shadows.

8. Air and water

Air pressure, composition of air—pollution of air, Water a good solvent, purification of water.

9. Natural resources

Rocks, minerals, coal, petroleum, soils.

10. Force, work & energy

Machines to do work.

11. Properties of matter

Weight and density.

12. Living things

Characteristics of living things, differences of plants, and animals—adaptation to environments, seed germination & growth, protection of crops.

13. Human Body, nutrition & health

Bones, muscles, nervous system. Adequate consumption of food for growth, microbes useful & harmful. Communicable diseases—precaution. What to do in an emergency.

SYLLABUS FRAMES

CLASSES VI-VIII

**(This does not include Sanskrit, Arts, Socially Useful Productive Work.
These will appear as a separate part)**

मातृभाषा का कक्षा ६ से ८ तक का पाठ्यक्रम (हिंदी के संदर्भ में)

इन कक्षाओं में भाषा-योग्यताओं का अपेक्षित स्तर

सुनने और बोलने को योग्यताएं

सुनना

- (क) धैर्य एवं ध्यानपूर्वक सुनना, शुद्ध एवं अशुद्ध उच्चारणों में भेद करना।
- (ख) कक्षाओं और सभाओं में तथा रेडियो पर विभिन्न प्रकरणों पर कविता पाठ, संवाद, समाचार, वार्ताएं आदि सुनकर अधिग्रहण करना।
- (ग) वक्ता के कथन में निहित व्यंग्य, विनोद-भावना, बल आदि को समझना।
- (घ) सुनते समय मूल्यांकन करने की योग्यता का विकास करना।
- (ङ) वक्ता के कथन का आदरत क्रमानुसार अर्थ-बोध के साथ अनुसरण करना।
- (च) अपनी शंका प्रकट कर सकना तथा प्रश्न पूछ सकना।
- (छ) औपचारिक एवं अनौपचारिक वार्ता या कथन में भेद कर सकना।
- (ज) आनन्द, सूचना और प्रेरणा के लिए सुनना।
- (झ) वक्ता के कथन में निहित महत्वपूर्ण तथ्यों, विचारों और भावनाओं को समझना और आवश्यकतानुसार नोट करना।

बोलना

उच्चारण और अभिव्यक्ति

- (क) बोलने में सभी स्वरों, व्यंजनों, व्यंजन-गुच्छों का शुद्ध उच्चारण करना।
- (ख) उचित बलाघात, अनुसार और प्रवाह के साथ बोलना।
- (ग) अपने विचारों और घावों को शुद्ध, स्पष्ट रोचक एवं प्रभावपूर्ण ढंग से व्यक्त करना।
- (घ) व्यवस्थित रूप में वांछित सामग्री को प्रस्तुत करना।
- (ङ) अपने भाषण में स्थानीय बोली के प्रभाव से मुक्त होने का प्रयत्न करना।

मौखिक अभिव्यक्ति के रूप

- (क) कहानी कहना, घटना, दृश्य, चित्र तथा ज्ञात स्थानों का रोचक ढंग से वर्णन करना।
- (ख) विविध प्रकार की कविताओं को समुचित रीति से सुनाना, अन्ताक्षरी में भाग लेना।
- (ग) थोड़ी तैयारी करके सरल विषयों पर दो-तीन मिनट तक बोलना।
- (घ) अपने सहपाठियों और मित्रों के साथ सरल प्रकरणों पर परिचर्चा और वाद-विवाद में सक्रिय भाग लेना।

(ङ) प्रभावपूर्ण ढंग से नाटकीय संवाद प्रस्तुत करना और विद्यालय में तथा अन्यत्र अभिनय में भाग लेना ।

(च) चित्र के आधार पर विवरण प्रस्तुत करना ।

(छ) औपचारिक अवसरों के अनुकूल (स्वागत, बधाई, शोक, संवेदना' अभिनन्दन, परिचय आदि) उपयुक्त भाषा का प्रयोग करना ।

पढ़ना

मुखर एवं मौन पठन

(क) शुद्ध उच्चारण, उचित वलाघात, अनुतान एवं प्रवाह के साथ मुखर वाचन करना ।

(ख) विषय-सामग्री एवं श्रोताओं के अनुसार गीत एवं स्वर को नियन्त्रित करना ।

(ग) विराम चिन्हों का ध्यान रखते हुए पढ़ना ।

(घ) निबन्ध, कविता, कहानी, नाटक आदि का उपयुक्त ढंग से मुखर वाचन करना ।

(च) पढ़ते समय शुद्ध एवं अशुद्ध बर्तनी तथा विराम चिन्हों में भेद करना ।

(छ) समुचित गति एवं बोध के साथ मौन पठन करना ।

(ज) ध्यानपूर्वक एवं सावधानी के साथ पढ़ने की आदत विकसित करना ।

शब्द-भंडार

(क) स्तर के अनुत्थ शब्दों और मुहावरों के ज्ञान में क्रमिक वृद्धि होना ।

(ख) तत्सम एवं तद्भव शब्द रूपों से परिचित होना ।

(ग) संदर्भ के अनुसार शब्दों के अर्थ जानना ।

(घ) शब्दकोष की सहायता से शब्द का अर्थ ढूँढना ।

(ङ) उपसर्ग, प्रत्यय, संधि और समास के आधार शब्दों के विश्लेषण द्वारा उनका अर्थ जानना ।

अर्थबोध

(क) पाठ में वर्णित प्रमुख तथ्यों, विचारों और भावों को समझना ।

(ख) केन्द्रीय विचारों एवं भावों को ग्रहण करना ।

(ग) किसी विशिष्ट उद्देश को ध्यान में रखते हुए तत्सम्बन्धी विशेष स्थल को पाठ में खोजना ।

(घ) पाठ के घटनाक्रम एवं विचारक्रम को ग्रहण करना ।

(ङ) पठित अनुच्छेद का उपयुक्त शीर्ष देना ।

(च) पठित वस्तु पर अपनी सम्मति प्रकट करना ।

(छ) पठित वस्तु पर पूछे गए प्रश्नों के उत्तर देना, सारांश बताना ।

सराहना

उपयुक्त शब्द-प्रयोग एवं शब्द-चित्र के प्रभाव एवं भाव-सौन्दर्य की अनुभूति करना ।

साहित्यिक सामग्री

(क) साहित्यिक गद्य की विविध विधाओं-कहानी, निबन्ध, जीवनी, आत्मकथा, एकांकी, यात्रा रेखाचित्र, पत्र, डायरी आदि का पठन ।

(ख) देशभक्ति, वीरता, निर्भयता, प्रकृति-सौन्दर्य, भक्ति, नीति, सत्य, मानवता, जीवनदर्शन आदि से सम्बन्धित कविताओं की अनुभूति करना और आनन्द लेना ।

(ग) खड़ी बोली के अतिरिक्त ब्रज एवं अवधि की भी कुछ सरल कविताएं पढ़ना ।

योग्यता विस्तार

(क) ज्ञान और आनन्द-प्राप्ति के लिए पुस्तक,

(क) पठित कहानी की संवाद में बदलाव तथा पठित एककी या संवाद की कहानी में बदलाव ।

(ख) प्रमुख भावपूर्ण और विचारपूर्ण गद्यांशों एवं पद्यांशों का सरलाय एवं आवाय लिखना ।

सारांश और आवाय

(क) पठित पठों का सारांश लिखना ।

(ख) अर्थात् मन से कहानी लिखना ।

(ग) अर्थात् कहानी को पूरा करना ।

(घ) दो गढ़े कपरेवा के आधार पर कहानी लिखना ।

(ङ) अर्थात् मन से कहानी लिखना ।

(च) विविध स्रोतों से आवश्यक सूचना प्राप्त करके सामान्य विषयों पर लेख लिखना ।

(क) विविध विषयों पर वर्णनमय एवं विवरण-मय कहानी लिखना ।

(ख) पत्र-मय बनाना ।

(ग) विभिन्न अधिकांशों की आवश्यकताओं के लिए पत्र लिखना ।

(घ) प्रयुक्त-पत्र लिखना और विविध प्रश्नों की प्रतिक्रिया ।

(ङ) व्यावसायिक पत्र ।

(च) वैयक्तिक एवं सामाजिक पत्र ।

पत्र

लिखित अभिव्यक्ति के रूप :

देना ।

(ग) आवश्यकताओं के लिए पत्र लिखना तथा उपयुक्त

(ख) एक अर्थात् देव में केवल एक मुख्य विचार अभिव्यक्ति करना ।

(क) अर्थात् देवों में लिखने की आदत डालना ।

अर्थात् देव बनाना

करना ।

(ग) शब्दों का उचित और प्रभावशाली प्रयोग

बनाना ।

(घ) समाचारों में शब्दों के प्रयोग में सावधानी

करना ।

(ङ) लिखने के लिए सफ़ेद शब्द प्रयोग की शक्ति

(क) व्याकरण सम्बन्ध भाषा का प्रयोग करना ।

भाषा

वैयक्तिक आदि का सही प्रयोग करना ।

वैयक्तिक आदि (व्यक्तिगत, अर्थव्यक्तिगत, प्रकृतिक, अर्थव्यक्तिगत, उद्योग, विज्ञान, समाज, विज्ञान)

वैयक्तिक

सही बनाना ।

(ग) शब्दों के निरूपण के लिए शब्दकोश की

बनाना लिखना ।

(ख) शब्दों की रूप रचना के नियमानुसार शब्द

(क) सही परिचित शब्दों की शब्द रूप से लिखना ।

वर्तनी

कलात्मक रूप से लिखने का अभ्यास करना ।

(ख) शब्दों और अर्थ-परिभाषा के लिए

लिखना ।

(क) सुन्दर और सुप्रसिद्ध अर्थों में प्रयुक्त

लिखने की योग्यताएँ

उनका उपयोग करना ।

(ख) निरिच्छ विषय के लिए सुन्दर शब्दों का प्रयोग और

परिभाषा और समाचार-पत्र आदि पढ़ना ।

- (ख) महापुरुषों की संक्षिप्त जीवनी लिखना ।
- (ग) विभिन्न वस्तुओं, पक्षियों और पशुओं आदि की आत्मकथा लिखना ।
- (घ) सभाओं और उत्सवों को सूचना और प्रतिवेदन तैयार करना ।
- (ङ) कुछ महत्वपूर्ण दिनों की डायरी लिखना ।
- (च) कविता की कुछ पंक्तियाँ लिखना ।
- (छ) लेखन में सृजनात्मक एवं मौलिकता का विकास करना ।

चिन्तन की योग्यताएं

(इन योग्यताओं का विकास, सुनने, बोलने, पढ़ने और लिखने की योग्यताओं के साथ ही किया जाएगा)

- (क) तथ्यों, घटनाओं और विचारों के क्रम को समझना ।
- (ख) कार्य-कारण के सम्बन्ध को समझना ।
- (ग) विश्लेषण कर सकना ।
- (घ) तुलना कर सकना ।
- (ङ) किसी प्रस्ताव के पक्ष या विपक्ष में तर्क दे सकना ।
- (च) निष्कर्ष निकाल सकना ।
- (छ) उपसंहार करना ।
- (ज) किसी प्रस्ताव पर टिप्पणी करना ।
- (झ) तथ्य और मिथ्या में अन्तर कर सकना ।

भाषा-विश्लेषण

प्राथमिक कक्षाओं में (प्रथम पाँच वर्षों में) न्यूनाधिक रूप से व्याकरण की शिक्षा अनौपचारिक होनी चाहिए । किन्तु माध्यमिक स्तर पर, जबकि छात्रों की तर्कशक्ति

एवं चिन्तन क्षमता का विकास प्रारम्भ हो जाता है, व्याकरण की औपचारिक शिक्षण उनके लिए आवश्यक है । व्याकरण की शिक्षा में व्याकरण के नियमों और परिभाषाओं पर बल नहीं होना चाहिए, बल्कि छात्रों में भाषा की प्रकृति और कार्य को समझने की अन्तर्दृष्टि विकसित करनी चाहिए तथा शुद्ध प्रवाहपूर्ण भाषा प्रयोग करने की क्षमता उत्पन्न करनी चाहिए । अर्थबोध और आत्माभिव्यक्ति में भी व्याकरण-ज्ञान सहायता प्रदान करे ।

व्याकरण के निम्नांकित बिन्दु लाभप्रद ढंग से पढ़ाए जा सकते हैं :

- (क) वर्णमाला-हिन्दी की ध्वनियाँ, स्वर, व्यंजन, व्यंजन-गुच्छ, उच्चारण स्थान अक्षर, बल, अनुतान । सन्धि के सामान्य नियम ।
- (ख) लिपि—लिपि संकेत और उनकी प्रकृति, वर्ण और लिपि-संकेत में सम्बन्ध । बर्तनी के नियम, इस स्तर पर होने वाली बर्तनी सम्बन्धी अशुद्धियाँ और उनका संशोधन ।
- (ग) विराम चिन्ह प्रमुख विराम चिन्हों के प्रयोग सम्बन्धी सामान्य नियमों का ज्ञान एवं अभ्यास ।
- (घ) वाक्य, पद और शब्द—वाक्य और इसके अंग, पद और शब्द व्याकरणिक अर्थ ।

शब्द-भेदों का निर्धारण

1. संज्ञा—कार्य और प्रकार, लिंग, वचन, कारक, संज्ञा शब्दों की रूप रचना ।
2. सर्वनाम—कार्य और प्रकार, पुरुष, लिंग, वचन और कारक, रूपरचना ।
3. विशेषण—कार्य और भेद, प्रविशेषण, सरल वाक्यों में विशेषण के स्थान, विशेषण और विशेष्य में सम्बन्ध, रूप-रचना ।
4. क्रिया—कार्य, धातु, धातु-भेद—अकर्मक-सकर्मक, सहायक-क्रिया, प्रेरणार्थक काल और

पक्ष या अवस्था, रूप-रचना, कर्ता और कर्म के साथ क्रिया की अन्विति, वाक्य-कर्तवाच्य, कर्मवाच्य और भाववाच्य ।

5. अव्यय

(क) क्रिया-विशेषण—कार्य, भेद और प्रयोग ।

(ख) समुच्चय बोधक—कार्य, भेद और प्रयोग ।

(ग) विस्मयादि बोधक ।

वाक्य रचना

(क) वाक्य संरचना, वाक्य-भेद—सरल, संयुक्त और मिश्र—उनकी विशेषताएं, संयुक्त और मिश्र वाक्यों के उपवाक्यों में सम्बन्ध ।

(ख) पदबन्ध रचना—कार्य, भेद—संज्ञा पदबन्ध, विशेषण पदबन्ध, अव्यय पदबन्ध, इनका सामान्य परिचय, पदबन्धों में शब्द-क्रम ।

(ग) वाक्य विश्लेषण सरल वाक्यों का विश्लेषण ।

(घ) वाक्य रूपांतर लिंग, वचन, पुरुष, काल भेद के अनुसार ।

शब्द निर्माण सरल शब्द उपसर्ग और प्रत्यय, संज्ञा विशेषण और क्रिया विशेषण शब्दों की निर्माण-प्रक्रिया, समास का सामान्य, परिचय और समास बनाना ।

शब्दों का अर्थ बोध वाणीय और व्याकरणिक शब्द, पर्याय, विलीन, श्रुतिसम भिन्नार्थक, द्विसंकेत श्लेष ।

श्रुतिसय भिन्नार्थक, द्विसंकेत, श्लेष ।

मुहावरे और लोकोक्तियाँ

पाठ्यपुस्तक

(क) प्रत्येक कक्षा के लिए गहन अध्ययन की अलग-अलग पाठ्यपुस्तक हूनी चाहिए जिसमें पद्य

और गद्य दोनों प्रकार के पाठ होंगे । कक्षा 6, 7 और 8 में क्रमशः 28, 30 और 32 पाठ होंगे और पृ०सं० 200-225 तक होगी, जिनमें मूल पाठ और अन्य सम्बद्ध सामग्री, कक्ष प्रश्न अभ्यास, शब्दार्थ, छात्र-संकेत आदि सम्मिलित हैं । गद्य और पद्य पाठों में 2 : 1 का अनुपात होगा । साहित्य को निम्नांकित विद्याएं पाठ्य-पुस्तक में होनी चाहिए : कहानी, लिंग, एकांकी, संवाद, जीवनी, आत्मकथा और संस्मरण के अंश, यात्रा, पत्र, डायरी कविताएं । कविताओं के चयन में मुख्यतः खड़ी बोली की कविताएं रखी जाएं किन्तु प्रत्येक कक्षा में मध्ययुगीन भक्त कवियों की दो-दो सरल रचनाएं भी अवश्य रखी जाएं । तीनों कक्षाओं में भिन्न-भिन्न कवियों की रचनाएं हों ।

(ख) पाठों की प्रचारिक सामग्री निम्नलिखित होगी भारत में विभिन्न भागों का लोक-जीवन, ग्रामीण जीवन-कृषि एवं उद्योग के संदर्भ में, भारत की सामसिक संस्कृति की परम्पराएं, स्वच्छता, खेलकूद, मनोरंजन, हाकी, वैज्ञानिक आविष्कार और उनका मानव-जीवन पर प्रभाव, देश-भक्ति, मानवता, राष्ट्रीय एकता, शिष्टाचार, साहस (साहसी बालक), प्राकृतिक सौन्दर्य, वन्य जीवन, कला (ललित कलाएं-मूर्ति, चित्र, नृत्य, संगीत), अन्तर्राष्ट्रीय सहयोग (हमारे पड़ोसी देश), औद्योगिक और आर्थिक जीवन, जीवन मूल्य, उपर्युक्त निबन्ध सामग्री के वर्णन में निम्नांकित जीवन-मूल्यों का समावेश होना चाहिए—ईमानदारी, सच्चाई, निर्भयता, सहयोगी, समानता, सौहार्द, सहानुभूति, सर्वधर्म-समर्थता, मानवता,—जनतांत्रिकता, अनुशासन, प्रियता, नेतृत्व, उत्तरदायित्व, समय-परायणता, कर्तव्य-परायणता, त्याग, धैर्य, क्षमा । राष्ट्रीय लक्ष्यों जैसे, धर्मनिर्पेक्षता, समाजवाद, जनतांत्रिकता, सामाजिक न्याय, सामाजिक चेतना, राष्ट्रीय एकता श्रम के प्रति निष्ठा आदि पर विशेष बल दिया जाए ।

(ग) पाठों की भाषा और शैली छात्रों की अवस्था,

रुचि, आवश्यकता एवं भाषिक क्षमता के उप-युक्त प्रश्न-अभ्यास होनी चाहिए। प्रत्येक पाठ के अन्त में उपयुक्त प्रश्न-अभ्यास होने चाहिए; जो उनकी वैचारिक और भाषाई सामग्री से सम्बन्धित होंगे। वस्तुनिष्ठ, लघुतर और निबन्धात्मक तीनों प्रकार के प्रश्न हों। कुछ प्रश्न-अभ्यास छात्रों की सृजनशीलता और चिन्तन-शक्ति को विकसित करने के लिए विशेष रूप से बनाए जाने चाहिए। पुस्तक के अन्त में कठिन शब्दों के अर्थ दे देना भी उपयोगी होगा।

(घ) प्रत्येक कक्षा में गहन अध्ययन की पाठ्यपुस्तक के अलावा निम्नांकित पूरक पाठ्यपुस्तकें होंगी।

कक्षा 6-1 पूरक पाठ्यपुस्तक। प्राचीन भारतीय संस्कृति या साहित्य विषयक एक पुस्तक, यक्ष-बाल्मीकि रामायण का सरल संक्षिप्त संस्करण कक्षा 7-2 पूरक पाठ्यपुस्तकें :

1. प्राचीन भारतीय साहित्य या संस्कृति विषय पुस्तक, यक्ष महाभारत का सरल संक्षिप्त संस्करण।

2. समाज विज्ञान सम्बन्धी सरल सामग्री पर आधारित पूरक पाठ्यपुस्तक।

कक्षा 1-2 पूरक पाठ्यपुस्तकें :

1. कोई सरल साहित्यिक रचना।

2. सरल वैज्ञानिक लेखों का संकलन अथवा वैज्ञानिक सामग्री पर आधारित।

प्रत्येक पुस्तक की पृष्ठ संख्या लगभग 125-150 होगी। ये पुस्तकें अपेक्षाकृत अधिक सरल और रोचक होनी चाहिए ताकि छात्र स्वयं पढ़ और समझ सकें।

व्याकरण की पाठ्यपुस्तक भाषा-विश्लेषण एवं लिखने की योग्यताओं के प्रसंग में दिए हुए प्रकरणों का समावेश किया जाए।

द्वितीय भाषा के रूप में हिन्दी पाठ्यक्रम
कक्षा 5/6 से 8 तक हिन्दी (द्वितीय भाषा का पाठ्यक्रम)
(घ) माध्यमिक कक्षाओं में विभिन्न भाषा-योग्यताओं का अपेक्षित स्तर

(क) सुनने और बोलने की योग्यताएं

1. हिन्दी की ध्वनियों को सुनकर उनमें तथा मातृभाषा की ध्वनियों और हिन्दी ध्वनियों में विभेद कर सकना। (मिलती-जुलती ध्वनियों) जैसे : इ-ई, उ-ऊ, ए-ऐ, ओ-औ, तथा प्राण-महाप्राण, घोष-अघोष, अनुस्वार-अनुदासिक-निरनुनासिक, ष-स, क्ष-स, छ-क्ष, ड-ढ़, ङ-ङ, व-र, य-ज, स-श आदि पर विशेष ध्यान)।
2. हिन्दी की सभी ध्वनियों का अलग-अलग और स्पष्ट मानक शब्दों में उच्चारण कर सकना।
(ऊपर के उदाहरणों पर विशेष ध्यान)।
3. संयुक्ताक्षर वाले शब्दों का शुद्ध उच्चारण कर सकना।
4. बोलते हुए सही बत और अनुतान का प्रयोग करना।
5. व्याकरण सम्मत वाक्य बोल सकना।
6. हिन्दी में दिए गए सामान्य निर्देशों को समझना।
7. सरल विषयों पर सामान्य स्तर की बात-चीत में भाग ले सकना।
8. हिन्दी में सरल कविताएं और कहानियां सुनाना।
9. मित्रों और अपरिचितों को अपनी बात हिन्दी में समझा सकना।

