

HIMACHAL PRADESH BOARD OF SCHOOL EDUCATION



SYLLABI AND COURSES OF STUDY FOR PLUS TWO  
W.E.F. 2008-09

GYANALOK PARISAR, CIVIL LINES,  
DHARAMSHALA-176 700.

**REGULATIONS, SCHEME OF EXAMINATIONS AND PASS  
CRITERIA, SCHEME OF STUDIES AND COURSES OF STUDY FOR  
PLUS TWO EXAMINATION  
W.E.F. 2008-09**

**Acknowledgements :**

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**Effective from academic session 2008-09 for Plus Two Examination and  
Public Examination to be held in March/April, 2009**

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**HIMACHAL PRADESH BOARD OF SCHOOL EDUCATION, GYANALOK  
PARISAR, CIVIL LINES, DHARAMSHALA-176 700**

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## **PART - I**

### **REGULATIONS**

#### **1. SHORT TITLE**

These Regulations may be called the “Himachal Pradesh Board of School Education Senior Secondary Certificate (Ten Plus Two) Examination (Scheme of Examinations, Scheme of Studies and Courses of Study) Regulations, 2008”.

#### **2. COMMENCEMENT**

These Regulations shall come into force w.e.f. admission year 2008.

#### **3. DEFINITIONS**

**In these Regulations :—**

Unless the subject or context otherwise requires, the following terms shall have the following meanings. Words importing the masculine gender shall be taken to include feminine and those in singular shall include the plural and vice versa :

- (a) “Act” means the Himachal Pradesh Board of School Education Act, 1968;
- (b) “Board” means the Himachal Pradesh Board of School Education;
- (c) “Chairman” means the Chairman of the Himachal Pradesh Board of School Education;
- (d) “Department” means the Education Department of Himachal Pradesh;
- (e) “Director” means the Director of Education, Himachal Pradesh;
- (f) “Examination” means the Senior Secondary Certificate Ten Plus Two Examination;
- (g) “Equivalent Examination” means an examination conducted by any recognized Board/Indian University or an Institution recognized by or affiliated to such Board/University and is recognized by this Board equivalent to the corresponding examination conducted by this Board or conducted by a school affiliated to/recognized by the Board;
- (h) “Guardian” means the natural or legal guardian or a person approved by the Head of the Institution concerned as the guardian of a student for the purpose of these regulations;
- (i) “Head of an Institution” means the Principal/Headmaster of a Senior Secondary/High School and such other institution recognized by the Board;

- (j) "High School" means an educational institution preparing candidates for the Matriculation examination of the Board and recognized by the Board for this purpose;
- (k) "Institution" means an institution admitted to the privileges of the Himachal Pradesh Board of School Education or an institution recognized by or affiliated to such Board/University which is recognized by this Board;
- (l) "Pass Criteria" means the standard fixed by the Board for a candidate being declared successful in each subject of examination and/the examination as a whole;
- (m) "Principal" means the Principal of a Senior Secondary School or Senior Secondary division of a College;
- (n) "Private" candidate means a person seeking admission to an examination conducted by the Board and has not, during the session, preceding the examination, been on the rolls of an educational institution affiliated to the Board;
- (o) "Regular Courses of Study" means a Course of Study prescribed by the Board for the purpose of any of its examination;
- (p) "Senior Secondary School" means an educational institution preparing candidates for the Ten Plus Two examination of the Board and recognized by the Board for such purpose;
- (q) "Scholar's Register" means the register containing the record of a scholar's progress kept by the institution to which he belongs in the form approved by the Board;
- (r) "Secretary" means the Secretary of Himachal Pradesh Board of School Education;
- (s) "Session" means the period for which an institution is open for tuition during the twelve months commencing with the formation of new classes; and
- (t) "Teacher" means a person actually engaged in the work of instructions in an institution affiliated to the Board.
- (u) All other words and expressions used in these Regulations but not defined, shall have the same meaning as has been respectively assigned to them in the Act.

#### **4. TIME OF EXAMINATION**

- (a) The Board shall conduct Senior Secondary Certificate Ten Plus Two Examination at the end of Class XII in the course prescribed from the academic year 2008-2009 and onwards.

- (b) The Examination shall be held twice a year. The annual examination shall ordinarily be held every year in the month of March and Supplementary Examination in the month of September for compartmental candidates at such centres and on such dates and at such time as may be fixed by the Board from time to time.