10. हिन्दी के सरल संवादों के अभिनय में भाग ले सकना।

11. रेडियो, फिल्म और टेलिविजन पर मनोरंजन और ज्ञानप्राप्ति के लिए हिन्दी कार्यक्रम सुनना और देखना।

(ख) पढ़ने और समझने की योग्यताएं

1. हिन्दी के सभी लिपि-संकेतों को पहचानना।
2. हिन्दी में शब्दों और वाक्यों को शुद्ध उच्चारण के साथ सप्रवाह पढ़ सकना।
3. सरल विषयों पर कुछ वाक्य या एक-दो अनुच्छेद लिख सकना।
4. हिन्दी में पत्र लिख सकना।
5. चित्रों अथवा अन्य संकेतों की सहायता से कहानी लिख सकना।
6. व्याकरण की दृष्टि से शुद्ध भाषा का प्रयोग करना।
7. हिन्दी से मातृभाषा में अनुवाद करना।

शिक्षण सामग्री

इनमें से प्रत्येक कक्षा के लिए एक-एक पाठ्यपुस्तक तथा एक अभ्यास पुस्तिका निर्धारित होगी। प्रथम वर्ष

के बाद पाठ्यपुस्तक के अतिरिक्त एक पूरक पठन की पुस्तक भी निर्धारित की जाएगी।

प्रत्येक वर्ष 30 से 50 तक भाषिक पाठ्यबिन्दु तथा 300 से 500 कोशीय शब्द सिखाने का प्रयत्न किया जाएगा।

भाषिक पाठ्यबिन्दु :

वाक्य संरचनाएं

1. यह.....है।
2. वह.....है।
3. येहैं।
4. वेहैं।
5. यह क्या है ?
6. यह विशेषण पूरक है।
7. तुम.....हो।
8. मैं.....हूँ।
9. हम..... हैं।
10. आप.....हैं।
11. यह कौन है ?
12. (कर्ता) + आदेश, प्रार्थना

(आगे के उदाहरण केवल वह के साथ दिए गए हैं। वाक्य-संरचनाओं का अभ्यास सभी पुरुषों, वचनों और लिंगों में होगा।)

13. वह+.....ता है।
14. वह+.....ती है।
15. वह+कर्म+.....है।
16. वह+.....रहा है।
17. वह+.....एगा।

18. वह+.....आकृदन्त।
19. वह+था।
20. वह+अव्यय (स्थानवाची)+क्रिया।
21. वह+अव्यय (समयवाची)+क्रिया।
22. वह+अव्यय (स्थानवाची और समय वाची)+क्रिया।
23. कर्ता (नेरहित)+करण+क्रिया।
24. प्रश्न वाचक वाक्य।
25. निषेधार्थक वाक्य।
26. लेकिन।
(उदाहरणार्थ कर्ता के रूप में वह के साथ)
27. वह+घातु-आ+हैं।
28. उसने+कर्म+घातु-आ+है।
29. वह+घातु+रहा+था।
30. वह+घातु-ता+था।
31. वह+हो+गा।
32. घातु+सक.....
33. वह+घातु-ना+चाहता है।
34. कर्ता+गौण कर्म+मुख्य कर्म+क्रिया।
35. घातु-ना का निदेशार्थक प्रयोग।
36. उसने+कर्म.....आकृदन्त
37. कर का पूर्वकालिक प्रयोग
38. जब.....(तो, तब)
39. या
40. जहाँ.....वहाँ

41. से.....तक
42.इसलिए
43.क्योंकि
44. दो-तीन वाक्यों वाले संयुक्त और मिश्र वाक्य
45.आदरार्थ बहुवचन
46. और
47. कि
48. परन्तु/किन्तु
49. नहीं ।
50. ———को चाहिए ।
51. क्या बजा है ? आदि वाक्य
52. धातु—ने+लग ।
53. वह+धातु—आ+था ।
54. उसने+कर्म+धातु+आ+था ।
55. वह+धातु—ता (था)+धातु—ता (था)
56. (यदि वह+धातु—ता—धातु—ता) ।
57. उसको+पता है, मालूम है ।
58. तू+सीखे गए क्रिया रूप
(तू केवल निष्क्रिय अभ्यास हेतु)
59. धातु—ना+पढ़—ता, अ, (एगा)
60. शायद, चाहे, आदि वे योग से विधि का प्रयोग ।
(हो सकता है कि———लगता है कि——,
(अच्छा हो———आदि ।)
61. वह+हो (संभावना)
62. अगर (यदि)———तो
(विधि-सूचक वाक्य अभी नहीं)

63. ————नहीं तो
64. संज्ञा—से+धातु—अ+नहीं
65. जो+वह के योग से बने वाक्य
66. 'अभी आया' आदि का प्रयोग
67. प्रेरणार्थक क्रियाएं
68. कहीं———तो कहीं
69. कभी———तो कभी, आदि
70. न तो.....(और) न (ही)
71. जैसे ही———(वैसे ही)
72. ही नहीं———(बल्कि भी)
73. बल्कि———ही
74. हालांकि———तो भी, फिर भी
75. यद्यपि———(तथापि) तो भी, फिर भी
76. अनुभवकर्ता—को—खुशी, दुःख, बुखार, सिर-दर्द, दर्द आदि—है ।
77. अनुभवकर्ता—को ठंड, गर्मी, डर आदि+लग धातु प्रत्यय
78. कर्ता—को+धातु—ना+चाहिए

जिन अहिदी भाषी क्षेत्रों में हिन्दी की पढ़ाई पांचवी कक्षा से शुरू हो जाती है, उन क्षेत्रों के लिए आठवीं कक्षा की भाषिक पाठ्यवस्तु नीचे दी जा रही है। जिन क्षेत्रों में छठी कक्षा से हिन्दी का अध्ययन-अध्यापन शुरू होता है, वहां के लिए निम्नलिखित भाषिक विन्दुओं को नवीं कक्षा के लिए निर्धारित पाठ्यवस्तु में शामिल करके पूरे वर्ष की भाषिक-पाठ्य वस्तु आगे निश्चित की गई है। निम्नलिखित उदाहरणों का सभी पुरुषों, लिंगों और वचनों में तथा अन्य धातुओं के साथ प्रयोग-अभ्यास होगा।

भाषिक पाठ्यविन्दु

(उदाहरणार्थकर्ता के रूप में वह के साथ)

79. वह+हुआ ।
80. धातु+चुक ।
81. कर्ता--को+धातु--ना+है, था ।
82. धातु--ने+दे के रूप
83. विधि
84. कर्मवाच्य
85. धातु--ने+वाला

नवीं-दसवीं कक्षाओं के लिए द्वितीय भाषा हिन्दी
का पाठ्यक्रम

(ख) इन कक्षाओं में विभिन्न भाषा-योग्यताओं का अपेक्षित स्तर

(अ) सुनने और बोलने की योग्यताएं

1. प्रवाह के साथ बोली जाती हुई हिन्दी को अर्थ बोध के साथ समझना। उदाहरणार्थ, रेडियो पर दी जाने वाली वार्ताओं को या फिल्मों के संवादों को समझ सकना।
2. हिन्दी शब्दों का शुद्ध उच्चारण कर सकना तथा हिन्दी में स्वाभाविक अनुतान का प्रयोग करना।
3. सामान्य विषयों पर बातचीत कर सकना और परिचर्चा में भाग ले सकना।
4. हिन्दी कविताओं को उचित लय, आरोह-अवरोह और भाव के साथ पढ़ सकना।
5. सरल विषयों पर कुछ तैयारी के साथ दो-चार मिनट का भाषण दे सकना।
6. हिन्दी में स्वागत कर सकना, परिचय दे सकना और धन्यवाद दे सकना।

7. हिन्दी अभिनय में भाग ले सकना।

(आ) पढ़ने की योग्यताएं

1. हिन्दी में कहानी निबंध, यात्रा-वर्णन, जीवनी, पत्र, डायरी आदि को अर्थबोध और रुचि के साथ पढ़ सकना।
2. पाठ्यवस्तु के संबंध में विचार कर सकना और अपना मत व्यक्त कर सकना।
3. संदर्भ साहित्य को पढ़कर अपने काम के लायक सूचना एकत्र कर सकना।
4. पठित वस्तु का सारांश तैयार कर सकना।
5. हिन्दी कविताओं को रुचि के साथ पढ़ना।
6. ज्ञानवृद्धि और मनोरंजन के लिए पुस्तकें व पत्रिकाएं पढ़ना।

(इ) लिखने की योग्यताएं

1. हिन्दी के परिचित और अपरिचित शब्दों की शुद्ध वर्तनी लिखना।
2. विराम चिह्नों का समुचित प्रयोग कर सकना।
3. लिखते हुए व्याकरण-सम्मत भाषा का प्रयोग करना।
4. हिन्दी में पत्र, निबंध, संकेतों के आधार पर कहानियों, वर्णन, सारांश आदि लिखना।
5. हिन्दी से मातृ-भाषा में और मातृ-भाषा से हिन्दी में अनुवाद कर सकना।

शिक्षण सामग्री

इन कक्षाओं में से प्रत्येक के लिए एक-एक पाठ्य-पुस्तक तथा एक-एक पूरक पठन की पुस्तक निर्धारित होगी। दोनों कक्षाओं के लिए एक सम्मिलित व्याकरण की पुस्तक तथा एक अभ्यास की पुस्तिका भी निर्धारित की जायेगी।

प्रत्येक वर्ष छात्र 60-70 नई भाषिक-सरचनाएं और 500-600 नये कोशीय शब्द सीखेंगे :

वाक्य संरचनाएं

इन उदाहरणों का सभी पुरुषों, लिंगों और वचनों में तथा अन्य धातुओं के साथ प्रयोग अपेक्षित है।

1. वह+हुआ
2. धातु+चुक
3. कर्ता—को+धातु—ना+है, था,
4. धातु—ने+दे के रूप
5. विधि-वाक
6. कर्मवाच्य
7. धातु—ने+वाला
8. वह पढ़ रहा होगा।
9. वह पढ़ता रहता है।
10. वह पढ़ा करता है।
11. वह पढ़ता रहता था।
12. वह कितना उसकी पढ़ी (हुई) है।
13. उसने आधे घंटे में अखबार पढ़ डाला
14. आपने पढ़ा होगा कि, सुना होगा कि, देखा होगा कि.....।
15. वह चुटकुला सुनकर हंस दिया।

16. उसे जाना होता है।
17. बैठलो, सुस्ता लो।
18. हंसते-हंसते, रोते-रोते आदि।
19. कर्मवाच्य के सभी प्रयोग।
20. भाव वाच्य के सभी प्रयोग।
21. कहीं ऐसा न हो कि.....।

नीचे के उदाहरण केवल नमूने के लिए हैं। वस्तुतः हिन्दी की सभी बहु-प्रयुक्त वाक्य संरचनाएं दसवीं कक्षा तक छात्रों को आ जानी चाहिए।

22. शायद वह पढ़ रहा हो।
23. वह पढ़ता जा रहा है।
24. आज तो वह चश्मा लगाए हुए है।
25. वह पढ़ता चला आ रहा है।
26. वह बोले ही जा रहा है।
27. वह क्या कर बैठा।
28. उसे जाने दिया करो।
29. देखो, वह जाने न पाए।
30. प्रेरणार्थक क्रियाओं के सभी रूप (यह काम तो मैं किसी से भी करवा सकता था, आदि)
31. बशर्ते कि.....
32. ज्यों—ज्यों.....त्यों.....त्यों।
33. न जाने, न जाने क्या, न जाने कब, न जाने कहां, न जाने कैसे, न जाने क्यों, न जाने, कौन जाने, जाने-अनजाने आदि।
34. उसे दिल्ली आए चार दिन हो गए।

SYLLABUS IN ENGLISH AS A SECOND/THIRD LANGUAGE CLASSES VI, VII AND VIII

English has been assigned a functional role in our educational system. It is primarily a 'library' language through which the learner gains an access to the evergrowing accerations to different fields of knowledge.

There is more than one model of programming the teaching of English. It is suggested that if English is studied as a second language, it should be introduced in the first year of the middle school.

The courses in English at middle and secondary school stages underscore the acquisition of language abilities through the essentials of English i.e. the grammatical and lexical items which constitute the basic structure of language.

The syllabus in the middle school classes aims at developing the basic abilities of listening, speaking, reading and writing with reference to a specified corpus of language materials comprising about 150 language items and a foebulary of 1800 to 1500. In the high school classes the syllabus is designed to consolidate and further expand the language material already taught. The syllabus is geared to the needs of average students learning English under average conditions.

Objectives of teaching English

The objective of teaching English are geared to the needs of students, the structure of the discipline, and the position of English in the socio-economic and cultural life of the nation. The overall objective of education is to develop in the learner (a) a set of values (b) certain attitudes like the spirit of scientific humanism, an objective outlook¹. and

(c) certain basic human values leading to self-actualisation of the learner and character-building. These values and attitudes which constitute an integral element of the syllabus will be spread over the course and will be so phased that the essential features are covered in a five-year course.

The objectives spelt out in terms of language abilities of listening, speaking, reading and writing in the middle and secondary school are the same. The abilities, however, vary from course to course and from stage to stage in degrees of attainments as :

- (a) each ability comprises a hierarchy of graded competencies which range from the most elementary to the highly sophisticated;
- (b) the structural and lexical items used for developing language abilities vary from class to class.

I. Specific objectives of teaching English in the Middle School (Starting points either Class V or Class VI)

The terminal objectives of English in the middle school are that the student develops

1. The ability to understand English when it is spoken
2. The ability to speak English intelligibly
3. The ability to read English and understand what he reads

4. The ability to write English correctly

5. Familiarity with simple rhymes and verse

Note : The language abilities-1 to 4-will be developed and measured in terms of the prescribed range of grammatical and vocabulary items. The content of the prescribed books will also be used for this purpose. Objectives 5 will not be evaluated.

Course Content Summary of the Syllabus

First Year of English

1. Linguistic Contents

A. (a) Structural Items-40

(b) Function words

(c) Inflections and collections

B. Vocabulary Items

300 words for active use : 100 words for passive use (these 100 words should be selected from the vocabulary recommended for classes VI and VII) and another 50 words (nominals etc.) to be used at the recognition level only.

Second year of English

A. (a) Linguistic Content
Structural Items-20

(b) Structural Words

(c) Collections

B. Vocabulary Items

Approximately 300 new words for active use, 100 new words for passive use and another 50 for recognition only.

Note : Out of the 100 words introduced for passive use in the first year, 50 or 60 may be used for active use in the second year.

Third Year of English

1. Linguistic Content

A. (b) Structural Items-47

A. (b) Function words

A. (c) Vocabulary Items

Approximately 400 new words for active use; (out of the 100 new words for passive use in the second year, 50 or 60 may be used for active use in the third year). 200 new words for passive use and other 50 words for recognition only.

MATHEMATICS

Class VI

- 1) Natural number, whole numbers, integers and their properties, the four arithmetical operations.
- 2) Algebraic expressions (with integral coefficients). an introduction to equations.
- 3) Ratio and percentages, problems on profit and loss, simple interest and other problems of national importance.
- 4) Measurement of line-segments, angles, parallel lines, triangles and circles - activity approach.

Class VII

- 1) Rational numbers, the four arithmetical operations.

- 2) Algebraic expressions and first degree equations in one variable.
- 3) Exponents, simple products, identities and factors.
- 4) Formulae and their uses.
- 5) Statistics-data pertaining to the child's environment, calculation and interpretation of mean.
- 6) Triangles and their congruency, quadrilaterals and their linear symmetry, areas of rectilinear figures-activity approach.
- 7) Profit and loss, interest, discount, time and work, etc.

Class VIII

- 1) Real numbers, the four arithmetical operation.
- 2) Algebraic expression first degree equations in two variables and inequations in one variable.
- 3) Language of sets.
- 4) Use of tables-regarding tables on interest, squares, cubes, square-roots, cube-roots etc.
- 5) Statistics - calculation and comparison of mean, mode and median.
- 6) Parallel lines, triangles, similarity of figures, circles, areas and volumes-activity approach.

HISTORY

Class VI—Ancient India

- 1) Prehistory - Man as a nomad - Discovery and use of metals - Invention of the wheel - Farming.

The Harappan culture - Cities - Occupations - Religion - Script.

3. Life in the Vedic age - Settlements - Economic and political life - Religion
- 4) Rise of Magadha - Kingdoms and Republic Emergence of towns - Jainism and Buddhism.
- 5) The Mauryan Empire - Persian and Greek invasions - Chandragupta Maurya - Ashoka-administration.
- 6) India from 200 B.C. to A.D. 300 - Satavahanas - Cholas - Pandyas - Cheras - Shakas-Khushanas.
- 7) The Age of the Guptas - Administration - Trade - Religion - Art - Science.
- 8) India from A.D. 500 to A.D. 800 - Harsha - The Deccan and South India - Art and architecture.
- 9) India and the World - Rise of Islams - The Arabs in India - India's contacts with other countries.

HISTORY

Class VII—Medievar India

- 1) India from A.D. 800 to A.D. 1200 - Kingdoms of South - Religion - Architecture - The struggle for Kanauj - Turkish Invasions Religion - Art and Architecture.
- 2) The Sultant of Delhi - Mamluks - Khaljis - Tughlaqs - The Bahmani and Vijayanagar Kingdoms - Sufi and Bhakti movements.
- 3) The Advent of the Mughals and the Europeans - Kingdoms in the Decan - Renaissance in Europe - Voyages of discovery.
- 4) The Mughal Empire - Akbar - Jahangir and Shahjahan - Aurangzeb - Rise of the Marathas - Art - Architecture - Literature.
- 5) Decline of the Mughal Empire - Invasions - Rise of independent states.

HISTORY

Class—VIII Modern India

- 1) **India in the Eighteenth Century.**
Expansion of the Maratha Power Society and Polity.
- 2) **The Rise and Growth of British Empire in India.**
The Carnatic wars the British conquest of Bengal - British paramountcy.
- 3) **Administrative Structure of the British Empire in India**
Civil Judicial-Revenue system.
- 4) **Impact of British Rule on Indian Economy and Society up to 1875**
The Village economy - Industry and Trade-Educational and Social reform.
- 5) **The Revolt of 1857**
Cause - Nature - Results.
- 6) **Reorganisation of the British Empire in India**
The Act of 1858 - Civil Services - Policy of 'Divide and Rule'.
- 7) **Changes in Economy and Society after 1858**
Agriculture and Railways - Plantations - Industries - Economic Conditions. -
Social Life : Education - Social and religious reform movements - Cultural awakening.
- 8) **Rise of Indian Nationalism and the struggle for Freedom**
The Indian National Congress - Partitions of Bengal - The Gandhian era - Civil Disobedience-The I.N A - Quit India Movement.
9. **Achievement of Independence.**
Immediate Problems.

CIVICS

Class—VI our Civic Life

- 1) **Development of the Community**
Scheme — Cooperatives — Community Development.
- 2) **Local Government : Rural**
Need—Structure and Functions.
- 3) **Local Government : Urban**
Structure and Functions.
- 4) **District Administration**
Law and Order - Civic Amenities
- 5) **Preservation of property of the Community**
Public property, its preservation—historical monuments.
- 6) **Project Work**
Opportunities to develop abilities which are essential for any active citizen in India. problems.

CIVICS

Class - VII Our Constitution

- 1) **Chief Features of our Constitution**
Basic Principles - National Government - State Governments, Rights-Duties, Directive Principles, National Symbols.
- 2) **Law-Making Process**
Parliament - State legislature, How Laws are made.
- 3) **Executing Laws**
President, Prime Minister and the Council of Ministers, Governor, Chief Minister and the Council of Ministers, Public Services.

- 4) **Interpreting Law**
Supreme Court, High Courts and Subordi-
Courts.

- 5) **Project Work**

CIVICS

Class VIII Independent India-Achievements and Challenges

- 1) **Our National Goals**
Democracy, Socialism, and Secularism,
International Cooperation.
- 2) **Strengthening our Democracy**
Citizenship in a democracy — literacy in
India.
- 3) **Social and Economic Reconstruction**
Poverty - Population - Unemployment
Casteism.
- 4) **Five Year Plans : Achievements and Failures**
Agriculture - Industries - Rural Life.
- 5) **Defence of the Country**
Armed Forces - Territorial Army, Border
Security Force, N.C.C., A.C.C, Citizens and
defence.
- 6) **India and the World**
Need for cooperation, co-existence, the
United Nations.
- 7) **Project work**

GEOGRAPHY Class VI

- (1) **The Earth as a Globe**
Distance and direction on a map. The earth

and the solar system—Rotation and revo-
lution—Latitude and Longitude.

- (2) **Africa—Land and People**

Land, Climate, Vegetation and Wild life,
Equatorial lands—Savanna lands—Sahara
lands—the Veld and the Mediterranean
lands.

- (3) **Asia—Land and People**

Land, Climate, Vegetation and Wild life,
The People.

Pakistan, Nepal, Bhutan, Bangladesh,
Burma and Sri Lanka.

GEOGRAPHY Class VII

- (1) **Atmosphere and Hydrosphere**

Air—Temperature—Pressure and Winds.

- (2) **Austral Asia—Land and People**

Land, Climate, Vegetation and Wild Life—
the People.

- (3) **South America—Land and People**

Land, Climate, Vegetation and Wild Life—
the People.

- (4) **North America—Land and People**

Land, Climate, Vegetation and Wild Life—
the People—Canada—the United States.

- (5) **Practical work**

Observation and keeping records of sunrise
and sunset.

Stars and constellations—studying—local
maps—landforms in the neighbourhood.

GEOGRAPHY Class VIII

- (1) **Lithosphere and Landforms**
The crust of the earth—Rocks.

- (2) **Europe—Land and People**
Land, Climate, Vegetation and Wild life—
the People—France, the United Kingdom
and Germany.
- (3) **The Soviet Union—Land and People**
Land, Climate, Vegetation and Wild life—
the People.
- (4) **India—Physical Setting**
Relief—Climate, Vegetation and Wild life.
- (5) **India—Its Agricultural Resources**
Soils—Irrigation—Crops—Methods of Far-
ming.
- (6) **India—Minerals and Industries**
Iron, Coal, Petroleum, Bauxite, Manganese,
Textiles, Sugar, Oil refinery, Heavy industr-
ies, Small Scale and Cottage Industries.
- (7) **India—Trade, Transport and Population**
Internal and external, Land—water and
air, Population—distribution and density.
- (8) **Practical work— Weather Study**
Today's weather, observation and recording.

SCIENCE

Class VI

Measurement

Materials around us

Separation of substances

Changes around us

Motion, Force and Pressure

Simple machines

The Universe

The Living World

Structure and function in plants and animals

Food and Health

Mans' dependence on plants and animals and the
balance in nature

Environment: Adaptation to and manipulation
of Water

Energy

Class VII

Motion, Force and Mass

Heat and its effects

Transfer of heat

Optical Instrument (qualitative)

Oscillatory motion and sound

Effects of Electricity

Magnetism

Nature and composition of substances

Particulate nature of matter

Symbols, atoms and atomic weights

Laws of chemical combination

Formulae and valency

Chemical equations

Air

Composition of air

Oxygen

Atmospheric pressure

Water

Composition

Water as a solvent

Acids, Bases and Salts

Preservation of self (units to be developed in an
elementary and generalised way of different
systems to be highlighted)

Nutrition and digestion

Respiration

Internal transport

Excretion

Movement and Locomotion

Control and Coordination

Population

Pollution

CLASS VIII

Light

Electricity

Potential difference and resistance

Electric energy and Power

Electromagnetism

Atomic nucleus and Nuclear energy

Carbon and its compounds

Carbon in nature

Compounds of carbon

Our living world

Cell and Tissues

Preservation of kind (simplified account is to be given)

Growth, Reproduction and Development

Heredity and Variation

Organic Evolution

Materials (metals, alloys, plastics and glasses)

Agriculture

Agriculture practices and implements

Our Problems in Agriculture

Improvement and protection of crops

Useful Plants and Animals

Animal Husbandry

Conservation of Natural resources

Scientific methods

Science in Human welfare

SYLLABUS FRAMES

CLASSES IX and X

**This does not include Fine Arts, Socially Useful Productive Work and Optionals.
These will appear as a separate part.**

मातृभाषा का पाठ्यक्रम (हिंदी के संदर्भ में)

कक्षा 9-10 का पाठ्यक्रम

इन कक्षाओं में अपेक्षित भाषा योग्यताएं

सुनना

- (क) कक्षाओं और सभाओं में तथा रेडियो पर स्तर के अनुरूप वार्ता, परिचर्चा भाषण आदि सुन कर अर्थ ग्रहण करना।
- (ख) वक्ता के कथन में निहित व्यंग्य, विनोद आदि को समझना।
- (ग) वक्ता के विचारों से असहमत होते हुए भी उसकी बात को ध्यानपूर्वक और शिष्टाचार के साथ सुनना तथा उसके दृष्टिकोण को समझना।
- (घ) ज्ञान, मनोरंजन एवं प्रेरणा के लिए सुनना।
- (ङ) वक्ता की बात को आलोचनात्मक दृष्टि से सुनना और समझना।

बोलना

- (क) शुद्ध उच्चारण, बल एवं अनुतान तथा सहजता एवं प्रवाह के साथ बोलना।
- (ख) बोलते समय शुद्ध एवं उपयुक्त भाषण का प्रयोग करना।
- (ग) अपने मनोभावों, जैसे : हर्ष विषाद, क्रोध, विस्मय, आदर आदि को भावपूर्ण ढंग से व्यक्त करना।

- (घ) असहमत होते हुए भी अपनी प्रतिक्रियाओं को शिष्ट एवं संयत भाषा में व्यक्त करना।
- (ङ) अवसर के अनुकूल औपचारिक भाषा के प्रयोग में समर्थ होना।
- (च) अपने भाषण में स्थानीय बोली के प्रभाव से मुक्त होने का प्रयास करना।
- (छ) क्रमवद्धता, संक्षिप्तता और प्रकरण की एकता बनाए रखना।
- (ज) अपनी मौखिक अभिव्यक्ति को रोचक और प्रभावपूर्ण बनाने का प्रयास करना।
- (झ) मौखिक अभिव्यक्ति के निम्नांकित रूपों में योग्यता प्राप्त करना।

1. सामाजिक राजनैतिक, वैज्ञानिक साहित्यिक एवं सांस्कृतिक विषयों पर बातचीत, संवाद, परिचर्चा एवं वाद-विवाद में भाग लेना।
2. स्वागत करना, परिचय कराना और धन्यवाद देना, कृतज्ञता-ज्ञापन, संवेदना वधाई आदि की भाषा से परिचित होना।
3. लगभग 5 मिनट तक का भाषण दे सकना।
4. प्रभावपूर्ण ढंग से कहानी कहना और कविता वाचन करना।

(क) गद्य साहित्य की विविध विधाओं-कहानी, निबंध, जीवनी, आत्मकथा, एकांकी, यात्रा-वर्णन, रेखाचित्र, रिपोर्ताज आदि के रूप-गठन की विशेषताओं को जानना ।

साहित्यिक विधाएं :

- (क) गद्य साहित्य की विविध विधाओं-कहानी, निबंध, जीवनी, आत्मकथा, एकांकी, यात्रा-वर्णन, रेखाचित्र, रिपोर्ताज आदि के रूप-गठन की विशेषताओं को जानना ।
- (ख) कविता के मर्ममूल उपदान रिक, लय, यति आदि से परिचित होना ।
- (ग) कविता के मर्ममूल उपदान रिक, लय, यति आदि से परिचित होना ।
- (घ) भाषा की शक्ति एवं सौंदर्य की समझना और सराहना ।
- (ङ) पाठ पर अपनी सन्मति प्रकट करना ।
- (च) पाठन अनुच्छेदों के शीर्षक एवं उपशीर्षक देना ।
- (छ) पाठन सामग्री के विभिन्न अंशों का परस्पर संबंध समझना ।
- (ज) किसी विशिष्ट उद्देश्य को ध्यान में रखते हुए तत्संबंधी विशेष स्थल को पहचानना ।
- (झ) पाठ के सार एवं विचार-सारिणी को ग्रहण करना ।
- (ञ) पाठ में वर्णित मर्ममूल तथ्यों एवं विचारों को समझना ।
- अर्थबोध एवं सराहना :

- (क) संदर्भ के अनुसार शब्दों के अर्थ एवं अर्थ-बोधों को पहचानना ।
- (ख) प्रसंगानुसार अर्थ ज्ञान करना ।

(ख) उपसर्ग, प्रत्यय, संधि, समास के आधार पर शब्दों के विश्लेषण द्वारा उनका अर्थ ज्ञान करना ।

(क) स्वर के अनुसूचक शब्दों और मुद्राचरों के ज्ञान में कौमक अभिवृद्धि होना ।

शब्द भंडार

- (क) स्वर के अनुसूचक शब्दों और मुद्राचरों के ज्ञान में कौमक अभिवृद्धि होना ।
- (ख) शब्दों के अर्थ, समास के आधार पर शब्दों के विश्लेषण द्वारा उनका अर्थ ज्ञान करना ।
- (ग) साहित्य के प्रति अभिरुचि का विकास करना ।
- (घ) भाषा, विचार एवं शैली को सराहना कर सकना ।
- (ङ) आलोचनात्मक दृष्टि से पढ़ना और पठन सामग्री पर अपनी प्रतिक्रिया प्रकट कर सकना ।
- (च) आदि शोधपत्रों का विकास करना ।
- (छ) देखकर वांछित सामग्री ढूँढना, सामग्री चयन संदर्भ ग्रंथ, विषय-सूची, अनुक्रमणिका आदि करना, उसे व्यवस्थित करना, नोट बनाना आदि शोधपत्रों का विकास करना ।
- (ज) ज्ञान, आनन्द एवं प्रेरणा के लिए पढ़ना ।
- (झ) सरसरी दृष्टि से पढ़कर केंद्रीय विचार या सार ग्रहण कर लेना ।
- (ञ) शब्द के वाच्यार्थ, लक्ष्यार्थ एवं व्याप्यार्थ को जान सकना ।
- (ट) अर्थबोध एवं गति के साथ मौन पठन करना ।
- (ड) मुखर वाचन की यांत्रिक कुशलताओं [शुद्ध उच्चारण, बलाघात, अनुवाह, स्वर, गति आदि] में पूर्णता आ जाना ।

पढ़ना

5. अभिनय में भाग लेना, मादक पर जोरना ।

(ख) देशभक्ति, वीरता, प्रकृति-सौन्दर्य, नीति, प्रेम, व्यंग्य, हास्य तथा जीवन के विविध पक्षों से संबंधित कविताओं का आनन्द लेना।

लिखना :

वर्तनी और भाषा :

(क) लिपि के मानक रूप का ही व्यवहार करना।

(ख) रूप-विज्ञान एवं ध्वनि-विज्ञान के नियमों के आधार पर शब्दों की उचित वर्तनी जानना।

(ग) शुद्ध वर्तनी जानने के लिए कोश देखने की योग्यता का विकास करना।

(घ) विराम-चिन्हों का सही प्रयोग करना।

(ङ) लेखन के लिए सक्रिय (व्यवहार प्रयोगी) शब्द भण्डार की वृद्धि करना।

(च) शब्दों, मुहावरों और पदबंधों का प्रभाव-शाली और उपयुक्त प्रयोग करना तथा समानार्थक शब्दों के प्रयोग में विशेष सावधानी बरतना।

(छ) शुद्ध प्रभावपूर्ण भाषा तथा लेखन-शैली का स्वाभाविक रूप से प्रयोग करना।

(ज) उपयुक्त अनुच्छेदों में बांटकर लिखना।

लिखित अभिव्यक्ति :

(क) प्रार्थनापत्र, निमंत्रण पत्र, वधाई पत्र, संवेदना पत्र, धन्यवाद पत्र, आदेश पत्र आदि लिखना, तार लिखना और विविध प्रपत्रों को भरना।

(ख) स्तरानुकूल उपयुक्त विषयों पर वर्णना-

त्मक, विवरणात्मक, विचारात्मक और कल्पनात्मक निबंध लिखना।

(ग) विविध श्रोतों से आवश्यक सामग्री एकत्र करके अभीष्ट विषय पर निबंध और जीवनी लिखना।

(घ) निर्दिष्ट रूपरेखा के आधार पर निबन्ध और कहानी लिखना।

(ङ) देखी हुई घटनाओं का वर्णन करना और उन पर अपनी प्रतिक्रिया भी प्रकट करना।

(च) अपूर्ण कहानी को पूर्ण करना।

(छ) स्वतंत्र रूप से कहानी, संवाद आदि लिखना और लिखने में मौलिकता एवं सृजनात्मकता का विकास करना।

(ज) पढ़ी हुई कहानी को संवाद में परिवर्तित करना को संवाद को कहानी में।

(झ) समारोहों और गोष्ठियों की सूचना और प्रतिवेदन तैयार करना।

(ण) सार, संक्षेपोकरण, भावार्थ और व्याख्या लिखना।

सम्पूर्ण भाषा-कार्यक्रम द्वारा विकसित की जाने वाली चिंतन की योग्यताएं

(क) तथ्यों, कार्य-व्यापारों और विचारों के क्रम को समझना।

(ख) कार्य-कारण सम्बन्ध समझना।

(ग) विश्लेषण, वर्गीकरण और तुलना करना।

(घ) सामान्यीकरण करना और निष्कर्ष निकालना।

4. हिंदी की संरचना : वाक्य, उपवाक्य, पदबंध, पद, शब्द ।
5. संज्ञा : कार्य और शब्द, पद-परिचय—विना, सर्वनाम : कार्य और शब्द, पद-परिचय—रूप
6. विशेषण : कार्य और शब्द, पद-परिचय—रूप
7. क्रिया : कार्य और शब्द, पद-परिचय—रूप
8. क्रिया : कार्य और शब्द, पद-परिचय—काल
9. अव्यय : कार्य और शब्द, समुच्चय बोधक, विस्मयादि बोधक, निपात और उनके कार्य ।
10. वाक्य रचना : पदबंधों में शब्दक्रम ।
- (क) पदबंध का महत्व और शब्द-संज्ञा पद-बंध, विशेषण पदबंध, अव्यय पदबंध
- (ख) वाक्य और उपवाक्य—संरचना और शब्द, उपवाक्यों में शब्दक्रम, उप-वाक्यों के संयोजक ।
- (ग) वाक्य-शब्द, सरल, संयुक्त और मिश्र, इनकी रचना और रूपान्तर ।
- (घ) सामान्य वाक्य—अच्छिद्यों एवं उनके संशोधन ।
- (ङ) वाक्य-विकल्पण—सरल, संयुक्त और मिश्र वाक्यों का विकल्पण ।
11. शब्द रचना : शब्द शब्द-विकास, पदबंध, विशेषण, संज्ञा, संधि, समास और प्रत्यय के साथ उपसर्ग और प्रत्यय शब्द वाक्य और प्रत्यय, मूल शब्द, यौगिक, योग-कृति मूल शब्द, देशज, विशेषी शब्द कर्तृ, द्विवचन, शब्द-विकास, पदबंध, विशेषण

- (ङ) किसी कथन पर टिप्पणी करना और पक्ष-विपक्ष में तर्क प्रस्तुत करना ।
- (ब) वास्तविकता और मिथ्या में भेद कर सकना ।
- (छ) वास्तविकता के साथ-साथ नहिरेत अर्थ को समझना ।
- भाषा विकल्पण (व्याकरण)
- इस स्तर पर व्याकरण शिक्षण के अनसूते भाषा के उन पक्षों पर बल दिया जाना चाहिए जो भाषा में प्रयुक्त अव्ययों तथा शब्दों एवं प्रभावपूर्ण अभिव्यक्ति को प्रोत्साहित कर सकें ।
- व्याकरण के निम्नलिखित विस्तृत विषयों का शिक्षण इस स्तर पर उपयुगी होगा :
1. भाषा, भाषा क. स्वरूप, हिंदी भाषा का संक्षिप्त परिचय, हिंदी का क्षेत्र, महत्व व विशेषताएं ।
2. ध्वनि : वर्ण का स्वरूप, हिंदी के वर्ण, स्वर, और व्यंजन, अनुस्वार और अर्धानुस्वार, और व्यंजन, अनुस्वार और अर्धानुस्वार, पंचमाक्षर और अनुस्वार, श, स, क्ष आदि प्रयुक्त अव्ययों का शुद्ध उच्चारण ध्वनियों का शुद्ध उच्चारण, अक्षर का स्वरूप और प्रकार, बलाघात, संगम, अनुगत, संधि, संधियों के सामान्य नियम, उच्चारण की विशेष अव्ययित्तियों और उनके निदान ।
3. हिंदी वर्णमाला और लिपि-विज्ञान : ध्वनि और लिपि में संबंध, हिंदी के लिपि चिह्न, हिंदी के एकाधिक रूप वाले चिह्न, हिंदी वर्तनी के महत्वपूर्ण नियम । वर्तनी की विशेष अक्षरित्तियों (क्ष, छ, व, ब, श, ष, स आदि से संबंधित) और उनके निदान एवं उच्चारण, अनुस्वार, उच्चारण चिह्न समास चिह्न, अल्पविराम, डस, उच्चारण चिह्न समास चिह्न, प्रश्न चिह्न, विस्मयादिबोधक आदि चिह्न ।
- हिंदी के प्रयोग एवं नियम :

समास, विशेषण समास, क्रिया-
समास और अव्यय समास ।

12. अर्थ : शब्द और अर्थ में संबंध—कोशीय और व्याकरणिक शब्द, पर्याय, विलोम, ध्वन्यात्मक शब्द, द्विरुक्ति, मुहावरे और लोकोक्तियां ।
13. रचना : लेखन :—लिखित योग्यता में इसका उल्लेख किया गया है ।

पाठ्यपुस्तकें :

निम्नांकित प्रकार की पाठ्यपुस्तकें निर्धारित की जानी चाहिए :

(क) गहन अध्ययन की दृष्टि से :

1. गद्य पाठों की पुस्तक (गद्य की सभी विधाओं का समावेश हो)
2. काव्य पुस्तक (कालक्रमानुसार की जगह विषय या विधा के अनुसार कविताओं का संग्रह)

(ख) पूरक पाठ्यपुस्तक

1. हिन्दी उपन्यास, यात्रा वृत्तांत, खेल-खिलाड़ी, हमारी प्राकृतिक संपदा, वन्य जीवन और किसी महापुरुष की आत्म कथा का संक्षिप्त संस्करण में से कोई एक पुस्तक पूरक पाठ्यपुस्तक के रूप में निर्धारित होगी ।
2. हिन्दी व्याकरण एवं रचना ।

ENGLISH AS A SECOND LANGUAGE

I. Introduction

English has been assigned a functional role in our educational system. It is primarily a 'library' language through which the learner gains an access to the evergrowing accretions to different fields of knowledge.

The courses in English at middle and secondary school stages underscore the acquisition of language abilities through the essentials of English i. e. the grammatical and lexical items which constitute the basic structure of language.

The syllabus in the middle school classes aims at developing the basic abilities of listening, speaking reading and writing with reference to a specified corpus of language material comprising about 150 language items and a vocabulary of 1200 to 1500. In the high school classes the syllabus is designed to consolidate and further expand the language material already taught. The syllabus is geared to the needs of average students learning English under average conditions.

II. General Objectives of Teaching English

The overall objective of education is to develop in the learner (a) a set of values (b) certain attitudes (c) certain basic human values leading to self-realisation of the learner and character building. While teaching and learning English at all stages conscious effort will be made to achieve this goal.

The language objectives spelt out in terms of language abilities of listening, speaking, reading and writing in the middle and secondary school are the same. These abilities, however, vary from course to course and from stage to stage in degrees of attainments as:

(a) each ability comprises a hierarchy of graded competencies which range from the most elementary to the highly sophisticated;

(b) the structural and lexical items used for developing language abilities vary from class to class.

Specific Objectives of Teaching English in Secondary School

- (1) The student develops the ability to read English with ease and comprehension;
- (2) The ability to understand English spoken at normal conversational speed;
- (3) The ability to write English correctly;
- (4) The ability to speak English intelligibly;
- (5) The ability to enjoy simple poems.
- (6) Interest in library reading and listening.

Note : Language abilities 1 to 4 are developed and measured using the structural and lexical items prescribed for each class. The content of the prescribed books will also be used for this purpose. Objectives 5 and 6 are evaluated through integral assessment programmes. Weightage to library reading should be ensured.

III. Course Content

- (a) Structural item
- (b) Function Words

MATHEMATICS

Alternative I

- 1) Sets and mappings
- 2) Systems of equations and inequations and their graphical representation, applications of simultaneous linear inequations
- 3) 2×2 matrices, addition
- 4) Quadratic polynomials, quadratic equations and inequations
- 5) Permutations, combinations and the Binomial Theorem
- 6) Trigonometric ratios and their application to simple problems on heights and distances
- 7) Problems on percentages profit and loss, shares and discount, simple and compound interest, investment and loans in banks, hire-purchase problems-payments in equal instalments
- 8) Collection and tabulation of data, graphical representation, measures of central tendency and dispersion
- 9) Geometry Angles at a point, parallel lines, triangles and rectilinear figures, loci, areas, similar triangles, circle, areas and volumes.

MATHEMATICS

Alternative II

1. Language of sets

2. Systems of equations and their graphical representation
3. Quadratic polynomials and quadratic equations
4. Logarithms
5. Problems on percentages, profit and loss, shares and discount, simple and compound interest, unitary method and its applications
6. Collection and tabulation of data, graphical representation, calculation of mean
7. Geometry : Angles at a point, parallel lines, triangles and rectilinear figures, loci, areas, similar triangles and circle, areas and volumes.

SCIENCE

Alternative I

1. Our Universe
2. Motion
3. Structure of the atom
4. Chemical Bonding
5. Introduction to Life Sciences
6. Organisation of Life
7. Atomic and molecular masses, Mole Concept and Chemical Equations
8. Behaviour of Gases, pressure & temperature
9. Periodic Classification of Elements
10. Chemistry in India
11. Moment
12. Work and Energy

13. Structure and properties of matter
14. Floatation
15. The Halogens
16. Oxygen and Sulphur
17. Nitrogen and Phosphorus
18. Oxidation and Reduction
19. Life Processes
20. Metallurgical Processes and Metals
21. Reflection of Light, Rectilinear propagation of light
22. Refraction of light
23. Solutions and Electrolytic Dissociation
24. The Rates of Reactions and Chemical Equilibrium
25. Carbon
26. Compounds of Carbon-Organic Chemistry
27. Genetics and Evolution
28. Agricultural Practices and Animal Husbandry
29. Electricity
30. Magnetism
31. Combustion and Fuels
32. Human Biology, Health and Nutrition
33. Chemistry in Industry
34. Some Applications of Physics (Non-evaluative)
35. Man and His Environment

**SCIENCE
ALTERNATIVE II
DISCIPLINARY APPROACH**

PHYSICS

- Measurements
- Speed and Acceleration
- Force and Motion
- Turning Effect of a Force
- Simple Machines
- Pressure in Liquids and Gases
- Archimedes Principle
- Work, Power and Energy
- Wave Motion
- Structure of Matter
- Temperature and Volume change
- Measurement of Heat Energy
- Reflection of Light & Rectilinear propagation of Light
- Lenses and Optical Instruments
- Atomic Structure
- Current and P. D.
- Household Electricity
- Magnetic Effect of Electric Current
- Electromagnetic Induction
- Electrons
- Nucleus of Atom

CHEMISTRY

Chemistry—importance in everyday life

Matter, physical and chemical changes

Elements, compounds, mixtures, Petroleum

Symbols, formulae, equations

The study of effect of heat on common substances

The structures of the atom, chemical bonds, Periodicity

Behaviour of gases under pressure and temperature change—Boyle's law, Charles' law, simple numerical problems on these laws. Kelvin scale

Types of chemical changes, energy changes in chemical reactions, factors affecting the rate of a chemical reaction

Electrolysis—Electrolytes and non-electrolytes

Acids, bases and salts, pH scale

Atmosphere, air, oxygen, oxides. Burning and rusting

Hydrogen—Importance and occurrence. Activity series of metals

Water, Its use as a solvent, Solubility, Drinking water, Hardness of water, Composition of water

Carbon—Allotropic modifications

Oxides of carbon—carbon monoxide, carbon dioxide

Fuels—Kinds of fuels

Flame—Structure of flame

Nitrogen ; acid oxides of Nitrogen

Nitrates

Oxides of nitrogen—nitrogen oxide (nitric oxide)—nitrogen dioxide, Their simple properties

Chlorine and hydrogen chloride—General method for the preparation of three Halogens—(chlorine, bromine and iodine)

Preparation and collection of chlorine and hydrogen chloride properties

Sulphur and its compounds—extraction—Frasch method. Preparation of mono-chlinic and plastic sulphurs—effect of heat on sulphur

Sulphur dioxide—laboratory preparation

Sulphur trioxide—its preparation

Sulphuric acid—Contact process

Phosphorus—allotropes, oxides, chlorides and acids

Metals, Metallurgical processes—Chemical properties of metals

Study of metals like sodium, calcium, magnesium, aluminium, zinc, iron, lead and copper. The study is based on the activity series

Reference should be made to methods of extraction of metals, such as Fe, Al, Cu, and Zn from their ores

Uses of the metals Mg, Al, Zn, Fe, Cu, and Pb—alloys

Industrial Process - Sodium hydroxide, Sodium carbonate

Compounds of carbon. Organic chemistry - Classification of organic compounds. Saturated and unsaturated hydrocarbons

BIOLOGY THEORY

Basic Biology—Microscopic Plants and Animals

Flowering Plants

Plant Physiology

Flowerless Plants

Animal Study

Human Biology

HISTORY OF MANKIND

1. Prehistory

Stages of evolution and development

Palaeolithic and neolithic.