**5. ADMISSION OF STUDENTS TO A SCHOOL FOR TEN PLUS TWO CLASS.**

**Admission to Class Ten Plus Two of Senior Secondary Certificate examination to an affiliated institution shall be open to a scholar who has passed :-**

- (i) The Ten Plus One examination of the Himachal Pradesh Board of School Education;
- (ii) Any other examination recognized by the Board as equivalent to a above provided that the candidate has qualified the Matriculation or equivalent examination with English, Mathematics and Hindi subjects before or simultaneously of his / her taking the Plus Two examination provided further that the students coming from a Board/ University outside Himachal Pradesh shall have to furnish migration certificate issued by the Board / University concerned.

**6. GENERAL CONDITIONS FOR THE PURPOSE OF ADMISSION**

- (i) A candidate who has been placed under compartment in the examination mentioned in clause 5 (i) and 5 (ii) above may be admitted to the XII Class provisionally provided that such a candidate shall have to clear the compartment before or simultaneously failing which he/she shall be reverted to lower class and the result for 10+2 class shall stand Cancelled.
- (ii) The admission cases coming from abroad or in respect of the examinations, the equivalence of which has not been established, may be referred to the Board by the Principals with full details and their recommendations.
- (iii) A candidate who fails twice in Class XII shall not be re-admitted to that class.
- (iv) The dates for admission to 10+2 shall only be fixed by the Director of Education. Any extension in the date shall also be effected by the Director of Education.

- (v) No student who has attained the age of 20 years on 31<sup>st</sup> March of the year of admission shall be admitted to class XII of affiliated Institutions.  
In case of SC and ST students , the age limit shall be relaxable by three years.
- (vi) Age relaxation case(s) should be submitted by the Head of the Institution to the Director of Education for final decision.
- (vii) Students migrating from other recognised Boards/ Universities who have undertaken any examination of that Board/University shall furnish Migration Certificate in addition to marksheet/qualifying certificate issued by the Board/University or an Institution recognized by a Board / University or an Institution recognized by a Board concerned to the Institution where they are seeking admission.
- (viii) No candidate who has been expelled or is under sentence or is under the punishment or rustication or is debarred from appearing in or taking an examination for any reason what so ever, shall be admitted to any examination of the Board.

## **7. ADMISSION PROCEDURE**

- (i) An admission and withdrawal register in the form prescribed by the Education Department shall be maintained by the Institution where the name of every scholar joining an Institution shall be entered .
- (ii) Successive numbers must be allotted to scholars on their admission and each scholar should retain this number throughout his career in the Institution. A scholar leaving and then returning to the school after absence of any duration shall, resume his original number of admission.
- (iii) If a scholar applying for admission to an Institution has attended any other Institution, an authenticated copy of the transfer certificate from his last school must be produced before his name can be entered in the scholar's register.
- (iv) Local transfer of a student from an Institution to another shall not be permissible.
- (v) A scholar shall not be allowed to migrate from one affiliated institution to another during the session after his name has been sent up for the examination of the Board. This condition may be waived only in special circumstances by the Chairman.



- (vi) A scholar leaving his institution at the end of a session or who is permitted to leave his institution during the session shall on, payment of all dues, receive an authenticated copy of the Transfer Certificate up-to-date. A duplicate copy may be issued if the Head of the Institution is satisfied that the original is lost but it shall always be so marked.
- (vii) In case a scholar from an institution affiliated to any recognised Board/University seeks admission in an institution affiliated to the Board, the Transfer Certificate indicating the subjects of studies of the previous institution of such a student shall be countersigned by an officer not below the rank of Deputy Director/District Inspector of Schools of the Education Department of the State/Union Territory concerned and the scholar shall not be admitted to an Institution without such a countersignature. Countersignatures are not necessary in case a candidate is admitted from one institution affiliated to the Board to another.

PROVIDED that the students migrating from other Boards/ Universities to this Board shall be registered as student (s) to the privileges of the Himachal Pradesh Board of School Education after remitting the prescribed fee and shall be issued Students Registration Card.

- (viii) If the statement made by the parent or guardian of a scholar or by the scholar himself, if he was a major at the time of his admission to an institution, is found to contain any willful misrepresentation of facts regarding the scholar's career, the Head of Institution may punish him by expulsion and report the matter to the Board.

## **8. ELIGIBILITY FOR EXAMINATIONS :**

### **REGULAR CANDIDATES**

The Examination shall be open to a student of an Institution affiliated to the Board and whose name is submitted to the Secretary duly certified by the Head of the Institution on the form prescribed by the Board that he/ she :

- (i) has passed the Ten Plus One examination of the Board or an equivalent examination.
- (ii) has not passed equivalent or higher examination of any other Board / University.
- (iii) has completed the prescribed courses of study in the subjects required to pass the examination.