2. First Civilizations (Bronze Age)

Egypt, Mesopotamia, India, China

3. Ancient Civilizations (Iron Age)

Contribution and influence of ancient Greece, Rome, India & China—rise of world religions

4. The Medieval Europe and Asia

Developments in Europe, West Asia, India and China. Feudalism

5. The Renaissance and Rise of Nation States

Rise of towns and cities, learning, discoveries and exploration, scientific development. Nation States, colonization

6. Capitalism, industrial revolution

7. Revolutionary and Nationalist Movements

American, War of Independence, Nationalist and Democratic Movements

8. Imperialism (up to 1914)

Important causes and results

9. The Socialist Movement

Growth of socialist ideas & movements
Russian Revolution

10. The world from the World War I to the end of World War II

Causes, events and results of the World War I. Fascism and Nazism
Causes, events and results of World War II

11. World After World War II - United Nations, Cold War

Technological development

12. Emergence of Asia, Africa, Latin America

Importance of the third world, developing countries

13. The Contemporary World and India

International peace and cooperation, new economic order.

CIVICS

1. Man as a social being

2. Man as a citizen

3. Local self-government

4. State and National Government

5. Rights and Duties of a citizen

6. Democracy in India

7. India as a Nation : Unity in diversity

8. Social and economic challenges before our country

9. India and the World

10. India and the United Nations

11. Project work

GEOGRAPHY

General Geography of the world with special reference to India

1. Landforms

Continents, mountains, plateaus, plains,
Landforms in India

2. Climate

Climate zones, in the world and in India

3. Natural Regions of the World in

Tropical, temperate, cold lands

4. Natural Resources

Soil, vegetation, animals, minerals, and water in
world and in India

5. Major Occupations

Primitive, pastoral, agricultural, industrial

6. Agriculture

Principal agricultural areas, crops and
practices in the world and in India

7. Minerals and Power

Major minerals and mining areas,
water and nuclear power

8. Industries

Important areas and location,
heavy and light industries,
production and output

9. Transport and Communications

Land, water, air

10. International Trade

Commodities, import-export,
foreign exchange

11. Population of the World and India

Distribution, density, control of population

12. Case studies

Life of the people in various parts of the
world and in India.

SYLLABUS FRAMES
FOR
OPTIONAL SUBJECTS

- Note :** (1) Only few illustrative syllabi have been given. Syllabus for other Optional courses may be developed by Expert Committees.
- (2) Sanskrit syllabus is for Classes VI to X.

SYLLABUS FOR TEACHING SANSKRIT IN CLASSES VI TO X

I. Teaching of Sanskrit Classes VI-X

The knowledge of Sanskrit shall be mainly passive for Classes VI, VII and VIII. But for Classes IX and X, the students should be able to use Sanskrit actively. It will be useful to talk with a student in Sanskrit occasionally in the class. The students should be encouraged to speak in Sanskrit. It is necessary to ask students to do loud reading in the class for the teaching of correct pronunciation. Tape recorders etc. can be used for correct recitation of shlokas. It will be useful to invite experts in Sanskrit and organise their speech in the class. The students should be encouraged to hear A.I.R. Broadcasts and other programme in Sanskrit. Brilliant students of the class can also take part in the recitation competition of Sanskrit shlokas. Cultural programmes in Sanskrit and celebration of Sanskrit Day and Jayantis etc. like that of Kalidas with enthusiasm shall help in creating suitable environment for Sanskrit.

II. Textbook for Classes VI-VIII

One textbook each will be prescribed for the Classes VI, VII and VIII. The size of the textbook will generally be of 72 to 80 pages comprising of 25 to 30 lessons. About 25 per cent lessons will comprise Shlokas. Workbooks for each textbook may also be prepared according to the convenience. Points for teaching grammar through the textbook have been given below. The prose lessons should be in the form of dialogues, stories and short essays. At the end of each lesson enough exercises work should be given so that the knowledge of comprehension and grammar become more sound. There should be some questions which should be answered in Sanskrit by the students.

III. Textbook for Classes IX-X

One textbook, each shall be prescribed for Classes IX and X, the outline of which has been given below. Apart from this, one more book may be prescribed for rapid reading in these classes. Prescribing a book of grammar separately shall be useful. Adequate questions and exercises should be given at the end of the lessons of the textbooks. Notes, grammar and vocabulary should be given separately at the end of the book.

(a) Textbook for IX Class

There shall be about 22 lessons in the textbook for this class. Out of which 12 can be for prose and 10 for poetry. The material for the lessons in prose can be taken from the following :

1. Panchtantra
2. Hitopadesha
3. Katha Saritasagara
4. Jatakamala
5. Bala Charitam
6. Madhyama Vyayoga
7. Pratibha Nataka
8. Dasakumaracharitam
9. Sukasaptasati
10. Simhasandvatrimika
11. Champukavyasa
12. Harsacharita

Materials for lessons in Poetry can be taken from the following books :

1. Ramayana
2. Mahabharata
3. Sadhodhasatak
4. Gita
5. Viduraniti
6. Chandekyaniti
7. Subhasita Sangraha
8. Geeta Govind
9. Raghu-Vamsh

(b) Textbook for Class X

22 lessons can be prescribed in the textbook for this class, out of which 12 may be for the prose and 10 for poetry. The textual material may be taken from the following books :

- (1) Panchatantra
- (2) Hitopadasa
- (3) Jatakamala
- (4) Duta Vakyan
- (5) Karnabhara
- (6) Dasakumaracharitam
- (7) Raghu Vamsha
- (8) Abhijnanasakuntalam
- (9) Sukasaptasati
- (10) Venisamhara
- (11) Simhasandwatrinsika

- (12) Kadambari
- (13) Ramayana (Sundarakanda)
- (14) Shatkas
- (15) Monusmriti
- (16) Upanisads
- (17) Nayaya-Katha
- (18) Prahalika
- (19) Prasnottaris
- (20) Balagita
- (21) Silalakha

Short Outlines of Grammar to be taught from Classes VI to X

(a) Outline of Grammar for Class VI

(1) (A) Nouns :

Knowledge of all the forms in singular and plural in all the cases of the following types of words¹ :

Masculine words ending in 'a'

- (i) बालक, नर, देव, वृक्ष, सेवक, पुत्र, पुरुष, अध्यापक, विद्यालय, छात्र, अवकाश, वानर, अश्व, गज, काक, श्रृंगाल, दन्त, कण्ठ, पाद, ग्राम, हस्त, प्रान्त, मार्ग etc.

(ii) Feminine words ending in 'a'

लता, बालिका, छात्रा, माला, शाखा, कन्या, पाठशाला, गंगा, नौका, बाला

(iii) Feminine words ending 'i'

नदी, नारी, भगिनी, नगरी

1. Note : Teacher to explain the existence of dual number in Sanskrit.

(iv) Neuter words ending in 'a'

फलम्, कमलम्, पुष्पम्, पुस्तकम्, मित्रम्, वनम्,
नीडम्, धनम्, दानम्, जलम्, दुग्धम्, भोजनम्,
अन्नम्, मोदकम्, चक्रम्, पत्रम्, वस्त्रम्, मुखम्,
चित्रम्, चन्दनम् ।

(B) Pronouns

तद्

(In all the three genders)

यत्, किम्, अस्मद्, युष्मद्, इदम्, सर्वं

(Only frequently used forms of 1, 2, 3, 6 and 7
cases in singular and plural)

(C) Knowledge of use of Instrumental case with
'Saha'

(D) Adjectives ending in a—like

रक्त, विशाल, उष्ण, आर्द्र, शीत, प्रमुख,
बुभुक्षित, शठ, सरस, मधुर, कृष्ण, लिप्त, कुशल,
शुक्ल

(E) Numerals

Knowledge of Sanskrit numerals from 1-10.

(F) Indeclinables

अत्र, तत्र, यत्र, कुत्र, एकवा, यदा, कदा, सर्वदा,
एव, यथा, कथम्, किम्, शीघ्रम्, एवम्, पुनः
च, वा, न, हि, सह, अथ, अथवा, आम्, अपि,
शनैः-शनैः, विना

(G) Roots

Following roots in singular and plural and in all
the three persons in the following Lakaras :

वर्तमान (लट्) (अनद् यतने) लङ् (भविष्य)
and (लाज्ञार्थक) लोट् लकार पठ, लिख,
क्रीड्, हस्, पत् (वि) कस्, चल्, धाव् खाद्
पच्, कूज्, नृत्, (वि) चर्, कृ, नी, त्रुट्,
कथ्, गै, अपय, भू, जीव्, दृश्, नम्, पा, पिब्
वह्, वस्, भक्ष्, प्रच्छ्, क्षिण्

(These conjugations of पठ्, भू and गम् only to be
learnt by heart. The remaining roots are for
practicing)

(H) Suffixed

Outline of Grammar for Class VII

(A) Nouns

Following types of noun words in singular, dual
and plural besides the words introduced in Class VI.
(All the forms are not to be memorized but recog-
nized only.)

Masculine words ending in 'A'

Use of dual forms of the word learnt in Class VI

Masculine words ending in 'i'

मुनि, कवि, कपि, ऋषि, गिरि, रवि, हरि and
नृपति

Masculine words ending in 'U'

Use of dual forms of the words taught in Class
VI and following :

तरु, रिपु, प्रमु, जन्तु etc.

Feminine words ending in 'a'

Use of dual forms of the words prescribed in
Class VI.

Feminine words ending in 'i'

मति, गति, रुचि, बुद्धि, भक्ति, स्थिति, प्रीति,
रीति, कृति, नीति

Feminine words ending in 'I'

Use of dual forms of the words prescribed in
Class VI

Neuter words ending in 'a'

Use of dual forms of the words prescribed in
Class VI and the following :

पंकजम्, अमृतमम्, गरलम्, जीवनम्,
सलिलम्, छत्रम्, पत्रम्, आसनम्, भोजनम्,
ज्ञानम्, भ्रमणम्, गमनम्, पठनम्, रोदनम्,
दाडिमम्, आम्रम्, कदलीफलम्, नारीकेलम्

(B) Pronouns

Use of all the forms of the pronouns prescribed
in Class VI

(C) Case

Knowledge of cases used in the following :

विना, अलम्, नमः, दा

(D) Adjectives

(i) Knowledge of the following adjectives
besides those prescribed for Class VI.

पर, चतुर, निज, उज्ज्वल, घूसर, विस्तृत ह्रस्व,
दीर्घ, कृश, स्थूल, साधु, शोभन, सच्चरित्त,
अन्ध, बधिर

(ii) Knowledge of concordance of number,
gender and case of the adjective and the
adjunct.

(E) Numerals

Knowledge of Sanskrit numerals from 11-50.

(F) Indeclinables

Knowledge of the following indeclinables :

हयः, श्वः, इतः, ततः, यतः, कुतः, सर्वतः,
अतः, पुरतः, पश्चात्, पुरः, पृथक्, बहिः,
अन्तः, किञ्चित्, तु, इदानीम्, इव, चिरम्,
उपरि, अधः, अधुना, यत्, कृतम्

(G) Roots

Besides the roots prescribed for Class VI, follow-
ing roots in singular, dual and plural in the follow-
ing Lakaras :

लट् लकार (वर्तमान)

लङ् लकार (अनद्यतन)

लृट् लकार (भविष्यत्)

लोट् लकार (ज्ञानार्थक)

श्रु, अस्, इम्, त्यज्, नी, दह्, धृ, रज्, वस्,
ह, नी, स्पृश, चुर, चिन्त्

(H) Suffixes

क्त (कर्मणि भूत कृदन्त)

तव्य |

अनीय | विध्यर्थ कर्मणि कृदन्त

यत् |

(I) Sandhi

दीर्घ, यण, गुण and वृद्धि सन्धि

Outline of Sanskrit Grammar for Class VIII

3. (A) Noun

Masculine words ending in 'a'

Knowledge of the forms of the noun
words in all the three numbers of the
following types of words besides those
taught in Classes VI and VII.

अनिल, आश्रम, कपात, कर्दम, कोष्ठ,
कुठार, कुबेर, गायक, दिवस, दिवाकर,
द्वारपाल, प्रभात, पवन, प्रदीप, भ्रमर,
भवन, निग्रह, व्याघ्र, सैनिक

Masculine words ending in 'u'

इक्षु, इन्दु, हेतु, सेतु, बिन्दु

Masculine words ending in 'r'

पितृ, भ्रातृ, दातृ, नेतृ, कर्तृ

Masculine words ending in Consonants :

आत्मन्, विद्वस, चन्द्रभस, भगवत्, विद्यार्थिन्

Feminine words ending in 'i'

वृष्टि, शक्ति, मुक्ति, सृष्टि, सिद्ध, युक्ति

Feminine words ending in 'r'

मातृ

Neuter words ending in 'i'

वारि

Neuter words ending in 'u'

मधु, अश्रु

Neuter words ending in Consonants

पथस्, मनस्, तमस्, नामन्, जन्मन्

(B) Pronouns

'अदस्' (use of 'असौ' and अभी)

(C) Case

Knowledge of the use of cases with the following :

रच्, थिक्, उभयतः अभितः, परितः, प्रति, सर्वतः

(D) Numerals

Sanskrit Numerals from 51 to 100

(E) Indeclinables

Use of the following indeclinable

be taught besides those already taught in first and second book:

रम, सम्प्रति, साम्प्रतम्, अपि, प्रति, अति, चित्, धिक्, अहो, हे, हा, खलु, अहनिशम्, नक्तम्, दिवा, अहोरात्रम्, नक्तदिवम्

(F) Roots

Use of the following roots in आत्मनेपद Present (लट्) and Future Tense (भविष्यत्) रच्, सेव्, लभ्, सह्, यत् शुभ, मोद्

(G) Suffixes

क्त, क्तवतु and अक्, form feminine suffixes

इका, आ and ई

(H) Sandhi

पूर्व रूप and अयादि

Outline of Sanskrit Grammar for Class IX .

1. (A) Knowledge of the Paradgms of the following words besides those taught in middle classes.
Noun

Masculine words ending in 'o'

—गो

Masculine words ending in 'r'

—तृ

Feminine words ending in 'i'

—थी

(B) Pronouns

पूर्व, पर, दक्षिण, उत्तर

(C) Adjective

गच्छत्

(D) Numerals
Sanskrit numerals for 1-4 in all
the three genders and cases.

(E) Indeclinables
सभम्, साकम्, सार्थम्, प्रभृति, हन्त

(F) Suffixes
विजन्त, स्त्रीप्रत्यय, तरप, तमप्

(G) Sandhi
विसर्ग सन्धि

(H) Compounds
द्वन्द्व, कर्मधारय, तत्पुत्रन्त, द्विगु

Outline of Sanskrit Grammar for Class X

5. (A) Noun

Words of the following kinds :

Masculine words ending in 'i'
भूपति, सखि

Feminine words ending in 'ou'
नो

Neuter words ending in 'e' अक्षि

Masculine words ending in Con-
sonants पुस्, पथिन्

Feminine words ending in Con-
sonants गिर्

Neuter words ending in Conso-
nants अहन्, पयस्

(B) Pronoun : of the following level
उभ, अभय, कतिपय, अदस्, ईदश्, तदृश्,
यादृश्, कीदृश्

(C) Adjectives
ददत्, गरियस्, महीयस्, कियत्

(D) Verb
अदादि, जुहोत्यादि, रचादि, क्रियादिगण—
अस्, ई, अथि+ई, क्री, ग्रह, दा, क्षिय्,
दुह, था, वच्, वू, था, थी, या, रन्द, विद,
हन्, शी, स्तु, शक्

(E) Cases
Use of Peculiar use of cases
forms, functional cases

भावे सप्तमी, अनादेर षष्ठी, निर्धारणे
षष्ठी, सप्तमी

(F) Numerals
Formation of Sanskrit numerals
above 100

(G) Indeclinables : अङ्, ऋते, अन्तरेण,
नाम, ऋते

(H) Suffixes
ययन्त (कर्मवाच्य) इयस्, इष्ठ

(I) Sandhi
Main rules of Consonantal San-
dhis

(J) Compounds
अव्ययीभाव, बहुव्रीहि

ECONOMICS FOR CLASSES IX AND X

(As an Optional Subject)

A. THE STRUCTURE OF THE INDIAN ECONOMY

The Framework of the Indian Economy—
(i) The crucial issues (ii) Main Sectors of the Indian Economy.

The Supporting structures of Indian Economy

B. EMPLOYMENT, OUTPUT AND PLANNING IN THE INDIAN ECONOMY

Employment and Output : (i) Agriculture Sector (ii) Industrial Sector (iii) Foreign Trade (iv) State and the Economy.

Suggested Project Work

Atleast two projects out of the following :

- (1) To conduct a sample survey of the locality with a view to finding out the relationship between income and size of the family.
- (2) To conduct survey of the small-scale and cottage enterprises functioning in the locality to find out the sources of raw material supply and the markets for their products.
- (3) To visit a nearby **Mandi** or marketing centre to study the fluctuations in prices over a period of time.
- (4) To visit a few nearby agricultural farms to find out the average size of holdings, techniques in farming and the scale of the products.
- (5) To establish a small savings bank or a co-

operative store to develop an insight into the functioning of such institutions.

- (6) To conduct a survey of the locality to find out working and non-working population and the extent of unemployment.
- (7) To conduct a case study on any economic aspect of large scale industry/agriculture/factory, small and cottage industry.

Outline of Social Reconstruction (For Classes VIII, IX and X)

Topics

- (1) Reconstruction programmes.
- (2) Surveys and Planning.
- (3) Local Self-Government.
- (4) Co-operative Movement.
- (5) Laws beneficial to the general public.

Surveys and Planning

- (1) Usefulness of Surveys.
- (2) Different modes of conducting surveys—100% samples ; specimen survey, and Random sampling.
- (3) Preparation of tables for different types of surveys.
- (4) Preparation of Brief Reports, and Notifica-

tions concerning surveys conducted during social service work.

- (5) To study a few reports of surveys conducted by reputed experts.

Planning :

- (1) On what points is information necessary for planning ?
 - (i) Population ;
 - (ii) Means ;
 - (iii) Personnel available.
- (2) Motivations behind planning and their effects on the actual schemes ;
 - (a) Purely economic schemes ;
 - (b) Schemes for Sarvodaya ;
 - (c) Planning centred on village handicrafts, and on industrialisation (Craft-centred and Machine-centred) ;
 - (d) Private and Public Sectors (People centred planning and Government centred planning).
- (3) Planning of the Home, the Village, Calculations and Statistics necessary.
- (4) Public co-operation required for successful implementation of Plan-Schemes. How to secure such co-operation ? A study of the methods adopted by the Government.
- (5) Training Programmes for successful planning. A study of Government Training Programmes.
- (6) Local Self-Government,

1. Administrative Bodies :

- (1) Village-Panchayat : Its constitution and duties,
- (2) Panchayats at the Talukas and District Levels : Their constitution and duties,
- (3) The Municipality : Its constitution and duties,
- (4) Panchayats established by the Public and by Government.
- (5) Work to be carried out by the Public itself, and by the Panchayat.
- (6) Means of Income-Taxes, Donations, Shrama Yagna.

2. Educational and Cultural Institutions :

- (1) Balwadi, Basic School, Post-Basic School.
- (2) Educational Institutions for Adults, Classes, Shibirs, Night-Schools, Craft classes.
- (3) Youth Associations, Women's Associations.
- (4) Festivals and Community Projects.

3. Health Centres :

- (1) Centres for washing and bathing, and their care.
2. Gardens and Parks, and their care.
3. Play Centres and their arrangement.
4. Public Dispensaries and Hospitals, and Nature-Cure Centres.
5. Various agents for village safai.

6. Programmes and classes for Sanitation.

Economic Associations :

1. Co-operative Societies—Agricultural, Craft, Labour : General knowledge regarding each type.
2. Handicrafts which meet the needs of the village, and classes for instruction in them.
3. Handicrafts promoting and obstructing, rural life.

Theoretical Studies :

1. Consideration of centralised and decentralised administration.
2. What powers should vest in Local Self-Government agencies and in which agencies ?
3. What functions are suited to public bodies ? to Governmental bodies ?

Co-operative Movement :

1. What is cooperative activity ? Its definitions. The principles of cooperation. Scope for economy in cooperatives.
2. Difference between cooperative and capitalistic institutions.
3. Different types of Cooperatives functioning in our country. Their Constitutions and activities.
 - i) Multiple-branch Credit Cooperative Societies, Multiple objective Society, Service and Cooperation Society.
 - ii) District Central Cooperative Bank.
 - iii) Purchase and Sale Association.
 - iv) Forest Labour Societies.

v) Producers' Cooperatives.

vi) Buyers' Cooperatives.

vii) Banking Cooperatives.

4. Elementary Knowledge of the Cooperative Movements in Foreign Countries :

i) England.

ii) Germany.

iii) Denmark.

iv) Russia.

v) Palestine.

5) Fundamental Principles of Cooperative Law.