- (iv) he/she is on the active rolls of the school.
- (v) bears good moral character.

#### **9. SUBMISSION OF APPLICATION FORMS FOR EXAMINATION**

- (i) Every candidate from a recognized Institution shall have to forward his/her application on the prescribed form together with the prescribed fee for the Examination through the Head of the Institution to which he/she belongs so as to reach the Secretary of the Board at Dharamshala on 15<sup>th</sup> October and with late fee of Rs. 100/- upto 15<sup>th</sup> November . No form shall be entertained after the last date. The fee, whether by post or at the Board's counter, may be remitted through a bank draft in favour of the Secretary, HP Board of School Education, payable at any Scheduled Bank at Dharmshala.
- (ii) The Head of Institution shall submit the Internal Assessment to the Board one month before the commencement of theory examination.

#### **10. REQUIREMENT OF ATTENDANCE FOR REGULAR CANDIDATES**

1. The expression prescribed courses of Study means 75% of attendance counted from the opening of class XII up to the day preceeding the first day of examination of the Board.
2. Failed candidates who have rejoined class XII shall be required to put in 75% of attendance calculated from the 11<sup>th</sup> day after the declaration of result and up to the 14<sup>th</sup> day preceeding the first day of examination of the Board.
3. In the case of migration, attendance at an institution from which the candidate migrates will be taken into account in calculating the required percentage of attendance.
4. If candidate's attendance falls short of the prescribed percentage, the Head of the Institution may submit his/ her name to the Board provisionally. If the candidate does not complete the required percentage before the 14<sup>th</sup> day preceeding the first day of examination, he/she shall become ineligible for the examination. The Head of the Institution shall not issue roll number slip to such a candidate and shall report and return his/ her roll number slip to the Secretary .
5. Candidates taking up a subject involving practical work shall be required to put in 75% of the total attendance for practical work in the laboratory.

6. A candidate whose name has been struck off the rolls of the institution after his application for admission to the examination, the Head of the institution shall not issue roll number slip to such an ineligible candidate and shall report and return his roll number slip to the Secretary. If, however, a candidate whose name had been struck off the rolls and is readmitted up to one month before the commencement of the examination, he shall automatically become eligible to appear at the examination, subject to the fulfillment of other eligibility conditions.

#### **11. CONDONING OF SHORTAGE OF ATTENDANCE**

1. The Secretary shall be the competent authority to condone a deficiency of attendance up to 20 and the Chairman up to 40.
2. The Head of the Institution shall refer a case of shortage of attendance to the Secretary with his recommendations failing which valid reasons for not recommending the case shall have to be stated.
3. **The following may be considered valid reasons for recommending the cases :**
  - (a) Prolonged illness;
  - (b) Loss of father/ mother or some other such incident leading to absence from school and which merits special consideration; and
  - (c) Any other reason of serious nature.
4. In case a candidate participated in sports and cultural activities / tournaments conducted by the Education Department / Government or appears in a competitive examination conducted by the Govt. or Public Service Commission, the actual days spent in sports and cultural activities / tournament / examination and travelling days connected there with shall be counted on the production of satisfactory evidence towards the attendance of the candidates.

#### **12. DETAINING OF ELIGIBLE CANDIDATES**

1. Heads of affiliated institutions shall not detain eligible candidates from appearing at the examination of the Board except for very grave reasons and with the prior permission of the Chairman of the Board.

2. Notwithstanding anything contained in these regulations, no candidate who has been expelled or is still undergoing rustication or who has been debarred from taking on examination for having used unfair means or for any other reasons shall be admitted to any examination of the Board.

### **13. CHANGE OF SUBJECTS**

- (a) Heads of Institutions may allow change in one subject in Humanities or Science or Commerce group that too at the time of admission . However , no change shall be allowed in the subjects categorized as compulsory subjects in any of the streams specified in the Scheme of Studies.
- (b) In special circumstances to be reduced in writing, the Chairman, on the recommendations of the Head of the Institution may allow change in two subjects in Humanities group at the time of admission.
- (c) In special cases , such as transfer of parents/guardian and physical disability of a candidate to pursue the subject (s) already offered or for any other adequate reasons to be reduced in writing, the Chairman on the recommendations of the Head of Institution may allow change of one subject in Science or Commerce Group and two subjects in Humanities Group up to 30<sup>th</sup> September. However, no change shall be allowed in compulsory subjects in both the groups.
- (d) A candidate after passing his/her Ten Plus One examination in Commerce or Vocational Group may change to Humanities Group in Ten Plus Two class at the time of admission. However, Science students, after passing Ten Plus One examination may change to commerce or Humanities Group in Ten Plus Two class that too at the time of admission .
- (e) A private candidate appearing in Ten Plus Two examination of the Board can make an application to the Secretary for change of one or more subjects indicated by him in his application form along with the prescribed fee, 30 days before the commencement of the examination. However, no change shall be allowed in compulsory group in any stream.