6) Elementary study of the Rural Debt Enquiry Commission.

7) Kinds of Liability,

i) Limited

ii) Unlimited.

8) Practical knowledge requisite for a Secretary (of Cooperative Society) :

I) a) Maintenance of Records

b) List of subscribers (members)

c) Share Register

d) Loan Register

e) Register of Branches

f) Statement of Assets.

II) Mode of calling a meeting. Its minutes and proceeding etc.

- 9) Audit and Accounts of Cooperatives. General idea of Supervision and Inspection.

**Detailed syllabus for the subject of Social Reconstruction
(Yearwise) Class VIII**

1) Reconstruction World

- 1) The 18 varieties of schemes enunciated by Gandhiji prior to Independence, and knowledge of the Institutions implementing these schemes. Consideration of the manner, & extent, of increase in liability for Local-Government resulting from these programmes.

Khadi and Village Industries Commission

- 2) The schemes for Reconstruction enunciated by Acharya Vinoba, after Independence :
- i) Bhoodan
 - ii) Sampatti-dan
 - iii) Gram-dan
 - iv) Peace-Corps

A consideration of the revolutionary ideology underlying these schemes.

Class IX

1) Reconstruction Programmes

- 3) The Five-Year Plans of the Central Government. The administrative machinery set up for implementing these plans. Funds necessary for the Plan schemes, and how they are obtained. Rules framed for deriving benefit from the Plan-Schemes.

Legislation beneficial to the General Public.

Elementary knowledge of legislation passed for general public wealth.

- a) Prohibition laws
- b) Laws abolishing untouchability
- c) Laws concerning compulsory education

2) Legislation concerning law and order, and knowledge concerning it

- a) Traffic Control Laws
- b) Codes concerning Theft, Murder etc. (Criminal Procedure Code).

Class X

1. Surveys and Planning

1) Surveys :

- a) Utility of Surveys
- b) Kinds of Surveys
- c) To prepare statements and forms used in different types of surveys
- d) To study some Reports of Surveys conducted by reputed experts.

2. Planning

- i) Topics on which information should be collected for planning (or schemes) :

- i) Population
- ii) Means
- iii) Requisite personnel.

- 2) Schemes for commodities for the village ; to collect necessary data and statistics.

- 3) Organizing a training programme for successful implementation of Plan-Scheme. To study the Training Programmes set up

by Government (for implementation of Plan-Scheme).

2) Local-Self Government

Governmental Bodies

- a) Village Panchayat : Its Constitution and Functions.
- b) Panchayats at Taluka and District Levels ; their Constitutions and duties (functions).
- c) The Municipality : Its Constitution, Functional duties.

Educational and Cultural Bodies

- a) Balwadi, Basic School, Post - Basic School, Adult Education Institutions, Shibirs, Classes, Night-Schools, Classes in Handicrafts.
- b) Youth Associations, Mahila Mandals (Women's Associations).

3) Health Centres

- a) Centre for Washing and Bathing, and their care
- b) Gardens and Parks and their care
- c) Play-centres, their organisation and management
- d) Nature-Cure Centre, and Public Dispensaries and Hospitals
- e) Various agencies for Village Sanitation
- f) Classes and programmes for spreading knowledge of general hygiene and sanitation.

4) Cooperative Movement

Constitutions and duties (functions) of different types of Cooperative Institutions being conducted in our country :

- i) Credit Cooperative Society, multipurpose, Service-cooperative
- ii) District Central Cooperative Bank
- iii) Buyers and Sellers (Cooperative) Association
- iv) Forest Labours' Societies
- v) Procedure Cooperatives
- vi) Buyers, Cooperatives
- vii) Banking Cooperatives

5) Kinds of Liability

- a) Limited
- b) Unlimited.

6) Practical knowledge needed for a Secretary (of a Cooperative)

- a) How to maintain records-Membership Subscribers Register,
- b) Share Register,
- c) Loan Register,
- d) Credit (Branch) Statement, Statement of Assets.
- e) Procedure of calling a meeting ; keeping proceedings and minutes.

7) Audit and account of cooperative societies.

General idea regarding supervision and inspection.

8] Legislation for Public Welfare

1) Limitations of legislation concerning public good

a) Such laws should only be enunciated in conformity with public opinion

b) Propaganda for training public opinion

c) Reforms which should be attempted only by public bodies
Arbitration out of Court, and Justice through the Courts.

2) Elementary knowledge of legislation in India for the Public Good.

3) Laws protecting the rights of cultivators (farmers).

4) Law protecting the rights of Labour.

5) Laws protecting Swadesh and Self-sufficiency.

Practicals

1. Running School Cooperative Store.
2. Running School Committee.
3. Visiting Panchayat and Cooperative Store at least twice.
4. Assuming the work for a month of one's own Panchayat and Cooperative Societies.

I Surveys and Planning

Surveys :

To prepare abstract reports of Surveys undertaken during social service activities and also notices about them.

Planning :

- 1) Objectives behind planning and their effect on planning and themes :

a) purely economic planning

b) planning for Sarvodaya

c) planning centred on Handicraft and on Industrialisation

d) Public centred planning and Government-centred planning (private and public sectors).

(2) Methods of securing public cooperation for successful implementation of plan schemes. Study of the methods adopted by Government.

II Local Self Government

(1) Government Bodies :

(a) Panchayats established by the Public and by Government.

(b) Works (functions) to be undertaken by the public and by the Panchayat.

(c) Means of Income-Taxes, Donations, Shrama-Yajna (donated labour).

(2) Economic Bodies.

(1) Cooperative Bodies : Agricultural Industrial and Labour : knowledge regarding each.

(2) Handicrafts which meet village-needs, and classes conducted for them.

(3) Industries promoting or obstructing village uplift.

Theoretical Considerations :

- (1) Centralised and decentralised administration.

- (2) What powers should vest with Local Self-Government and with which Body (Centre) ?
- (3) What functions (activities) should be undertaken by public bodies, and what by Governmental agencies ?

Cooperative Movement

- (1) What is Cooperation ? Its definitions, fundamental principles. Scope for economy in cooperation.

- (2) Difference between capitalistic and cooperative institutions.
- (3) General knowledge of cooperative activity in foreign countries :
(i) England (ii) Germany (iii) Denmark (iv) Russia (v) Palestine, any two.
- (4) Fundamental principles of cooperative legislation.
- (5) General knowledge regarding Rural indebtedness Commission.

AGRICULTURE AND DAIRY FARMING (FOR CLASSES VIII, IX & X)

Class VIII

Botany : Parts of a plant, their varieties, construction and functions, life processes of a plant, how nourishment is absorbed, osmosis, evaporation, photo-synthesis.

Study of Pests : Definition of Pest, their anatomy, Life-cycle and classification, varieties of Pests infecting different crops, and preventive measures, Useful and harmful pests.

Geology : Birth of the Earth, the three mantles of the earth, rocks and minerals, forces which form rocks, Definition of soil; Forces which work to form soil, the relationship between soil and plants.

Agriculture : Normal processes of agriculture, tillage, its varieties, gains and losses, Manure, Objectives; sowing, reasons for and modes of ; seeds and their improvement; Distance between seeds, depth, quantity and nature of seeds, planting nurseries for seedlings, care regarding productivity of soil.

Manures : General idea of organic and inorganic manure, nutrient substances for plants, Nitrogen, Potassium, Phosphorus, their effects on plants, signs of malnourishment.

Crops : Detailed study of the following crops : Bajra, jowar, makai (or corn), groundnut, cotton, sugar-cane, brinjals, chillies, tomatoes, ladies-fingers, gawar, dudhi, valod.

Animal Husbandry : The inevitable relationship in our country between agriculture and animal husbandry, Recognition of milch cows, draft cows,

and dual purpose (milch-draft) cows. History of Dairying. Study of the following breeds of cows (the first three in detail); Git Kankarej, Sindhi, Dengi, Khilar, Krishnavali and Amrit-Mahal.

Comparison of cow and buffalo ; study of the following breeds of buffaloes, Jafraladi, Surati and Muradi ; general knowledge of Dairy centres in Gujarat.

Horticulture : Importance of fruit in human diet, selection of site and soil for orchards, seeds and seedless growth of fruit.

Varieties of grafting and their benefits, pruning and its uses, seasonal variety; modes of picking fruit, detailed study of the following fruit trees : Papaya, Chiku (Sapota) Guava, Mango, fruit bearing wild-trees, bili, goonda, Rayan Bor, Ravana, Falsa, Custard-apple.

General knowledge of the following plants: Rose, Mogra, Canna, Rat-rani Bougainvillea, Juhi, Zenia, Balsam, Cosmos, Sunflower, Chameli, Dolar, Oleander, Black lotus, Dhalia, Honey-suckle.

Practical and Experimental Work

Botany :

1. To show how food is imbibed through osmosis.
2. To measure the heat resulting from plant-breathing (to be measured by a thermometer after soaking seed for 24 hours).

3. To show that plants inhale Oxygen and exhale Carbon-dioxide.
4. To show the beneficial effects of light and the deleterious effects of darkness.
5. To demonstrate actual specimens of Roots, tap-roots, trunk, flower, fruit and seed of different varieties. Also to show the changes that take place in each of these.

Study of Pests : Pests attacking different crops: their egg, cocoon, larva, complete insect etc. to be got collected. To study the anatomy and Life Cycle of such pests.

Geology : To learn to recognise different varieties of rocks and minerals. To recognise symptoms of absence of nutritious elements. To collect specimens of varieties of rocks.

Agriculture : To learn to recognise agricultural implements. To prepare seeding-beds, to recognise all varieties of seeds to be able to tell good seed and bad seed, also improved seed. To recognise weeds which grow in standing crops.

Manures : To learn to recognise the kinds of organic and inorganic manure, and to manure crops as required.

Crops : (To grow) Bajra, jowar, corn, groundnut, cotton, sugarcane, brinjals, chillies, ladies-fingers etc.

Animal Husbandry : Cleaning a bore, Making compost to recognise the Gir, Kankeraj, and Sindhi breeds of cow; to study their characteristics.

Gardening and Horticulture : To prepare all varieties of cuttings and grafts, to do as much field work on guava, chiku (Sapota) and mango as feasible.

To prepare disinfectants and spray them. To recognise improved varieties of fruit-trees; to grow flowering shrubs, planting (through seeding and planting).

Class IX

Geology : Structure of the earth, solids, liquids and gases, their proportion or organic and inorganic matter solids; their utility in agriculture. Analysis of soil and classification of soils. Relationships between kinds of soil and varieties of crop.

Agriculture : Detailed study of the following crops :

Wheat, Paddy, all the varieties of lentils (Kathol), Ginger, Turmeric, Suran (*Amorphophallus campanulatus*), Onion, Garlic, Beet, Tindola (*Cephalandra Indica*), Parval, Turia, Galka, Luffapentandra, Cucumber.

Castor, coreander, cummin, mustard, fenugreek (Methi). Cabbage, cauli-flower, raddish, mogra, further study of sugarcane, Preparation of Gur, different kinds of ovens (Chula),

Study of weather : Weather and agriculture, weather forecasts and agriculture and other industries. Detailed study of the instruments used for weather forecasting. Thermometers. Maximum and Minimum Thermometers, Hygrometer, Barometer.

Dairying : Constitution of Milk, proportion of Fat, Protein and Sugar, Characteristics of these substances. Comparison between the composition of milk produced by different varieties of animals.

Creaming : Old methods : The indigenous method of producing butter by using a separator (and) churn. Adulteration of milk-recognition and prevention of.

Detailed study of crops : To prepare a scheme for ensuring sufficient supply of fodder for the dairy cattle.

Food for cattle, its composition, digestibility, Nutritious substances in cattle-fodder and their utility for cattle, Varieties of feeding : optimum, and in excess of need. Organisation of a dairy-farm, Feeding watering, etc. regularity in.

Antenatal and post-natal care of cow, and of its calf. The byre, and its cleanliness.

Diseases of Cattle : Diagnosis of diseases ; to take temperature, count breaks and pulse. Kinds of disease ; contagious, epidemic, pandemic, local severe, chronic. Gangrene, rotting flesh, pus-formation etc. Curative measure for these. Fever (in cattle) ; symptoms of, varieties of, and cures. Bone fracture. Fracture of joint, causes of, kinds of, and cures for.

Gardening : Detailed study of the following fruit trees: pomegranate, banana, coconut, fig, grape-vine; Citrus fruits and their nature; Dishes from (Citrus fruits); Jam, Jelly, Ketchup, Dried fruit, Sherbets, Pickles etc. how to make them.

Manures : Why are chemical fertilisers necessary for crops and when should they be used ? In what quantities ? Chemical fertilisers containing Nitrogen, Phosphorus and Potash, the proportion of these chemicals in such fertilisers. What quantity of these to give a particular crop and in what manner. The use of Lime. Special characteristics of each kind of manure.

Mixed fertilisers : What manures can be mixed ? What is mixed ? Advantages of mixing fertilisers.

Organic Manures : Different methods of preparing composts. How are organic manures superior to chemical fertilisers ?

Cowdung, goat-droppings, faeces, bird-droppings (guano) all kinds of oil-cake, dried leaves, bone, blood, flesh, Hessian etc. the proportion of nitrogen, phosphorus and potash in manures prepared from these.

Geology :

1. To find the proportion of liquids and solids in soil.
2. To find the proportion of organic and inorganic matter in soil.
3. To make a physical analysis of soil.
4. To identify different varieties of rocks, and soils and arrange an exhibit thereof.

Agriculture : To do as much field-work as feasible on the Crop prescribed for this year (in theory). To examine whether cane is ready for making Gur. To make Gur.

Weather : Daily temperature throughout the year, maximum and minimum temperature during the year. Humidity of the air; and rain-fall. To chart all these. To examine the effects of these phenomena on crops. To prepare monthly weather-graphs.

Dairying and Animal Husbandry : To identify a Separator and its parts, to set up and dismantle a Separator. To clean utensils. To find the percentage of fat in milk. To prepare curds, butter, ghee, dudhpak, basundi, shikhand, pends etc. (milk-products and dishes). To distinguish between good and bad fodder. To make silage. To prepare balanced cattle-feed (of grain etc.). To nurse a cow after calving.

To learn to diagnose diseases of cattle and to take temperature and pulse, and examine breathing. To prepare medicine and give it (to cattle) to learn bandaging etc.

Grading and Manuring : To put in as much field-work as possible in connection with the fruit-trees prescribed for study during the year. To do pruning, and prepare as many fruit dishes as possible.

To determine the variety and quantity of manure of fertiliser to be applied to the fruit trees prescribed for study ; To recognise all types of fertilisers.

Class X

Theoretical work

Conservation of soil—Harm resulting from denudation ; how does soil get denude ? Amount of denudation and its kinds. Preventive measures.

Dairying [Animal Husbandry] : Study of the following diseases their causes and treatment :

Atwa (2) Foot and Mouth Diseases, Rinderpest, (Haemorrhage) Speticaemia, Anthrax, Black quarters, Tuberculosis, Diarrhoea, Constipation, Tympany, Catarh, Bronchitis, Stomatitis, Mange, Poisoning, Yoke gall, Mastitis.

Failure to conceive despite being served by the bull during heat period, failure to come into heat, retention of placenta, infertility in bull experimentation on inducement of milking through grafting hormone pellets in tissue.

Methods of Castration, artificial insemination.

Agricultural Implements : Detailed study of the following :

Indigenous plough, inter culturing hose, harrow, harrow with long blade, mould-board plough, to measure different furrows. Ridger, disc-harrow, Toothed-harrow, winnowing fan, winnowing mac-

hine, wheat thrasher, axe for cutting chaff, hand-cutter for chaff, wooden-can-crusher, plan and with gears, Insecticidal appliances ; dustgun, can sprayer, Pedal sprayer.

Economy of irrigation : Units of measurement of liquids, litre, gallon, pound, cubic foot, Acre, Inch, cross-section of pipe, gallons per minute, acre-inches per minute. Horse-power of engine required for supplying adequate irrigation for the Crop in a field of given acreage (H.P.) Pump and Pulleys for such engine.

IIIrd Year [STD. X]

Conservation of Soil : To make Contours.

Bundling (lines for)

To find the percentage of inclination (or slope).

Dairying and Animal Husbandry : To diagnose diseases, to identify medicines and prepare as well as administer them. To do bandaging and splinting ; of cattles, to set bones. To restore a prolapsed uterus.

Agricultural Implements : To identify different parts of implements prescribed for the year ; to take apart such implements and put them together again. To use as many implements as possible.

Irrigation : To measure the quantity of water produced by a pump or a kos (indigenous water-lift). To compare the two from the economic point of view. To ascertain the quantity of water needed for the school, and the number of engines required for the purpose.

SYLLABUS FRAMES

FOR

ARTS, MUSIC, DANCING, PAINTING & DRAMA
FOR CLASSES I TO X

SYLLABUS IN FINE ARTS

INTRODUCTION

The area most neglected in all our educational programmes is that of Fine Arts. As the Arts do not have an immediate market value, there is not sufficient pressure for their teaching from the parents. Yet we cannot overlook the fact that the urge for creation is one of the most basic urges in human nature, and if it is not allowed to be channelized in creative aesthetic expression, it may give rise to all sorts of frustrations and complications in human personality. One of the main reasons why our children do not find the school atmosphere inviting and interesting is the simple fact that there are no artistic activities in the school to hold their attention and inspire them. It also tells upon their achievements in other subjects where they usually have stunted growth and total lack of originality.

If the purpose of education is to nurture the child's capacities to the full and to give our people not only a useful occupation but a full and abundant life, then the creative urge in the children must in every possible way be actively stimulated and cultivated in as many directions as possible. Fine Arts should not be regarded as 'fringe' of school education but as essential ingredient of it. The Education in Fine Arts alone can develop the sensitivity among the young students in the lack of which they would be obliged to live a dull and unimaginative life.

Some General Hints

(1) Education in Fine Arts should be compulsory for every child up to Class VIII and the Fine

Arts should be an examination subject like other school subjects.

(2) The Fine Arts to be especially emphasized in our schools are Music, Dance, Drawing and Painting. But other Art forms such as Clay Modelling in the Primary classes and Sculpture in Secondary classes should also find a place in school education.

(3) Education in Fine Arts at the Primary Stage may not emphasize the discipline aspects of these Arts. It should make for more spontaneous and creative expressions by students in the form of singing, dancing, drawing, painting and clay modelling by students. At the same time a sound basis has to be laid at this stage for the formal teaching of Fine Arts in the Middle classes.

(4) It is well recognized that we cannot immediately appoint separate Art teachers for our primary stage where a large percentage of school yet have to be run with the help of single-teachers. Wherever possible, especially in schools having multiple sections in Primary classes, separate teachers for teaching Music and Drawing and Painting may be employed. For other schools part-time teachers, who can teach these subjects in several schools in a week may be employed.

(5) All Teacher Training Institutes preparing teachers for Primary Classes should have provision for compulsory training in Fine Arts so that the future generation of teachers for Primary classes is well-equipped to handle this all important area of school education.

SYLLABUS IN MUSIC CLASSES I & II

Music for Fun

Simple Beats at regular intervals with the help of the instruments like Cymbal, Drum, Tipri, Duff, Manjeera, Dholak, Khartal, Bells and Beeds mounted Jhunjhuna and Triangles.

Note : Students can play these instruments.

Musical Games

- (1) Clapping in simple beats (Hand-Beats should be at regular intervals).
- (2) Movement of different parts to the body in rhythm (in simple Beats) with the help of different sounds played in Harmonium.
- (3) Singing of different swaras in La-La-La, Ho-Ho-Ho, Humming etc. in simple beats.
- (4) Marching in Rhythm.

Expressing Story

Dramatisation of short stories and poems with expression, and hands and feet movements.

Types of Songs

Action songs of birds and animals, plants-trees, good manners etc. songs based on story e.g.

कौवा आया कौवा आया चोंच में अपनी रोटो लाया ।

songs on mathematical figures e.g.

पाँच बड़े कबूतर पेड़ पे बैठे थे, एक फुर्र से उड़ गया बाकी रह गए चार ।

etc. Comical songs e.g.

मोटे लाला पिलपिले घम कुएँ में गिर पड़े ।

Prayer songs

Writing & Drawing Work By Children

To draw picture with colours related to the song at the end of the song written in the class notebook.

Listening to various sounds

Students will listen to the sound produced by different instruments for recognition.

Note : Students must be encouraged for solo singing to develop the interest in this art.

Class III

Music for Fun

Hand beats in single and double rhythm, Singing of different swaras in Ho-Ho, Ha-Ha, La-La etc. playing on instruments by children like Cymbal, Drum, Tipri, Khartal, Duff, Bell, Ghoongru in Kaharwa Tal, Dholak.

Swaras & Alankaras

(a) First two alankaras only in a particular rhythm e.g.

(1) सा रे ग म प ध नि सा (2) सासा रेरे गग मम पप धध निनि सासा

(b) Singing of group of swaras in rhythm e.g.

सारे ग—पध प—सानि सा—या

सासा ग म, पध पप

Types of Songs

Action songs, songs based on stories, comical songs, songs on seasons, songs on festivals, songs on National Leaders, Devotional songs, songs on birds and animals; songs on Hawker, songs on routines like bathing, combating etc., National Anthem :

Students may be encouraged

Note : (i) Language of the songs should be very simple.

(ii) The song learnt by the students may be encouraged.

(iii) In action songs children's own actions and expressions should be encouraged as far as possible.

Classes IV & V

Music for Fun

(a) Playing on various instruments e.g. Drum, Dholak, Tipri, Khartal, Bell, Duff, Ghungroo taking Kaharva and Dadra tal.

(b) Musical drill with the help of Lazium, dumbles, Band.

Swaras and Alankaras

(a) The alankaras like tripris etc.

सासासा, रेरेरे

सारेग, रेगम, गम्प

(b) Some swaras in group e.g.

सा रे ग रे सासा सा

प ध प ध पप प

Note : There swaras should be set to Kaharva Tal.

Types of Songs

Action songs, patriotic songs, prayer songs, songs on National leaders, songs on Indian festivals, songs on seasons, National Anthem, Qawali, Expression stories, Ballets and short musical dramas.

Note : (i) In each class different songs should be taught with new poetry and in new tune.

(ii) More emphasis should be given for solo singing for this age group of students.

(iii) Antakshari class programmes should be encouraged.