### **14. ELIGIBILITY FOR PRIVATE CANDIDATES**

**The following shall be eligible to appear as a private candidate at the annual examination :-**

- (i) A candidate who has previously appeared and failed in Senior Secondary Certificate 10+2 examination of the Board. Unless

otherwise notified, such candidate shall appear in the syllabus and text books as prescribed for the examination of the year in which he will appear. Candidates falling in this category shall appear in the group in which they have failed unless they are allowed to change the group as provided in the Examination Regulations of the Board or regulation 13 (d) of these regulations.

- (ii) The following candidates may appear in Ten Plus Two examination if they have passed the Ten Plus One Examination of the Board or an equivalent examination from a recognized Board/ University/ Institution at least one year earlier than the year in which they would take Ten Plus Two examination but they can do so in Humanities and Commerce groups only provided that they have not been on the rolls of any affiliated institution during the academic year;
- (a) All persons who are bonafide residents of Himachal Pradesh;
  - (b) A candidate who has passed his Ten Plus One examination from this Board;
  - (c) Members of regular Land, Air and Naval Forces serving in Himachal Pradesh or their wards;
  - (d) Members of Border Police serving in the state of Himachal Pradesh or their words.
  - (e) Members of any security force created by the Ministry of Home Affairs, serving in Himachal Pradesh or their wards.
  - (f) All persons who are residing in Himachal Pradesh for nine months preceding the commencement of Examination.

Provided that in respect of category c), d) and e), a certificate from the Commanding Officer of the Unit, in case of category f), a certificate from the employer along with a solemn declaration duly attested by the Executive Magistrate First Class to the effect that the candidate is residing in Himachal Pradesh for nine months preceding the commencement of examination shall be appended with the admission form.

- (iii) No candidate who has been on the rolls of an affiliated institution at any time during the academic year preceding the examination shall be eligible to appear as a private candidate without recommendation from the Head of the Institution in which he studied .
- (iv) No candidate who has been debarred by any recognised Board/ University / any other competent authority from appearing at the examination shall be allowed to appear at the Ten Plus Two examination of the year concerned.

**15. ATTESTATION OF ADMISSION FORM AND PROCEDURE FOR SUBMISSION OF APPLICATIONS OF PRIVATE CANDIDATES**

A candidate shall submit his application for admission on the prescribed Admission Form to the Secretary with the required certificate countersigned by authorities as mentioned below :

1. **For regular candidates** : by the Head of the Government / Affiliated Institution concerned ;
2. **For Private candidates** : **by any of the authorities mentioned below :-**
  - (a) Head of the Institution last attended ;
  - (b) Principal / Headmaster/Headmistress of the Government / Affiliated institution or any officer of the H.P. Education Department not below the rank of Deputy Director;
  - (c) A Member of the Board.
3. For Private candidates serving in the Military / Para Military forces; by the Commanding Officer of their units.
4. All private candidates will submit three copies of the latest passport size photograph attested by the same authority who attested the certificate on application for admission .
5. No candidate shall be allowed to offer additional subject (s) along with the full subjects unless he indicates so in his admission form and remit the fee for additional subjects prescribed under regulation 32 alongwith the usual admission fee.
6. If the application for admission to the examination on the prescribed form of a private candidate is received after 30<sup>th</sup> September of the annual examination and 30<sup>th</sup> June for supplementary examination , he/she shall pay late fee as under :-

**ANNUAL EXAMINATION**

Rs.100/- upto 15th October	Rs. 500/- upto 15th November	Rs. 1000/- (With permission of Chairman) upto 15th December
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**SUPPLEMENTARY EXAMINATION**

Rs. 100/- Upto 15th July	Rs. 500/- Upto 31st July
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**NB :** Candidates placed under Compartment in the examination can send their admission forms & fee for the immediate following examination within 20 days from the date of declaration of their result without late fee and thereafter the last date for receipt of admission forms and fee shall be the same as mentioned above. The date of receipt of form & fee shall be the day of receipt in the Board's office.

After the expiry of the dates mentioned above, no admission form shall be entertained.

7. Private candidates shall not be allowed to offer such subjects for the examination which involves practical work except in the case of candidates who had failed earlier in that subject. Notwithstanding, candidate may offer Home Science with Practical.

#### **16. SUBMISSION OF MIGRATION /TRANSFER CERTIFICATE BY PRIVATE CANDIDATES**

The candidate (s) who has/have passed the Ten Plus One or equivalent examination from other recognized Board/University/Institutions shall be required to submit Migration/Transfer Certificate from the concerned Board/University along with the examination form. However, in case a Migration/Transfer Certificate is not received fifteen days before the commencement of the examination, the candidature of a candidate shall be cancelled and the Admit Card for appearance at the examination shall not be issued to him/her by the Board.

#### **17. MEDIUM OF EXAMINATION**

- (i) Medium for English shall be English except for passage of English which shall be translated into Hindi.
- (ii) Medium for the papers of Sanskrit will be Hindi.
- (iii) Medium for the papers in other languages shall be the language concerned;
- (iv) Medium for Senior Secondary Classes for the subjects of Mathematics, Biology, Chemistry and Physics shall be English.
- (v) Medium for all other subjects shall be Hindi or English.

#### **18. MODE OF EXAMINATION**

**Candidate for the examination shall be examined by means of;**

- (i) Written question papers which they shall be required to answer in writing;

- (ii) Practical / Oral tests as provided for in the Syllabus for the respective subject (s);
1. Practical and oral test unless otherwise specified shall be carried out by the examiners appointed by the Board or any other authority approved by the Board in such manner as the Board may determine from time to time .
  2. Wherever practical work has been prescribed in the syllabus in any subject for the Examination, a record of such work done by each candidate offering the subject in the form prescribed by the Board shall be duly maintained and attested by the Head of the Institution concerned and the same shall be produced or forwarded for purpose of evaluation in such manner and according to such directions as may be issued by the Board from time to time.
  3. Written test in a subject shall be by means of question paper and the question paper in the subject shall be given to candidates simultaneously at every centre at which the examination is being held.

#### **19. SUBJECTS OF EXAMINATION**

The Examination shall be held in the subjects provided in the Scheme of Studies or as approved by the Board from time to time.

#### **20. SYLLABI IN SUBJECTS OF EXAMINATION**

- (i) The Syllabus in each subject for the examination setting out the detailed courses of study and scheme of examinations shall be prescribed by the Board from time to time and shall be shown in the 'Courses of Study and Syllabi'.
- (i) 'Courses of Study and Syllabi' for Ten Plus Two examination shall be made available by the Board for sale at such price and at such places as may be decided by the Board and shall also be available at the office of the Board for reference.

#### **21. POWER OF THE BOARD TO EXCLUDE ANY CANDIDATE FROM EXAMINATION**

1. The Board shall have the power to exclude any candidate from examination permanently or for a specified period for reasons to be recorded in writing if it is satisfied that such candidate is not a fit and proper person to be admitted there to.



2. If a candidate, after admission to an examination, commits an immoral act or is discovered to have committed an immoral act which, in the opinion of the Board is such that had it come to their knowledge in time they would have excluded him from the examination, the Board may;
  - (i) Cancel his candidature for that examination and order that his result be not declared and /or
  - (ii) Disqualify him permanently or for a specified period from appearing at the examination.
3. If a candidate, subsequent to the issue of roll number slip is found to be ineligible to take the examination, his candidature shall be cancelled.

## **22. CHANCES TO APPEAR AT THE EXAMINATION**

1. Where the chances of a candidate to clear an examination are limited and he is disqualified from appearing at it for a fixed period, he may be allowed by the Chairman one more chance to appear at the examination in the current syllabus after the period of disqualification, in lieu of the chance or chances missed by him during the period of disqualification.
2. Where the chances of a candidate to clear an examination are limited, the Chairman shall have the authority to grant an extra chance for valid reasons in lieu of the chance missed by a candidate; provided that the extra chance shall be immediately admissible next to the last admissible chance.
3. Where a candidate has missed one or more chances to clear an examination on account of illness or due to some natural calamities additional chance or chances in lieu thereof may be given by the Chairman provided the candidate had submitted his admission form and fees and had informed the Secretary of the Board within 30 days of the commencement of the Board examination of inability to appear at the examination on account of illness alongwith a medical certificate of Government Hospital/any other well known Hospital and in case of natural calamities a certificate from the Tehsildar duly countersigned by the sub Divisional Magistrate of the area provided that the additional chance or chances shall be immediately next to the last admissible chance.