**Class IV & V
For Fun**

Games of circles, groups and sub groups, lines in various forms of simple music as an accompaniment can be used.

Class VI

Alankaras

Only three alankaras.

**Knowledge of
Raga**

Rag Bhupali to be introduced with a fast khayal with 2 alaps on sthai and Antara each. Or any simple songs bases on this Raga.

**Rhythm Knowledge
Songs**

Tin Tal and Kaharva Tal to be introduced. Patriotic songs-3, devotional songs-2, Folk songs-2, songs on festivals of India 1, National Anthem (Jana Gana Mana) welcome songs-1.

Theory of Music

Definitions in short of the following terms; Sangeet, Nad, Shruti, Swar, Aroha, Avaroha, Pakad, Alap, Tan and Laya, Sthai & Antara.

**A Short Variety
Programme**

Students may be involved in giving a short variety programme of the items they learnt throughout the year.

Note : (i) An emphasis should be laid on practical music more than theory.
(ii) Creative work in music should always be encouraged.

Class VII

Alankaras

Only three alankaras.

**Knowledge of
Raga**

Rag 'Yaman' and 'Bilawal' to be introduced with a Chhota Khayal or Lakshan geet or Swarmalika or any other composition with two slaps each in asthai and antara, so also two tanas in sthai and antara.

Rythm Knowledge

Dadra Tal and Jhaptal to be introduced with Bole Vibhag and Matras.

Patriotic songs-2, Devotional songs-2, Folk songs-1, songs on Festivals of India-1, National Anthem (Jana Gana Mana) Vande Matram, Flag song-1,

Theory of Music

Definitions in short of the following items : Saptak (Mandra, Madhya, Tar), Lakshan Geet, Thata, Raga, Swarmalika.

Short Variety

Students may be involved to give some performance solo or groupwise of the items they learnt during the year.

Note : (i) An emphasis should be laid on practical music more than theory.

(ii) Creative work in music should always be encouraged.

Class VIII**Alaukaras**

Only four alankaras.

Recognition of Swaras

Recognition of all sudha swaras.

Knowledge of Komal swaras

Difference between sudha and komal swaras.

Knowledge of Raga

Rag Kafi and Khamaj to be introduced with a Chhota Khayal or any other composition with two alaps each in sthai and antara ; so also two tanas in sthai and antara. "Hori" in Raga Kafi may be done.

Rythm Knowledge

Roopak Tal to be introduced.

Songs

Patriotic songs-3, Devotional songs-2. Folk songs-1, song on festivals of India-1, Seasonal songs-1, National Anthem (Jana Gana Mana), Seasonal songs-1, Vande Matram.

Theory of Music

Definitions in short of the following : Khayal, Lok-Geet, Bhajan, Desh Bhakti Geet, tal, sam, khali, Matra, Vadisanauti, Life sketch in short of any reputed musician of India.

Project Work

Collection of photographs of musicians of India and photographs of some instruments of India.

Note : i) An emphasis should be laid on practical music more than theory.

ii) Creative work in music should always be encouraged.

Classes IX & X [Vocal]**Theory**

1. Sangeet, Nad, Swar, Shudh, Komal, Teevar, Saptak, Mandra, Madhya, Tar, Aroha, Avaroha, Raga, Laya, Matra, Tal, Avartan, Sam, Tali.
2. Knowledge of notations system as laid down by Pt. Vishnu Digambar Paluskar and Pt. Vishnu Narain Bhatkhande.

3. An outline of history of music.

Practical :

1. Fifteen songs for community singing
 - a) National Anthem.
 - b) Five folk or tribal songs of regions indicating time of the year, occasion and the function with which they are related. Writing down the song with its meaning and knowledge of its rhythm.
 - c) Fair devotional songs, Bhajans from the saints, poets of India.
 - d) Three songs in regional languages other than mother tongue including one Tagore Song.
 - e) Three songs patriotic or on the theme of universal love and amity.
2. To create proper sense of swar and laya through Talabadh and alankaras.
3. The following four ragas with descriptive details :
Yaman, Kafi, Khamaj, Bhopali (accompaniment Tanpura and Tabla).
4. The teacher should communicate the characteristic features of the ragas and its swaras, pater in a way by which the students will be able to recognise the qualities of ragas and the art played by different swaras.
5. The following talas and their thekas-kaharwa, Dadra, Trital, Jhantal, Chovtal.

Project Work

1. To collect photographs of great musicians with their introduction and all types of musical instruments (Photographs) and their players. (To be pasted in the Scrap book).
2. To listen vocal music programme on AIR or T.V. and to write the description of the performance. (To be written in the Scrap book).

Classes IX & X

Music (Melodic Instruments)

Theory

1. Knowledge of the Terms :

Sangeet, Dhwani, Nad, Swar, (Sudha, Komal, Tivra) Saptak (Mandra Madhya, Tar), Aroha, Avaroha, Raga, Gat, Laya, Matra, Tal, Avarta, Sam, Tali, Khali.

2. Knowledge of Notation system as laid down by Pt. Vishnu Narain Bhatkhande or Pt. Vishnu Digambar Paluskar.
3. Short history of Indian Music.

Practical Activities :

Any one of the instruments :

- i) Sitar
- ii) Sarod
- iii) Violin
- iv) Dilruba or Esraj
- v) Flute
- vi) Jaltarang
- vii) Mendolin
- viii) Guitar (Accompaniment Ta bla)

I. The candidates for instruments may be allowed to opt for Community Singing or for instrumental ensemble based either on the Ragas from the Syllabus or light and Folk Dhun (Melodies)

II. To create proper sense of swaras and layas through Talabadh Alankaras.

III. The following four Ragas with descriptive details :

Yaman, Khamaj, Kafi, Bhopali. (Accompaniment Tanpura & Tabla)

IV) The following five talas and their thekas :

Kaharawa, Dadra, Trital, Jhaptal, Choutal.

V) Preliminary knowledge of tuning the instruments.

SYLLABUS FRAME DRAMA

1) Introduction :

Drama is a way of learning and a form of self-expression. It is an unique art form, involving both individual expression and group endeavour. By participating in it, the child finds new means of expression and communication, leading to balanced growth of the personality. Drama is oriented towards development of the person. That is why it is included as a part of the curriculum for all children. It is centred on the participants and what happens to them, and not on production or performance to audiences. Drama stresses process, and not product. No matter how many times a story is done, it is for the purpose of deepening understanding and strengthening and enriching the child, and not for perfecting the performance. Again, scenery, costumes and make-up have no real place, sometimes materials and props are used to stimulate the imagination.

2) Lower Primary (Classes I and II) (Can also be adapted for use with pre-primary Children)

At this stage, the objective is to involve children in simple dramatic experiences, to give them a chance for dramatic play rather than to make or act in a play. Children should get a chance to work at various items all together, for the growth of expression, imagination and communication. There should be no public performances at this stage, and individual casting of parts in plays should be avoided. The following are suggested :

- i) Free expression through movement accompanied by suitable rhythm music : e.g.

- a) Household activities like sweeping, washing, dusting, cooking, etc.
 - b) Outdoor activities like planting, gardening, painting, drawing water.
 - c) Play activities like swinging, sliding, wading, skipping, jumping, etc.
- ii) Creating characters with the help of rhythm and mime: e.g.
 - a) People like soldier, driver, wood-cutter, fisherman, farmer, etc.
 - b) Animals like dog, cat, mouse, horse, rabbit, monkey, etc.
 - c) Behaviour like reactions to heat, cold, rain, etc.
 - iii) Acting games-guessing characters from familiar songs and rhymes, guessing actions, simple riddles.
 - iv) Action songs—including finger play or using the hands and fingers alone to create action.
 - v) Free dramatic play : providing the children with simple materials (like old clothes, caps, sticks, bags, boxes, etc) with which they can freely make up short scenes on their own in small groups on topics like hospital, home, school, station, market, etc.
 - vi) Stories : listening to stories suitable for the age-group, telling and acting all together

while the teacher, narrates the story slowly, (e.g. The Hare and the Lion, the Tortoise and the Hare etc).

Note ; For music use simple percussion instruments like drum, dholak, Daphli, Cymbals, Bells, Clappers and wooden sticks, and sound effects with the help of harmonium, flute, mouth organ, guitar or any other available musical instrument. Where available, taped or recorded music may be used.

3) Upper Primary (Classes III, IV and V)

At this stage, we can draw upon experiences familiar to the children as well as on their interest in the world of fantasy and wonder and far away things and places. At the same time, work must continue to build upon earlier experience. The following are suggested :

- i) Rhythmic movement and mime with suitable music and rhythm :
 - a) every-day action—dance, swim, play an instrument, paint, etc.
 - b) imaginative —built a big house, a cave, a den for robbers, an engine, a rocket, a fort, etc.
 - c) faraway —where would you like to go in a pair of magic boots—to the stars, the moon, under the sea, etc.
- ii) Poetry—speaking and acting poems which have a strong narrative content and clear rhythms.
- iii) Acting—guessing and language games as earlier, but more difficult and suited in content to the age-group.

iv) Creating short dramatic scenes and people e.g.

a) Scenes from observation of nature and society : at the well, in the market, hunting, fishing, shopping, travelling by different means etc.

b) Scenes based on fantasy: becoming kings, gods, heroes, demons, animals, robbers, explorers, etc.

c) Occupations—musician, potter, dhobi, etc.

v) Stories :

a) listening to, telling and reading out stories (folk stories, fairy stories, myths and legends etc).

b) improvising on stories or acting out parts of the story or the whole story, the children using their own word and actions.

c) Creating characters - using ideas from stories and from observation of real life.

If children are to take part in public performances, it should be in items like folk dance, group singing, mass PT and pageants in which large numbers can participate through very simple activities.

4) Middle School (Classes VI, VII and VIII)

At this stage, children like to know the rules, to work in groups to understand the objectives of what they are doing and to gather information. Drama can be used to introduce them not only to the fundamentals but to stimulate curiosity and awareness of the world around them.

The following are suggested :

- i) Rhythmic movement and mime, with speech, music and rhythm :
 - a) sports, recreation and outdoor-interests like swimming, playing games, boxing, boating, acrobatics, camping, etc.
 - b) adventure and travel—being an explorer, a pilot, a doctor, etc.
 - c) seasonal—celebrating different festivals, seasonal outdoor activities.
 - d) occupational—being people in different walks of life, household activities.
 - ii) Poetry—children to speak and act poems with strong narrative content.
 - iii) Acting, guessing and language games—as earlier, but appropriate to age.
 - iv) Characterisation
 - a) Becoming people (animals, heroes, people in real life in different occupations).
 - b) Acting people in situations—pair work (teacher and child, parent and child, buyer and seller, policeman and thief etc).
 - c) Acting people in situations of conflict—in pairs or small groups (should you report a friend for stealing, should you disobey your parents in certain situations ?)
 - v) Improvisations
 - a) Stories—act out in greater depth and detail, and select stories suitable for age-group including classics, scenes from classics, short stories, adventure stories, exploration, etc.
 - b) Group work on situations selected from life, newspapers, radio, fiction, etc.
 - c) Projects in Social Studies—using drama to explore social studies (how people live in different places, historical incidents, exploration, scientific discovery, social changes and reforms, manners and customs, etc).
 - vi) Play production :
 - a) Using improvisation as a basis for plays (starting with group work, selecting, and editing scenes for presentation to an audience, some direction by teacher but with emphasis on children's own work, practising unscripted plays for performance).
 - b) Acting suitable children's plays
- Note : Costume, make-up and stage settings are not to be used for classwork, but may be introduced in performances for an audience.

5) Secondary School Classes IX and X

This is the stage at which young people need to be introduced to theatre and related crafts, and to broaden their understanding of drama through literature. Their previous experience of creative drama will help them explore those new areas. The following is suggested :

- i) Improvisation—continue with exercises in mime, movement, speech, characterisation etc. in suitable depth and detail and with material suited to the age-group. Continue with group work, projects etc.
- ii) Literature—reading stories, plays, prose extracts etc. from all sources and of all types, discussing them, improvising on the basis of themes, plots, stories, situations from life and literature.

- iii) Stagecraft—learning the basics of stage movement and stage management working with props and costumes, stage design and shape, acting in different spaces like open-air, proscenium, arena, etc.
- iv) Play—writing—continue work on improvisation but now the unscripted play can be written down in the form of a script to be acted.
- v) Performance

- a) suitable children's plays
- b) short scenes from classic drama
- c) adaptations, improvisations, unscripted plays and scripted plays by the children themselves.

Note : Formal performances before an audience can be a good incentive to good work at this stage.

SYLLABUS IN ART FOR CLASSES I TO V

Objective

Development of—

Creativity and Aesthetic sense

Observation

Awareness

Imagination

Emotions

Self-Expression

Appreciation

Cooperation

Fundamentals of Arts

Through the Following Media

Drawing and painting

Print making

Mobile and Construction

Mask making

Puppet making

Stitching

Cutting, tearing and pasting (Collage)

Clay & Papermache

Suggested areas for the Topics for Motivation

Home and family life, school activities, daily incidents, nature (cloud, rain, fire, river, mountain, sea, stream, fields etc.), people—(postman, milk-man, hawkers, local craftsman/technician), local dance—drama, circus (including Madari, Bhaloowala, Sapera etc.), Games and sports, means of Transport, market and fair festivals, birds and animals, neighbours, vegetation (flowers, fruits and vegetables)

Notes for Arts Teacher :

1. Art is not an isolated activity. Experiences through other discipline must be taken into consideration.
2. Topics should be introduced in such a way that it relates to the direct experiences of the child.
3. Individual expression of the each child related to his personal experience should be emphasized and encouraged how-so-ever humble it may be.
4. Copying from the art textbooks or from other pictures should not be encouraged.
5. For motivation and appreciation, visits to important local places of interest and the people should be arranged.
6. Local media, materials and tools should be used and cooperation of local artists/crafts-

men should be sought, The nature of art material should also be explored together.

7. The art of each child should be displayed for all to see and admire.
8. Children should be involved actively in art activities during school functions and festivals.

9. As the art work of the children cannot be evaluated like other subjects (Science and Mathematics) the sincere involvement of the child is a major factor for the evaluation of his work. It is better to evaluate each child in terms of his own achievements rather than make a comparative evaluation.

SYLLABUS IN ART FOR CLASSES VI TO VIII

OBJECTIVES :

1. To help the child sharpen his perception and observation of his physical and social environment.
2. To help the child use his own imagination and development of his own concepts and expression through exploration and discoveries of his visual symbols media and techniques.
3. To develop in the child a sense of organisation and design i.e. aesthetic arrangements permeating all life.
4. To help the child achieve an allround growth as an individual and as a social being in tune with our culture.
5. To give to the child deep and lasting enjoyment of Art that may persist in his adult life.

1. Drawing & Painting

Activities of Visual Arts in terms of Material, Media & Technique Two Dimensional Activities

Drawing from imagination with charcoal, pencil, crayon, dry brush, chalk on different surfaces e.g. wet paper, papers & boards with different textures, chalk board, newsprint papers, old newspapers, Takhti, slate etc.—Indoor and outdoor sketching of moving and static, animate and inanimate objects both natural and man made.

Paintings with wet colours, crayons and also by combining with other techniques, to be attempted on different textual surfaces like corrugated paper, hand- made paper, newsprint papers etc.

Topics for motivation may include ideas gained from daily experiences, simple stories, folk lores, improvised stories, poems, stimulation from music, drama, dance, dreams and other sense stimuli.

Printing & Designing

Printing with the help of carved clay blocks, soap cakes, wood blocks and other objects e.g. leaves, textured cloth pieces, key, bottle caps, buttons, thread vegetables etc. If printing inks are not available, poster colours and/or finger paints may be used with the help of rubber roller improvised with a piece of cycle tube on a wooden roller or with improvised pads.

Mono-Printing with pastel colours if printing inks are not available.

Stenciling and spraying with the help of tooth brush, feather or other improvised methods.

Crayon Resist by drawing a picture or any design with wax crayons and then applying water colour over it.

3. Applied Designing

Personal book covers and notebook covers or pencil boxes, book marks etc. can be designed by the children with any technique they have learnt.

4. Collages :

Paper collages by cutting, tearing and pasting coloured papers, coloured magazine papers other textual papers.

Mixed collages may be prepared by adding other materials with pastes or any adhesives including nails etc.

5. Applique and Embroidery

Various forms and shapes may be cut from old rags and cloth cuttings. These may be pasted and/or stitched on suitable surface. The total picture may be enriched with embroidery and with other material like beads, buttons, laces and thick yarns, fibres, knitting wool etc.

Three Dimensional Activities

Clay

Experiences gained from daily life, simple stories etc. may be expressed in clay. But the topic should be such that it may not cause frustration to the child to make so many figures or panoramic scenes like picture making. Often, the work may be limited to one or two figures and the rest should be left at child's own discretion. Children may also carve out soft wood blocks, clay blocks, plaster of paris-cum-sand or ash blocks and if possible also the soft stone.

Hand pottery may be attempted by pressing method, coil method, slab method and if possible on potter's wheel also.

Firing/baking of the objects may be done in an improvised fire pits. Help of the local potter may be sought for this purpose.

Constructions & Mobiles :

Constructions may be made with various types of three dimensional materials and scraps e. g. wood scraps, metal scraps, boxes, card board scraps, wire, bamboo, pitch, straw, moon broom and broom sticks (tili), worn out toys and games materials, shells, coconut shells etc.

Mobiles can be prepared out of scraps as mentioned above and also from the pieces of card boards, tin cuttings as per shapes desired by the individuals ; 'Kandeel' mobiles (lamp shades) with the help of papers, bamboo sticks, card sheets, wire etc. Empty cans or boxes can be given new shapes by adding or painting or pasting over them for preparing mobiles.

Masks and Puppets

Masks and puppets may be made from paper bags, paper mache (paper strips pasting layer after layer/and paper pulp) and with other materials.

**Art Appreciation
Oral appreciation**

Oral appreciation may be done at the end of each lesson. Teacher may initiate the discussion with general encouraging remarks on the overall work of the children.

Occasional discussion on the work of the master artists may be taken up. But this should not cause any copying influence on children's work.

Discussion on the works of the children of other schools may also be arranged by inter-school visits.

**Showing of Art :
Films Slides and
Reproduction**

Films, slides and reproductions of children's art works and otherwise may be shown.

Field Trips

Visits to historical monuments, art galleries, museums, art exhibitions and places of local artists, craftsman, technicians etc. should be organised.

Group Activities

School buildings and surroundings may be uplifted by way of new set-ups, arrangements, landscaping, plantation, murals and or putting up other art works etc.

Functions and cultural activities like Dusserah, Tazia, Diwali, Christmas etc. must have some impact of art works by a group.

School stage on various school functions may be decorated.

Posters on special occasions may be prepared.

Bulletin board should be given an aesthetic arrangement.

**Display of Art :
Works and Exhibition**

Exhibition of children's art work may be put up.

Each child's work must be represented in the exhibition.

Exhibition of other school children's art work and reproductions of the works of master artists may be put up.

Hints for the Teacher

Teacher should encourage children's own initiatives, independent inquiry, thoughts and ideas by respecting their humble expression.

Children should be exposed to variety of situations, materials and media for keener observation and close analysis.

Teacher being a guide and “adult child” is to help the children to plan their activities.

Teacher must see that all children participate in art activities in one way or the other and every child gets recognition of his deeds.

Over-emphasis on one or a few children’s work and competition methods would hamper their imagination and sincere involvement, because in order to get other’s approval or appreciation the child would adopt show off tendency instead of exploring, imagining and participating in the creative process.

Comparative evaluations and rigid system of examination should not take place. Total performance of the whole year should be taken into consideration while evaluating the child.

Any book on art, copy from other’s art work, colour books, how-to-do series on art should not be recommended as they adversely affect the imaginative and creative growth of children.

**FINE & APPLIED ARTS
SYLLABUS FOR THE CLASSES IX & X**

Objectives	<ol style="list-style-type: none">1. Consolidation of the knowledge of previous artistic experiences.2. Development of artistic sensibility at this transitional stage suited to this age group.3. To make the work of Art more functional in daily life.4. Exploration of various media and techniques.5. Exploration of environment through observation.
Groups	<ol style="list-style-type: none">1. Composition2. Applied Art3. Sculpture4. Graphic
Composition	Study of natural and man-made forms ; human figures ; birds, animals, vegetation etc. Outdoor sketching based on daily-life incidents, school activities, home life and subjects like post-man, milkman, washer-man, local craftsman and technician, games and sports, fair and festivals, folk stories, still life, seasons, accident, circus, Madari, Bhaloo-wala, snake charmer etc.
Media	Water colour, Oil colour, Tampera, Collage and Pastel colours etc.
Applied Art Textile Design	Motifs such as flowers ; birds ; animals ; geometrical patterns ; alphabets or any other original and natural form.
Poster Design	Based on the topics such as School Activities, Dramas, Annual function ; Fete and Fair and Current Issues etc.
Book Cover Design	Based on different Text-books, Games and sports books and children books etc.
Illustration	Based on daily life incidents, stories, poems ; accidents ; social activities etc.
Media	Poster colours, inks, collage and sketch pen etc.

Paper III

Sculpture

Study of natural and man-made forms, human figures, birds, animals and objects of day-to-day use in groups and in different sittings and arrangements.

Media

Clay, Plaster of Paris, Wood and Wire etc.

Graphs

Paper IV

Prints based on study of natural and man-made forms, human figures, birds, animals and vegetation etc.

Media

Lino cut, wood cut, silk screen.

Note

There shall be two papers for examination.

No. 1 Paper of composition is compulsory.

No. 2 Selection can be made for the 2nd paper from the remaining three papers i. e. II, III & IV.

SYLLABUS FRAME
FOR
SOCIALLY USEFUL PRODUCTIVE WORK

SOCIALLY USEFUL PRODUCTIVE WORK

ACTIVITIES FOR CLASSES I AND II

1] COMMON ACTIVITIES

a] Environmental Studies

Exploration of productive manual work and service situations at home, in the school and in the community, through observation and enquiry. The children identify the productive manual work and services going on around them, they observe who performs these work, and how are they performed. They get familiar with the raw materials and tools used in the different types of work and the method of manipulating them. They discuss the importance of the manual work going on around them, realize their own role in the performance of these and learn how could these be performed in a better manner. They record their experience through verbal and non-verbal media.

b] Experimentation with Materials, Tools & Techniques

Manipulation of natural and man-made materials and simple tools which are locally available and used in productive work and services. The materials may be restricted to those which are plastic and pliable in nature. The end product might be just creative self-expressional work, or some useable things. The services should be such which the children enjoy in participating.

2] WORK PRACTICE

Participation in productive work and services which they have already experimented with and which could be assessed in terms of remuneration.

ACTIVITIES FOR CLASSES III, IV/V

1) COMMON ACTIVITIES

a) Environmental Studies

Exploration of productive manual work and service situations at home, in the school and in the community related to the basic needs viz (i) Health and Hygiene, (ii) Food, (iii) Clothing, (iv) Shelter, (v) Recreational and Cultural activities (vi) Community work and Social service. The method of exploration will be similar to that in the previous classes. Record keeping through graphic and verbal media may be emphasised.

b) Experimentation with Materials, Tools & Techniques

Manipulation of natural and man-made materials and simple tools which are locally available and used in productive work will take the form of handicrafts. Knowledge related to the work should also be imparted.

2) WORK PRACTICE

Mass production of some items prepared under experimentation and performance of some service which could be assessed in terms of some return in cash or kind.

ACTIVITIES FOR CLASSES V, VI, VII/VIII

1) COMMON ACTIVITIES

a) Environmental Studies

This activity is to be continued as in the previous classes. The children at this stage

will be more mature. Therefore, the explanations given could be scientifically richer and the social aspects also could be further highlighted.

b) Experimentation with Materials, Tools & Techniques

Manipulation of locally available materials and tools, with the help of local expertise. Harder material like wood and metal may be introduced at this stage. The productive work in these classes will take the form of crafts involving graded skills and precision. Similarly, services also could be physically, of harder type. The why and wherefore of every proven should be discussed.

2) WORK PRACTICE

Productive work will be in the form of simple projects leading to self-sufficiency in the basic needs, particularly regarding food, cloth and shelter. Services could also contribute substantially to the life of the community. The return of work practice at this stage will obviously be higher than that of the previous stage.

ACTIVITIES FOR CLASSES VIII, IX/X

1) COMMON ACTIVITY

a) Environmental Studies

At this stage, the children are expected to

conduct the work study systematically and submit at least two project reports.

b) Experimentation with Materials, Tools & Techniques

This activity may be restricted to the selected main craft/service and subsidiary crafts/services under work practice. Related knowledge may be dealt in more details.

2) WORK PRACTICE

Work practice, at this stage may take the form of one main craft or service and at least one subsidiary craft or service. The choice will depend upon the facilities available and the inclination of the children. The main crafts would require more attention and they would be an on-going process like Agriculture, Horticulture, Animal Husbandry, Sericulture 'Vastra Vidya' etc. The subsidiary crafts might include Pot culture, Bee keeping, Book craft, Spinning, Weaving, Stitching, Sericulture, Wool spinning, Knitting, Cane and Bamboo work, Soil conservation, maintenance of compost pits etc. Similarly services also may be classified into two categories, involving work performed throughout the year and the other ad-hoc type of work. At this stage, the return from the work performed should be comparable to the market rates.

SYLLABUS FRAME
FOR
PHYSICAL EDUCATION

PHYSICAL EDUCATION

General

By nature the urge of most children is to be active. The child needs both mental and physical activities without which the harmonious development of both body and mind cannot be achieved.

In general, the aim of physical education should be to provide physical and mental satisfaction through movements of various types and by creative physical activities. It should develop alertness of mental and physical response to commands and directions and help to maintain suppleness of the body. It should stimulate respiration and circulation and thus aid growth in children and ensure health. It should encourage children to be happy and independent and to approach physical tasks with confidence.

Primary Stage (Classes I, V/VI)

The activities that should be introduced are of two types :

- a) those which involve functional movement and aim at muscular coordination, e. g. Dance, Games, Gymnastic;
- b) those movements which are concerned with movements as a "means of expression". e. g. running, skipping to music, imitating animal movements.

In specific terms the programme of physical education at the primary stage should include :

- 1) Dance
- 2) Games

- 3) Yoga*
- 4) Gymnastics
- 5) Swimming*

(*No outlines are given as these should be introduced under the guidance of specially trained persons).

Dance

Expressive movement is most effectively done in dancing. The teacher can make use of local dances, explaining and demonstrating the movements. At the primary stage, stimuli in dancing is necessary; this may be by means of rural stimuli, e. g. mouth sounds, clapping, drums, and visual stimuli, e. g. demonstrations by the teacher or by local persons.

The teacher may make the children :

- i) move freely to music (eurythmics);
- ii) try movements which are contrastive e. g. slow and quick or heavy and light;
- iii) experiment with movements which involve jumping; movement in different directions, i.e. backward, forwards, from side to side; combine these with slow and quick and light movements.
- iv) coordinate movements whilst singing a chorus or a song.

The teacher who is not trained for dancing need not be unnecessarily worried and can help school children if the basic movements are understood. Thus, basically there are :

a) **Three exercises**

- i) bending; (ii) stretching; (iii) twisting and

b) **five basic actions**

- i) gesture by hand or body, without transferring weight; (ii) stepping; (iii) being still, (that is, holding a position; (iv) umping (v) turning.

Practice in these exercises will be necessary but the objectives of enjoyment and satisfaction must not be lost sight of.

Games

Games for young children should consist of a series of easy games and free activities. **running, chasing, easy ball games and races** will be the main types, as in these the elements of the more advanced games are introduced in a simplified form. Formal games should not be arranged, but balls, bats, hockey sticks etc. should be provided. Five and six year old children will play individually or in groups; sometimes only to children playing together.

At the upper primary stage whilst **running, chasing, races** etc. will be continued, "team" games will find a place. However, there is a great difference between the version of games e. g. football, kabaddi, played by children at this stage and the version played by senior boys, girls and adults. At this stage children are content with a small space, a few players and a game of short duration. For a game to provide satisfaction to children the techniques and rules must not be strictly enforced. It will be seen that primary school boys playing football or hockey ignore "positions

in a team and follow the ball like a herd, and "offside" and other rules have no meaning.

In creating an interest in games, it is best to allow children to start games after first roughly explaining them and then to deal with the skills at a later stage; children are eager to start playing rather than to start training for game.

Gymnastics

It is realised that a large number of schools will not have any apparatus for gymnastics at the primary stage and, therefore, exploratory gymnastic movements are suggested which do not require apparatus.

a) **Some of the activities are given below :**

- i) running so as to avoid somebody else;
- ii) practice to step in a small space;
- iii) running rhythmically;
- iv) stamping feet heavily;
- v) moving on the floor on heels (toes, side of foot, etc.) Trying one foot (change when tired);
- vi) stepping, galloping and jumping;
- vii) moving on hands and feet quickly;
- viii) moving on hands and feet slowly;
- ix) moving about with hands and feet on the floor close to each other than far apart;
- x) moving about on two hands and one foot, then one hand and two feet;
- xi) moving on another part (not feet) knees, seat;

xii) moving backwards on seat with hands helping;

xiii) moving lying face down with hand helping.

b) Training on the floor

Some suggested activities:

i) curling up; (ii) moving the weight with the body curled on the floor; (iii) locking; (iv) rolling on the floor; (v) rolling and standing up; (vi) walking; (vii) standing; and jumping.

Separate work for the legs and hands can be carried out.

Legs

i) jumping in space; (ii) jumping on two feet; (iii) landing softly; (iv) moving in leaps; (v) landing on two feet.

Hands

- i) hands firmly on the floor with head up;
- ii) leaving one foot and then the other;
- iii) hands on the floor head up, picking one leg up and then the other.

Stage (Classes V, VI to X)

a) At the middle and secondary stages pupils fresh from primary school are sometimes offered a choice of activities beyond their skill, physique and understanding; this is not only unwise but dangerous. It is, therefore, absolutely essential that at the middle school stage there should be basic courses reinforcing what has taken place in the primary school.

If a child has come from a primary school and has a knowledge of dance, games gymnastic he will easily fit into a more varied programme. Even then account must be taken of his immaturity and his lack of bodily development and stamina. If a child lacks the desired background the situation becomes even more serious and some preparatory courses in dance, games, movements may be necessary.

The programme at the middle and secondary stages will include :

- 1) Dance
- 2) Games (including training)
- 3) Yoga*
- 4) Athletics
- 5) Gymnastics
- 6) Swimming*
- 7) Combatives* for boys — Wrestling, Boxing, Judo, for girls Judo.

(*No outlines are given as these should be introduced under the guidance of specially trained persons).

Dance

Dance is easier to teach at the primary level as the younger children react more spontaneously, because the desire to move in a dance-like way is still alive. The aptitude of children at the middle school stage will vary. Further more, their very different movement background will present a range of ability. Thus, the contents of the work must be such that all levels of interest and ability can achieve some enjoyment and success.

The plan should be as follows;

- 1) Warming and limbering

- 2) Movement training
- 3) Performance
- 4) Unwind

Each lesson should have a satisfying performance a gathering together in a whole, a complete 'dance, based on the appropriate themes. At the end of the performance the children should gradually slow down their activity and Unwind.

Accompaniment for dance at the secondary stage must at first be at a level which the children know and accept. This usually implies music which is strong and rhythmic.

Social dance is valuable to the upper secondary if well taught and based on the ability to move well and appreciate the pattern and rhythm of corrective dance. All types of dance (folk, national, etc.) prove most acceptable to secondary children out of school hours in a society or club.

Games

Training in games is important at this stage. It is generally not possible to plunge 10 or 11 year olds into playing full-scale major games without basic training. Apart from the skills required for participation in full-scale games, such games also demand cooperative play. Cooperative play can only develop through training in individual skills and team work. The teacher should remember that for children at this particular stage **'the' game is not the most important thing, the general progress of the greatest number of children is more important.** The games programme must not be tailored to provide an opportunity for a few children, who have natural ability in games, but it should aim to provide enjoyment and interest to all. As a general rule, the 'game' should occupy at least half of the lesson time.

The teacher may choose to present the lesson in one or two ways :

Either

- 1) Introduction—explaining the rules.
- 2) Skill Training
- 3) Games : i.e. small teams playing on a number of small pitches.

Or

- 1) Personal liberating with or without the relevant apparatus
- 2) Games i. e. small teams playing on a number of small pitches
- 3) Technique practices.
- 4) Return to the game as above.

Athletics

The purpose is not to train the few for competition, but to give all children the benefit of a healthy and interesting activity for which each has a natural bent

Atheletic activity is broadly of three types :

- i) Running
- ii) Throwing
- iii) Jumping

As provision has been made for all the three in the primary programme, all that is necessary in the years to follow is to begin applying the skills acquired to particular situations and apparatus.

At this stage specialisation should not occur. The work should be of a general nature, including all the three types of athletic activities,

Introduction

- i) Limbering
- ii) Teacher directed activity. Running fast — shuttle runs — running and jumping (for take off) — skipping with ropes (legs and arms).

Training

In one lesson the teacher should be able to teach and give practice and coaching for :

- i) Spring start
- ii) Throwing balls, tennis balls for distance
- iii) Scissor Kick.

Performance

This may be done to consist of the above activities.

Gymnastics

At this stage equipment will be necessary and, therefore, this branch of physical education may not be possible in all schools.

There are many schools worked out but in gymnastics in the earlier stages of the middle schools, the main emphasis will be on best use of space. Activities to be emphasised are : **curling, stretching, twisting and turning hands and feet working close together or far apart; work on the hands alone; travelling and stopping.**

It is necessary at this stage to emphasise that fully trained qualified gymnastic teachers should conduct the lessons according to the schemes which are prepared in advance. Such schemes are easily available.

However, in general, the plan will be as follows :

- i) Free practice
- ii) Introductory activities
- iii) Work for the whole body
- iv) Work for the legs
- v) Weight on the hands

At the secondary stage group practice on gymnastic apparatus is essential.

Note on Progression

A general comparison of the work for primary classes with that of middle and secondary classes reveals that activities are repeated and seem to lack in progression.

However, in all aspects of physical education there must be progression. All through school life, children are growing and developing in physical abilities and mental outlook and progression fits in with this. Progression is not one of increased difficulty but reaching higher standards. Progression should occur within the lesson and from lesson to lesson.

**ILLUSTRATIVE TIME TABLE
FOR CLASSES I TO X**

**CLASS TIME TABLE
(FOR CLASSES X—VI)**

**Periods
Classes**

X	Maths 1-4 Language 5,6	Maths 1-3 S. St. 2,4,5,6	Language 1,3,5 Language 2,4,6	Language 3 Language 2,4 Sup. S. 1,5 SUPW 6	SUPW 4,5,6 O. S. 1,2,3	Games, 1,2,3 SUPW 4,5,6	G. Sc. 1-5 Com. S. 6	G. Sc. 1,2 S. St. 4 Language 5 Com. S. 6 Games 2
IX	S. St. 1-5 O. S. 6	O. S. 1,4 Maths 2,3,5,6	G. Sc. 5,6 Maths 2,3 Games 1,4	G. Sc. 2-6 SUPW 1	SUPW Language 4,5,6	-1,2,3 Language 4,5 Language 6	Language 1,2,4 Games 3,6 Com. S.	Language 1,3 Language 6 Sup. S. 2,4 —————5
VIII	Ist Language 1-4 2nd Language 5-6	Ist Language 2,3 Maths 1,4 2nd Language 5,6	Maths 1,4,5,6 Arts 2,3	S. St. 1-6	G. Sc. 1,2,4,6 Sup. St. 3	G. Sc. 1, 2nd Language 2, Games 4,5,6 Sup. St. 3	SUPW 1,2,3,5——— Arts 6 Com. S. ——	SUPW —1,2,3 Games 5 ———4 Arts 6
VII	G. Sc. 1-5 Sup. St. 6	G. Sc. 2 Games 1 SUPW——— 3,4,5 Sup. St. 6	Ist Language 1,2 —————3,6 SUPW	Ist Language 1,2,4,5 S. St. 3,6	Maths 1,4 Games, 5,6	Maths 3,4 2nd Language 5,6 S. St. 1,2	2nd Language 3,6 Arts 2,4,5 Com. S.———	2nd Language 3 S. St. 4,6 Arts 2 —————1

1	2	3	4	5	6	7	8	9
VI	2nd Language 1,2,4 S. St. 3,5,6	SUPW 1,2 2nd Language 3,4 Games 5,6	1,2 Ist Language 3,6	Arts 1,2,4,5 Ist Language 3,6	Math-5,6 G. Sc. 1,4,	Maths 1,2,5,6 G. Sc. 3 S. St. 4	SUPW—— Com. S. 46 S. St 1,2, Sup. St. 5	SUPW 4,3 Games 2 G. Sc. 1 Sup. St. 5 Games 6

Symbols used

Maths.

Mathematics

G. Sc.

General Science

SUPW

Socially useful productive work

S. St.

History, Geography and Civics

Com. S.

Community Service

Sup. St.

Supervisory Studies

O. S.

Optional Subjects : Arts (Music/Drawing/Dancing) Home Science, Agriculture, Economics, Social Reconstruction, Classical Language.

TIME TABLE FOR CLASSES X TO VI

H. S. II

1	2	3	4	5	6	7	8	9
Class X	Language 1,3,5 Language 2,4,6	O.S. 1,3,5 Maths 2,4,6	SUPW 1,3,5 Maths 2,4,6	SUPW 1,3,5,4 Gen. Sc. 6 Games 2	Gen. Sc. 1,6	Language I 1,3,5 Language II 2,4,6	Com. S. Sup. St. 6 S. Sts. 2 3,4,5	1 Games 2,3,4 Sup. St. 6 S. Sts. 5
Class IX	O. S. 2,4,6 Maths 1,3,5	Gen. Sec. 1,6	SUPW ——— G. Sc. 1 SUPW 3 Games 5	— 2,4,6 Games 1,3,5	Language 1,6	Maths 1,3,5 Language 2,4,6	Com. S. ——— S. Sts. 6 Sup. St. 4 Language 1,3,5	—2 Sup. St. 5 S. Sts. 1,3,4,6
Class VIII	Maths 1,3,5 Language I 2,4,6	G. Sc. 2,4,6 Games 3 Arts 5 Games 1	Language II 1,3,5 Language I 2,4,6	SUPW 1 G. Sc. 2,4,6 S. Sts. 3,5	SUPW 1,2,4 Games 3,5 Sup. St. 6	SUPW 1,2,4 Maths 3,5 Sup. St. 6	C.S. ——— Language II 1,5 S. Sts. 2,4,6	—3 Maths 1 Arts 2,4 S. Sts. 5,6
Class VII	Language I 1,3,5 Language II 2,4,6	S. Sts. 1,6	Maths 1,3,5 G. Sc. 2,4,6	G. Sc. 2 Arts 1,3,5,4 Games 6	Language I 1,3,5 Language II 2,4 Games 6	Maths 1,3,5 G. Sc. 4,6 SUPW 2	SUPW ——— Com. S. ——— Games ——— Sup. St. ———	—2,3,4 —5 —1 —6

1	2	3	4	5	6	7	8	9
Class VI	SUPW 1,3,4,5 Language 1,2 Sup. St. 6	SUPW 3,4,5 Language II 1,2 Sup. St. 6	S. St. 1,3,5 Language I 2,4,6	Sc. Practical 3 S. St. 2 Games 4 G. Sc. 1,5,6	Maths 6	Language I 4,6 Language II 1,3,5 G. Sc. 2	Com. S.— Games 2,6 Art 1,3,5	4 S St. 3,5 G. Sc. 2 Games 6 Art 1

- | | | | |
|----|-----------|-----------------|---|
| 1. | Monday | SUPW | Socially useful Productive work |
| 2. | Tuesday | G. Sc. | General Science |
| 3. | Wednesday | Sup. St. | Supervised Study |
| 4. | Thursday | S. Sts. | Social Studies |
| 5. | Friday | Maths. | Mathematics |
| 6. | Saturday | Arts
Com. S. | Music, Dance, Painting
Community Service |

**CALCULATION OF TEACHING-WORK—LOAD PER TEACHER IN A COMPOSITE
PRIMARY, MIDDLE AND SECONDARY SCHOOL**

PART I: MIDDLE & HIGHER SECONDARY

Classes	No. of Persons								
	Languages	Optional Subject	Mathematics	Science	Social Studies	SUPW & Com. Service	Games and Supervisory Studies	Art (Music/Dance/Painting etc.)	
X	12	3	6	7	5	7+2	4+2		
IX	12	3	6	7	5	7+2	4+2		
VIII	11		6	6	6	7+2	4+2	4	
VII	11		6	6	6	7+2	4+2	4	
VI	11		6	6	6	7+2	4+2	4	
Total	57	6	30	32	28	35+10	20+10	12	240

PART II : PRIMARY

Class	No. of Sections	Teachers @ 1 teacher per section
V	01	01
IV	01	01
III	01	01
II	01	01
I	01	01
Total	05	05

Periods per week ... 36

Duration $\frac{1}{2}$ hour

Total hours $36 \times \frac{1}{2} = 18$ hours

Subject	Total No. of periods	Teachers @ 36 periods per subject
Languages	57+10 Sup. St.	two
Mathematics	30	one
Science	32	one
Social Studies & Optional subjects	28+6	one
SUPW & Com. S.	35+10	one
Games	20	one
Arts (Dance/ Music/creative activities)	12**	one

240 Total number of teachers=Eight (8)

Work-load (Teaching only) per week of Secondary department teachers 20 hours.

Work-load per week of Primary teachers—18 hours Plus 3 hours for correction and other work.

* The unutilised component of the PET teachers is to be utilized for activities outside school hours and community service.

** This teacher would also be utilized in SUPW classes where the school may have to provide more than one choice.

Subject	Total No. of Periods	Teacher Reqd. @ 36 Periods	240 × 40—9600 = 160 hours
Languages	57+10 Sup. St.	two	
Mathematics	30 £	one	
Science	32	one	
Social Studies+ Optional subjects	28+6	one	
SUPW & Com. Service	35+10	one	
Games	20*	one	
Classical Language/ Music/Dance/ Creative Activities etc.	12**	one	
240		Total no. of teachers required	Eight (8)

Total No. of Periods ... 240
Duration of Periods ... 40 Minutes.
Total Hours ... 160

Work-load per teacher
(teaching periods only)

£ Maths teacher would be able to share a part of the Science Teacher's work-load.

* The utilized components of P.E.Ts work-load is to be utilized for activities outside school hours.

** The teacher would also be utilized in SUPW Classes where the school may have to provide more than one choice.

**CALCULATION OF TEACHING WORK-LOAD IN A COMPOSITE MIDDLE &
PRIMARY SCHOOL**

PART I : MIDDLE

Classes	Number of Periods*						
	Language	Mathematics	Science*	Social Studies	SUXW & Com. Ser.	Games & Sup. Study	Arts (Music/Dance/ Painting activities etc.)
VIII	11	6	6	6	7+2	4+2	4
VII	11	6	6	6	7+2	4+2	4
VI	11	6	6	6	7+2	4+2	4
Total	33	18	18	18	21+6	12+6	12 144 periods

No. of teachers required at the rate of 36 periods	=4	
One PET (extra)	=1	=90 hours
	5	

* A block of 2 periods may be provided once in a week to afford enough time for Practical/Demonstration.

** No exact duration of a period is being specified. These may be adjusted according to individual exigencies.

PART II : PRIMARY

Class	Section (No. of teachers required @ one teacher per section)		Subject-wise Break Up
V	one	one	1. Language I+Social Studies one
IV	one	one	2. Language II+Social Studies one
III	one	one	3. Maths. + Sc. one
II	one	one	4. SUPW one
I	one	one	5. PET one
	five	five	Total <u>five</u>

1. Weekly work-load per teacher $\frac{90}{5} = 18$ hours in middle.
2. Weekly work-load per teacher = 18 hours in primary.

WORK LOAD PRIMARY SCHOOL TEACHER, ONE TEACHER PER CLASS IN A SINGLE SECTION SCHOOL

No. of Periods @ 35 Min. for Class III, IV, V and 30 Min. for Class I & II							No. of teacher @ one teacher per Class	Total Work-Load in hours (weekly)
Classes	Lang. I	Maths	Environmental Studies	SUPW	Games & other activities	Total		
V	6	6	6	6	6	30	one	18
IV	6	6	6	6	6	30	one	18
III	6	6	6	6	6	30	one	18
II	6	6	6	6	12	36	one	18
I	6	6	6	6	12	36	one	18

Total weekly hours — 18

Daily work-load per teacher (in school) — 3 hours

Note : Each teacher would have a 2 hrs.day as unutilised components of his working hour. This time may be utilised in other areas of social education e.g. SOPW in urban areas and Non-formal adult education in rural areas.