## **23. ADMISSION TO EXAMINATION OF PHYSICALLY HANDICAPPED PERSONS**

**Notwithstanding anything contained in any other regulation, the Board shall have power , in the case of a permanently physically handicapped person to :-**

- (i) admit him/her to the Senior Secondary (Commerce or Humanities Group) as a private candidate i.e. without attending an affiliated institution;
- (ii) provide services of a competent amanuensis for writing out the answers at the examination and shall pay the prescribed fee per paper of examination for the use of an amanuensis. The amanuensis must be of a lower grade of education than the candidate and may be from the same institution to which the candidate belongs.
- (iii) permit the answers to be typewritten or use of PC by himself if the examinee so desire provided the same are brought by him of his own;
- (iv) lay down any other method for assessing the examinee's academic ability and declare his result.

Provided that in each case, the examinee shall produce such evidence to the satisfaction of the Secretary as he may consider necessary, in proof of the statement that his permanent disability is such that he deserves to be considered for the above facility.

## **24. PASS CRITERIA**

The result of Senior Secondary Certificate 10+2 Examination will be furnished in terms of marks for each subject secured in the examination. The marks of other subject(s) as additional subject(s) will also be shown on the Marks Sheet.

1. Each candidate will be required to obtain 33% marks both in external examination and aggregate of a subject combined with Internal Assessment in English and in each of four Elective subjects to pass the examination.
2. For subjects involving practical work, a candidate must obtain at least 33% marks in theory and practical separately in order to qualify that subject.
3. Marks of additional subject i.e 6<sup>th</sup> and 7<sup>th</sup> subject(s) , if offered by the candidate, will not be taken into account in the Grand Total.

4. If a candidate fails in one or more subjects and the total deficiency is not more than 1% of total marks, he/she shall be accorded these marks to make up the deficiency without regard to the number of subjects. In case the percentage of grace marks is increased to more than 1% of total marks as per the provisions of Regulation 11.17.2 of Himachal Pradesh Board of School Regularlations, 1994, the candidate shall be accorded these grace marks in the manner laid down by the Chairman. If by the addition of these, he/she obtains the pass marks, he/she be declared to have passed the examination.
5. A candidate appearing in the additional subject(s) or compartmental subject shall also be eligible for the above concession, but the limit of grace marks shall be 1% of the total marks of the subject(s) in which he appears.
6. A candidate shall be given 1% of the aggregare marks as grace marks to improve the division. However, a candidate who has already availed of the grace marks for passing the examination or any part thereof or a candidate who appears for Compartmental examination or for Improvement of Performance shall not be entitled to any grace marks for improving the division.
7. **The successful candidates of Senior Secondary Certificate 10+2 examination shall be classified as under : -**

(i) Distinction in subject(s)	Those who secure 75% or more marks in subject(s)
(ii) First Division	Those who secure 60% or more of the aggregate marks.
(iii) Second Division	Those who secure 50% or more marks but less than 60% marks of the aggregate;
(iv) Third Division	Those who secure less than 50% marks of the aggregate.

## 25. ELIGIBILITY OF COMPARTMENT

A candidate who Fails/ Absents in English or one of the four elective subjects offered by him shall be placed under Compartment.

**26. COMPARTMENT EXAMINATION FOR SENIOR SECONDARY 10 + 2  
CERTIFICATE EXAMINATION**

- (a) A candidate placed under Compartment may appear at the Supplementary examination during the same year and may avail himself of the second chance in annual examination next year as per Syllabi and Courses laid down for the 10+2 examination.
- (b) A candidate who does not appear at one or both the chances of Compartment or who avails the chance/chances but does not succeed, shall be treated to have failed in the examination and will be required to appear in all the subjects at a subsequent annual examination of the Board as per Syllabi and Courses laid down for the examination concerned in order to pass the same.
- (c) In case a candidate has passed in practical at the main examination, he shall be allowed to appear in theory part only and marks in practical obtained at the main examination shall be carried forward and accounted for at the compartment examination. In case the candidate had failed in practical, he shall have to appear in theory and practical both irrespective of the fact that he has already cleared the theory examination.
- (d) A candidate placed in compartment shall have the liberty to appear in full subjects but he can do so only at the annual examination.

**27. SUBSTITUTION OF MARKS OF ADDITIONAL SUBJECT(S)**

**Additional subject(s) may be substituted for the elective subject (s) in which the candidate has failed in the following manner :-**

- (a) An elective subject offered as an additional subject can be substituted for another elective subject, if the candidate fails in one of the main elective offered by him but passes in the additional elective subject offered .
- (b) If a candidate fails in two elective subjects but had offered one additional elective subject and passed in it , the additional subject in which the candidate had passed can be substituted for one of the subject (s) in which the candidate had failed (the one in which he had scored less marks) and the candidate can be declared eligible for compartment examination in the other subject in which the candidate had failed.
- (c) If a candidate fails in two elective subjects but had offered two additional subjects and passed in both of them then these subjects can be substituted for the subjects in which the candidate had failed.