APPENDIX V

**A NOTE OF CLARIFICATION BY PROF. RAMLAL PARIKH, M.P. AND
SHRI MANUBHAI PANCHOLI**

9th November, 1977

To
The Chairman
Review Committee

Sub : A Note of Clarification

Sir,

While we are in broad agreement with the general trend of the recommendations of the review committee, we feel it necessary to clarify our understanding of the thinking of the review committee on the following points :

- (1) This review could not be just a modification of the 'NCERT document on the curriculum for the 10-year school' but an attempt had to be made to construct a new scheme in view of the new dimensions of work-based education in relation to National Development. It is difficult to modify a scheme based on the centrality of book-base rather than the centrality of work-base which is advocated by the review committee. There is therefore, a fundamental departure of the very basis of education in the review committee's recommendation. Since State Boards are to formulate their own scheme of studies, it is necessary to underline this point unequivocally.
- (2) It has to be ensured that the priority of the universal elementary or primary education from classes 1 to 7/8 is not over-looked in the name of Ten-year pattern as 7/8 year primary education is a self-contained integrated stage for over 80% of the students. The needs, requirements and realities of these vast mass of students should not be subjected to and be made subservient to the needs of secondary education from 8/9 to 10. We feel, without causing immediate disturbance to the existing diversity of duration of 7 or 8 years prevalent in different States, a gradual effort to have a common duration of 7 years (1 to 7) (excluding pre-primary class) elementary school and of minimum three years' duration (8 to 10) for secondary education, should continue to be made.
- (3) Totally undiversified uniform scheme of studies is not feasible in view of the enormous diversity in our country. Provision of electives or options is imperative and is not contrary to general education and the compulsory subjects should be limited to the minimum in secondary education. In our view an attempt to draw up a common scheme of studies even for core-subjects does not accord with reality at this stage. Inclusion of electives/options does not correspond to specialisation or streaming.
- (4) The recognition of Gandhian Philosophy of Basic Education as our ultimate goal, logically implies, that equal importance in teaching, evaluation accreditation etc., to all aspects of life-centred education e.g. Book-content, Socially Useful Productive Work, Community Service, Community life, all these elements contribute to the growth of knowledge and understanding and are not only mutually inseparable but also continuously integral to life and learning at all stages of education from the earliest.

(5) Recognition of the above principle implies atleast some reduction in traditional book-knowledge and acceptance of the applied sciences taught with field experience like agriculture, accountancy, soil science as of equal importance to fundamental sciences. This also implies reduction in prevalent language load also. From this point of view we feel that the suggested allocation of time for language load could have been reduced further.

(6) A theory that a student will be deprived of the knowledge of a particular subject if it is not taught in the school is not tenable as the sources of knowledge now do not exclusively rest with the school system or in the prescribed curricula and a person has various alternative means of acquiring knowledge from various other sources, in life.

(7) In our view the combination of History, Civics, Geography was avoidable and it could be a combined course as well as one of these subjects according to the local needs. Combining more than one subject under one head is not a very happy practice.

(8) The time allocation for productive work and social service should increase as we move to upper classes and in particular at Secondary education stage. At any rate the percentage of time allocation should not decrease and we should continue to strive to increase it gradually.

(9) Socially Useful Productive Work & Social Service should not be construed as alternatives, as both are necessary. The time allocation for social service should be in addition to minimum time allocation of 20% for Socially Useful Productive Work.

(10) Any type of centralised effort to prepare even model text-books for all States is not desirable. Kindly include this letter as an appendix to the report.

Sd/-
Ramlal Parikh
Sd/-
Manubhai Pancholi

APPENDIX VI

**SUGGESTED DELETIONS FROM EXISTING NCERT TEXTBOOKS
FOR THE C.B.S.E. 1978 EXAMINATION**

**SUGGESTED DELETIONS IN ENGLISH FROM EXISTING
CLASSES IX—X TEXTBOOKS FOR EXAMINATION**

Books for Courses 'A' and 'B' published by the C.B.S.E.

The Committee was strongly of the view that the student at this stage should be exposed to extensive and varied reading material. More pages, therefore, of textual materials are recommended than, are to be found in the English Reader for course 'B'. It was suggested that glossary and exercises on vocabulary need not run into a number of pages.

Books for Course 'A'

The Committee felt that nothing should be deleted from Course 'A' as :

- a) The students who take this course, which is optional in nature, are quite competent to handle the entire course as it stands.
- b) The number of periods provided in the new pattern would be six in a week for two years, so it will be easily possible to cover the course.

However, if the course load has to be reduced, the number of lessons which might be dropped are given below to guard against any random reduction.

(1) English Prose and Poetry Selections—English Course 'A'

Editors : Bagchi and Nag

Prose :

- | | | |
|------------|--|--------------------------------|
| Lesson 1. | I came back from the Dead
Reason : Linguistically terse | By Cormier Dunwoody (11 Pages) |
| Lesson 11. | I wish I were a man

Reason : Context is not familiar to Indian Children | By Phyllis Megimley (8 Pages) |
| Lesson 13. | The Prefect of Studies

Reason : Too intense, thematically irrelevant | By James Joyce (8 Pages) |

Poetry

- | | | |
|-----------|------------|----------------------|
| Lesson 7. | Two Nights | By Shelley (3 Pages) |
|-----------|------------|----------------------|

(2) English Rapid Reader By Mehrotra and Datta—Course 'A'

The book is divided into 9 thematic units. The lessons on each unit highlight different aspects of the basic theme. The operative principle of the deletion of lessons is not to tamper with the basic character of the different sections of the book.

Lessons which might be deleted :

Unit I	Fact and Fancy	
	The Magic Book	By Ann Anderson (10 Pages)
	Reason : The allusions to classics would not be widely familiar	
Unit II	Love and Sacrifice	
	God's will Hath No Way	By M. V. Trapp (11 pages)
	Reason : Context a little too foreign	
Unit III	Mystery and Horror	
	If I Were You	By D. James (9 pages)
	Reason : Not of a very high literary merit	
Unit IV	Fun and Laughter	
	Post Haste	By C. Howard (8 pages)
	Reason : Language slightly difficult and context not interesting	
Unit V	Exploration and Invention	
	Delhi—Chungking	By K.P.S. Menon (8 pages)
	Reason : Very Factual	
Unit VI	Memories and Musings	
	A Piece of Childhood	By Dom Moraes (10 pages)
	Reason : Language too sophisticated	
Unit IX	Dreams & Visions	
	The Man in Asbestos	By Stephen Leacock (13 pages)
	Reason : Thematically too complex	

**Suggested Deletions in Hindi from the Existing Textbook for Classes IX-X for 1978
Examination**

**कक्षा 9-10 की हिन्दी पाठ्यपुस्तकों
(ए कोर्स) में संशोधन**

ये पुस्तकें केन्द्रीय माध्यमिक शिक्षा परिषद् द्वारा निर्धारित हैं और इस वर्ष यही पुस्तकें पढ़ाई जा रही हैं।

1. परिमल

1. भूमिका बहुत लम्बी है। केवल 8-10 पृष्ठ पर्याप्त हैं।

2. निम्नांकित पाठ हटा दिये जाएं।

1. कमरे, कमरा, कमरे (कहानी)

2. वापसी (एकांकी)

2. ललित संकलन

निम्नलिखित पाठ इस कक्षा के लिए कठिन है। आगे की कक्षाओं में लेने हों तो ले लिए जाएं।

वद्य खण्ड

1. पाठ-5—क्या जानवर भी सोचते हैं
—ह० प्र० द्विवेदी

2. पाठ-7—नाखून क्यों बढ़ते हैं ?
—ह० प्र० द्विवेदी

काव्य खण्ड—ये पाठ हटाए जाएं :

1. कबीर दास : सबद का पूर्ण अंश
2. सूरदास : विविध का पूर्ण अंश
3. मीराबाई : के अन्तिम 3 पद
4. भारतेन्दु : उद्बोधन
5. हरिऔध : अनूठी बातें
6. गुप्त : गुणगान
7. निराला : भर देते हो, जागो पर एक बार, कुत्ता भीकने लगा
8. दिनकर : सिपाही
9. बच्चन : गर्म लोहा
10. अज्ञेय : मैंने आहुति बन कर देखा है
11. नरेंद्र शर्मा : अध्ययन अध्येता

**Suggested Deletion in Sanskrit from the Existing
Textbooks for Classes IX-X for the Examination
to be held in April 1978.**

The following lessons have been deleted :

- (1) नाट्याचार्य परीक्षा
- (2) मध्यम पन्था

**Suggested Deletions in Mathematics from Existing Classes IX—X
Textbook for 1978 Examination**

(Note : Where a section is deleted, corresponding problems on the section are also deleted)

Section	Heading
2.12	Algebra of Sets
2.13	Comparison between Algebra of Sets and Algebra of Real Numbers
3.9	Composite Functions
10.6	The Arithmetical Descriptions (or measures) of Dispersion
10.7	Standard Deviation and Variance of Raw Data
10.8	Standard Deviation and Variance of Raw Data—An Alternative Method
10.9	Standard Deviation and Variance of Grouped Data Method I
10.10	Standard Deviation and Variance of Grouped Data Method II
10.11	Review of the formulae and an Aid to Memory
10.12	Properties of Standard Deviation
Chapter 18	Linear Programming
Chapter 19	Matrices
20.12	Quadratic Inequations
Chapter 21	Permutations, Combinations and the Binomial Theorem
24.6	Right Prisms
24.8	Right Pyramids

Proofs of the following theorems may not be asked in the Examination

Theorem 9 and its converse

Theorem 10

Theorem 19 and its converse

Theorem 24

Theorem 25

It may be added that the following are not examination units as already specified in the syllabus

Chapter 6 : Logarithms and logarithmic Tables

Chapter 16 : Some constructions in Geometry

**Suggested Deletions in Following Textbooks from Existing
Classes IX—X for 1978 Examination**

Geography

Unit I

Soils, Flora and Fauna

- i) Soils—types of major soil groups of the world, their distribution
- ii) Natural vegetation, types, distribution of each type
- iii) Wild life, types distribution
- iv) Conservation of resources, need and methods
- v) Soils, natural vegetation and wild life of India in detail

Unit II

Oceans

- i) Oceans—ocean basins—salinity—surface circulation of ocean waters main deposits flora and fauna
- ii) Detailed discussion of the Indian Ocean basin

History

Sections dealing with Japan, South-East Asia, Mongolia, Byzantine Empire, Crusades, etc. may be deleted from the existing textbooks for Classes IX—X.

Economics None

Civics None

PHYSICS

Suggested Deletion in Physics from the Existing Textbook [March 1976 edition] for Classes IX-X for the 1978 Examination

Chapters 1 and 17 should be considered as non-evaluative.

Articles 5.6, 8.2, 10.6 to 10.8 and 14.4 to 14.8 be deleted.

Chapter 3 No questions to be set which require use of two or more equations.

In the articles 11.2 and 13.2, the derivation of mirror and lens formula, respectively, be deleted.

Chapter 16. No questions be set which require a reference to be made to any equation.

LIFE SCIENCE TEXTBOOK FOR CLASSES IX-X [Published this year]
Deletions recommended by the subject Sub-Committee of the
Review Committee

A. Chapters to be deleted in toto :

1. Chapter 3 : Origin of life
2. Chapter 20 : Human Genetics
3. Chapter 22 : Evolution of Man
4. Chapter 25 : Manures and Fertilizers
5. Chapter 26 : Crop diseases and Pests
6. Chapter 28 : Hybrid vigour
7. Chapter 30 : Animal Breeding
8. Chapter 34 : Maturity and Ageing

B. Partial Deletions from other Chapters :

1. Figures 5.6, 8.5, 8.6, 10.3, 15.7, 16.4, 16.5, 19.1, 19.2, 19.4, 19.6, 21.5, to be deleted.
2. The chart on 'The Hierarchy of Organization' on page 26 to be deleted.
3. The paragraph on prokaryotes and eukaryotes in Chapter 4 to be deleted.
4. The whole of ecological succession in Chapter 5.
5. The detailed steps of cell division in Chapter 8.
6. The whole of photosynthetic process in Chapter 10.
7. The phosphorylation, sugar cleavage, pyruvic acid formation (on page 77-78), formation of active acetate, the oxidative cycle of respiration, terminal oxidation (except last 2 paragraphs).
8. From 'in order to (line 10 on page 128).....become free (page 130)' in Chapter 19.
9. Lamarckism (page 147-148) in Chapter 24.
10. Evidences from Physiology (page 142) and Evidences from Zoogeography (page 145) in Chapter 24.

C. Recommended minor changes :

1. Chapter sequence should be 1, 2, 4, 8, 7, 6 and 5.
2. In the chapter title of Chapter 2, the word 'Diversities' should be replaced by 'characteristics'.

Central Board of Secondary Education made certain deletions from the earlier textbook developed in the year 1975 for the students appeared in the Secondary Examination in the year 1977. Since the students who will appear in the Secondary Education, 1978 are following the earlier textbook decision regarding deletions of Chapter (s), total or partial, rests with C.B.S.E. or any other competent committee.

Chemistry for Classes IX-X Edition : June 1977

Introduction...Page 3

(1) Some illustrations are needed in 'Chemistry in Modern India', Section to highlight the importance of Chemistry in day-to-day life and also in Industrial Chemistry. Supplement Paras 2 & 4 with a couple of examples of utilization of by-product and industrial waste.

Chapter 1 : Page 4

A few lines regarding the idea of atom and molecule may be referred before Section 1.1.

Section 1.1

Explain what difficulties arose in the use of hydrogen and oxygen, as the unit in connection with atomic mass. Discuss on the basis of hydrogen and oxygen.

Page 5

Idea of ion should be included in Teachers Guide. The idea of amount in significance of mole should be clarified as it is a controversial point.

Page 6

'g' to be written as Unit.

Page 8

Reactions involving a number of reactants like KMnO_4 , FeSO_4 and H_2SO_4 etc. may be deleted.

Section 1.6

Four examples of thermochemical equations should be cited with amount of heat in Joules.

Chapter 2 : Page 13

Diagram must be kept on the side of the page and matter must be composed in the available space.

Page 14

A Second graph of $P \frac{1}{V}$ also must be given alongwith the graph already cited in the text. A graph between temperature ($^{\circ}\text{C}$) and volume of the gas should be given in order to explain 273° (Absolute Zero).

Page 18

Delete Section 3.4.1 and include value of P_0 , V_0 and T_0 (in SI Unit) in Section 2.4.3.

Page 19

Delete Section 2.5 completely.

Page 21

Delete problem 2.5 and include another problem related to substitution of values in the formula. Delete Section 2.8 completely.

Chapter 3 : Page 28

Figure 3.6 should be the same as given in previous edition.

Page 30

A couple of examples of Isotops should be cited in Section 3.6.

Chapter 4 : Page 36

Sections 4.4² and 4.4³ to be deleted completely.

Chapter 5 : Page 41

Section 5.4 to be deleted or more illustrations of the 'groups' as well as of the 'periods' be given.

Page 42

Table 5.3 alongwith matter given on the page may be deleted.

Chapter 6 : Page 43-44

Sections 6.1 and 6.2 : Replace 'or' in the definition by alphabets a, b, c etc. say (a) Removal or loss of oxygen or other non-metallic element. This numbering should be done in the definition of oxidation as well as in reduction.

Page 46

In the Exercises on Chapter 6, some equations related to oxidized/reduced form equations should be added.

Chapter 7 : Page 48

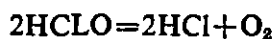
Size of Diagram be reduced to half and kept on one side of the page and matter should be composed in the space left.

Page 49

Size of the Diagram should be reduced to $\frac{1}{3}$ rd of the present size.

Page 50 : Section 7.4-3

A diagram for evolution of oxygen from chlorine water should be given and the equation



also should be cited. Preparation of chlorine from bleaching powder is to be given at the end.

Page 52

Size of the Figure 7.4 should be reduced to two third of the present and compose the subject matter by its side.

Chapter 8 : Page 50

Size of the Figure 8.1 should be reduced to two third size of the figure given in the text.

Page 58

Size of the Figure 8.2 should be reduced to 3/4 size and matter should be composed by its side.

Page 59 : Section 8.7

Second para of the section given before 'oxide of sulphur' should be deleted.

Page 60 : Section 8.8

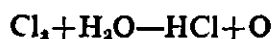
Partial equation should be deleted only final equation, $\text{Cu} + 2\text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + 2\text{H}_2\text{O} + \text{SO}_2$ should be mentioned. Size of the Figure 8.3 be reduced to half and matter should be composed by its side.

Page 61 : Section 8.9 (b)

Add "hence SO_2 is also called sulphurous anhydride" after sulphurous acid.

Section 8.9 (d)

The word 'nascent hydrogen' or 'nascent oxygen's hould be removed and equation should be written as

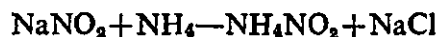


Colouring matter + O — colours less matter.

Section 8.10

" SO_2 is also called sulphuric anhydride" should be mentioned after sulphuric acid.

Chapter 9 : Page 65 Section 9.3



Page 66

Diagram should be set in the side and matter should be composed in its side.

Section 9.5

'General method of preparation of ammonia by heating any ammonium salt with any alkali' should be given before the laboratory method.

Page 67

Diagram should be kept on one side and matter should be composed by the side of the diagram. Also " NH_3 being lighter than air" should be added in the last line.

Section 9.5

'What are important properties of ammonia?' in place of 'How does ammonia behave' should be written.

Section 9.6

Resequencing is needed after adding (a) 'It is a colourless pungent smelling gas' and other properties of the gas. Thus, 'a' will be 'b', 'b' will be 'c' and so on.

Page 68

Delete both the Diagrams.

Page 69

Equation showing conversion of FeCl_3 into $\text{Fe}(\text{OH})_3$ should be cited on the basis of previous textbook (1975 publication).

Page 70 : Section 9 10.1

$\text{NaNO}_3 + \text{H}_2\text{SO}_4 \longrightarrow \text{NaHSO}_4 + \text{HNO}_3$, should be cited in this section.

Page 71

Size of the Figure 9.5 should be reduced to half and matter should be composed in the space left at the bottom.

Page 72

Sentence "but hydrogen is not evolved" should be deleted as Dil. HNO_3 gives H_2 with Mg and Mn and equation is $\text{Mg} + 2\text{HNO}_3 \rightarrow \text{Mg}(\text{NO}_3)_2 + \text{H}_2$

Page 72 : Section 9.12

$\text{P}_4 + 3\text{O}_2 \longrightarrow 2\text{P}_2\text{O}_3$ (Phosphorous trioxide) to be included in this section and tetraphosphorus dioxide also should be written as 'phosphorous pentaoxide' in bracket.

Section 9.13

Super phosphate is $\text{Ca}(\text{H}_2\text{PO}_4)_2 + 2\text{CaSO}_4$ therefore necessary correction should be made.

Section 9.14

(i) Conc. H_2SO_4 test should be given "Heat a small amount of solid substance with a little Cu turning (or a piece of filter paper) with Conc. H_2SO_4 , reddish brown fumes of NO_2 will be evolved". Order of the 'tests' should be reallocated.

Page 79

Delete section 10.3-2. Delete complete metallurgy of aluminium (Page 79-80),

Page 81

Section 10.4-3 should be deleted.

Page 83

Section 10.5-1 should be deleted.

Chapter 10 : Page 86

Section 11-3, Second line, portion in bracket is to be deleted.

Chapter 11 : Page 87

Size of the Figure 11.1 should be reduced to half.

Section 11 5

All the ionic equations in Zeolite should be removed.

Section 11.6

Should be deleted.

Page 92 : Section 11.7-1

Only simple chemical equation of HCl, CH_3COOH NA HOH and NH_4OH should be written.

Chapter 12

The entire chapter is to be modified (refer remarks from the book)

Page 97

Figure 12.2 to be deleted.

Page 96 : Section 12.4

H_2O_2 may be a substitute if KClO_3 is not available.

Page 98 :Section 12.4

Please refer page 123 to 114 of Secondary Certificate to Chemistry by G. C. Gupta, Salina Publisher, 1st Edition, 1977.

Section 12.5-6

Delete Common Ion effect.

Chapter 13

Section 23.3-2 and 13.3-4 should be deleted.

Chapter 14 Section 14.2-1

Add two more general structures of CH_4 and C_2H_6 by the side of already given (refer page 111 of the book).

Section 14.2-2

Same in the case of ethylene.

Section 14.2-3

Delete major portion of the Section (Ref. Textbook) and give other examples like Naphthalene and toluene. (Structure of C_6H_6 to be in the form of a block and all three representations of structure be shown side-by-side Ref. Page 112).

Section 14.2-3

II para is to be taken in Teacher's Guide.

Page 114 : Section 14.2.7

Modify the representation of substitution and addition reaction of Cl_2 with C_6H_6 as shown on Page 114 (Ref. Textbook).

Section 14.2-8 :

Same in the case of C_6H_6 with H_2 (Refer Page 114).

Sections 14.6 and 14.7

Are to be deleted.

Chapter 15 : Page 124 : Section 15.2

Ignition temperature after kindling temperature should be mentioned in bracket.

Figure 15.1

Should have two diagrams one as it is and the other in reverse order indicating the mechanism of the reaction.

Section 15.9

Delete the 'combinations' (1), (2) and (3) given in liquid propellants.

Chapter 16

Delete completely as major part of it is in Biology syllabus.

Chapter 17

Figure 17.1 to be reduced to two third and matter should be composed by the side of the diagram.
Delete last line of Section 17.3.

Section 17.3-1

Delete, but retain II para starting with some commonly used polymer and plastics.

Section 17.3-7

Delete last para with structure little explanation of oil and fats should be given in T.G.

Section 17.4-4

The word 'Sod Lauryl sulphate' to be deleted from last para.

Chapter 18 :

'Nuclear Chemistry' deleted as it is felt difficult for the Classes IX and X.

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