- (d) If a candidate fails in one elective subject but had offered two additional subjects and passed in both, the additional subject in which the candidate had scored higher marks can be substituted for one of the elective subject in which the candidate had failed. In case of the candidate having scored equal marks in both subjects, the option of the candidate for substitution may be obtained and till such the result may be declared as 'Result Late'.
- (e) In Science group, substitution only in Biology and Mathematics and vice versa is allowed while in Commerce group, substitution only of Economics with Mathematics and vice versa is allowed. However , there shall be no substitution for subjects categorized as Compulsory subject in the Scheme of Studies. There shall be no substitution in Vocational Group.

## **28. ADDITIONAL SUBJECTS**

Candidates who have passed the Senior Secondary Certificate 10+2 Examination from this Board or other recognized institution affiliated with any Board in India may offer additional subject(s) as private candidates provided in the Scheme of Studies subject to the condition that the additional subject(s) is / are offered within five years of passing the examination. Exemption from time limit may, however , be granted by the Chairman in deserving cases. Such candidates can appear in one additional subject in the supplementary examination but the facility to appear in more than one additional subject will be available only at the annual examination.

## **29. ALLOTMENT OF EXAMINATION CENTERS**

1. The Board reserves the right to allot any examination centre to a candidate for his theory or practical examination or both. No institution/ candidate can, as a matter of right, ask for any particular Centre or challenge the centre allotted by the Board in any Court of Law.
2. Centers for the regular or private candidates will be allotted keeping in view the seating capacity of an examination centre, the object of fair conduct of examination or other administrative reasons.
3. Ordinarily , the regular students of an Institution which itself is an approved Examination Centre, will be allotted Centre in their own Institution. Other regular candidates may be allotted examination centre requested by them or any other centre determined by the Board.

4. It will be obligatory for a private candidate to name in his admission form three approved Examination Centers which are nearest to his place of residence or home town and the Board may allot him any Centre out of the three at its discretion. In case he cannot be allotted any of the three Centers due to some reason, he may be allotted any other centre by the Board.
5. Where a private candidate does not name any Centre in his admission form or name only one Centre or two Centers, the Board may allot him any Centre whether named by him in his admission form or not.

### **30. CHANGE OF EXAMINATION CENTRE**

1. A candidate shall take the examination at the Centre allotted by the Board unless he obtains prior written permission of the Board for the change .
2. The Board shall not allow change of Examination Centre in the following cases :
  - (a) Change of centre within the same city/ town
  - (b) Change of centre within one month of commencement of the examination.
3. The Board may allow change of centre in the following cases on payment of prescribed fee and form.
  - (a) If a candidate or his father or guardian is transferred and the fact of transfer is certified by the Head of the Office in which he or his father or guardian is employed; and
  - (b) If a regular student has joined a school at some other place and his application has been received duly forwarded by the Head of the Institution where the candidate had been admitted with date of admission.
4. A candidate seeking change of examination centre under the above Regulations, shall make an application on the prescribed form accompanied by the prescribed fee and photos to the Secretary. The application form for change will be entertained if the same has been submitted through the Head of the Institution in case of a regular student and countersigned by any person competent to attest the admission form in case of private candidate.
5. Concerned Deputy Secretary / Assistant Secretary (Exams) shall be competent to order change of examination centres as per the prescribed rules.

6. The applications and fee for change of centre shall be entertained upto one month before the date of commencement of examination.
7. Not with standing the provisions in Regulation 6 Supra the Secretary may approve change by written order justifying supra circumstances for change of centre 15 days before the commencement of an examination.
8. A candidate who has appeared at an examination centre not allotted to him without prior approval of the Board, may forfeit his eligibility for examination and the Board reserves the right to declare him 'Not Eligible' for the concerned examination and cancel his result.

### **31. IMPROVEMENT OF PERFORMANCE**

- (a) A candidate who has passed the Senior Secondary Certificate Ten Plus Two Examination of the Board may improve his performance in one subject at the Supplementary Examination to be held in the same year or at the annual examination next year.
- (b) A candidate who has passed the Senior Secondary Certificate Ten Plus Two examination of the Board may reappear for improvement of performance only ONCE provided he has not passed higher examination in the meantime, as under :
  - (i) For improvement in one subject at the Supplementary examination to be held in the same year or at the annual examination next year.
  - (ii) For improvement in more than one subject at the annual examination next year.
- (c) In case a candidate has passed in practical at the main examination, he shall be allowed to appear in theory part only and marks in practical obtained at the main examination shall be carried forward and accounted for at the Improvement examination.
- (d) A candidate who appears for improvement of performance in full subjects or less subjects shall have to surrender the previous statement of marks/certificate before the issuance of new statement of marks/certificate.
- (e) A candidate appearing for Improvement of Performance in one or more subjects cannot appear for additional subject(s) simultaneously.
- (f) If a candidate obtained lower aggregate in improvement examination than what he had attained at the earlier examination of the Board, his/her better aggregate will bestand.

- (g) The Syllabi & Courses of Study for Improvement of Performance shall be the same as are applicable to the regular candidates appearing with him/her in the examination.

### **32. FEE STRUCTURE**

<b>REGULAR</b>		<b>PRIVATE</b>
(Arts / Commerce)	250/-	300/-
(Science / Vocational)	310/-	360/-
COMPARTMENT	160/-	160/-

### **ADDITIONAL SUBJECTS**

One subject	100/-
Two or more	Full Fee

Candidates coming from outside Himachal Pradesh shall remit an extra fee of Rs. 100.

### **IMPROVEMENT OF PERFORMANCE : Full Fee**

**Note** :— Rs. 60/- for each Additional 6<sup>th</sup> or 7<sup>th</sup> subject offered by Regular/Private candidates alongwith full subjects.

**Note** :— The Fee Structure shall be subject to change under the instructions issued by the Board from time to time.

### **33. PASS CERTIFICATE/STATEMENT OF MARKS**

- (1) A Candidate who has appeared in Senior Secondary Certificate Ten Plus Two Examination of the Board shall be issued a Result-cum-Detailed Marks Card.
- (2) A candidate who has appeared in Senior Secondary Certificate Ten Plus Two Examination of the Board and has passed the examination shall be given a pass Certificate. However, a candidate who has appeared for an additional subject in a subsequent examination and passed shall not be issued a separate certificate. Such candidates shall be given only a statement of marks in that subject.

### **34. MODE OF APPLICATION**

- (a) Any candidate seeking admission to any examination of the Board shall make an application on the prescribed form. The Board may, from time to time, prescribe a proforma for the submission of names of regular candidates instead of individual admission forms.
- (b) The admission forms duly filled in shall be submitted to the Secretary through the prescribed agency, if any, before the date prescribed for the concerned examination.



- (c) A private candidate shall also enclose along with his application form three copies of his photograph certified on the back by the authority countersigning the application form that the photograph is of the candidate submitting the form, name of the candidate and that of his father being indicated on the photograph.
- (d) The Board may prescribe dates by which applications may be received with late fee.
- (e) The Chairman or in his absence the Secretary may, when he considers it appropriate sanction acceptance of any admission form/ fee after the expiry of the last date with late fee, on such terms and conditions as he may deem fit.
- (f) In any disputed case, the Chairman shall have the power to decide whether or not any late fee is due and the amount thereof. He may also sanction remission of late fee upto Rs. 100/- in cases of extreme hardship.
- (g) For the purpose of calculating late fee, the date of receipt of admission forms and fees together, whether on receipt counter or by post, shall be taken as the date of receipt thereof by the Board.

### **35. COMPARTMENTAL/IMPROVEMENT OF PERFORMANCE CANDIDATES AS PRIVATE CANDIDATE**

Compartmental/Improvement of Performance candidates shall appear as private candidate and certificate will be issued accordingly.

### **36. INTERPRETATIONS OF THE REGULATIONS**

If any question arises as to the interpretation of the regulations, the Board's decision shall be final.

### **37. POWER TO ALTER THESE REGULATIONS**

The Board may amend, modify or revise these regulations in the prescribed manner at any time without any notice to any party.

### **38. JURISDICTION OF THE COURTS REGARDING DISPUTES / INTERPRETATION OF RULES**

Any differences or disputes arising out of the interpretation of these Regulations entries made in the Application Forms and the matter relating to use of Unfair Means by a candidate or any other decision or order of

the Board or any competent authority will be subject to the jurisdiction of the Courts at Dharmshala.

### **39. APPLICATION OF REGULATIONS**

The Regulations applicable in case of Senior Secondary 10 + 1 Examination of the Board shall also be applicable in Senior Secondary 10 + 2 Examination of the Board.

### **40. POWER TO RELAX**

Where the Board is of the opinion that it is necessary or expedient to do so, it may, by order, for reasons to be recorded in writing, relax any of the provisions of these regulations with respect to any case or category of cases.

### **41. REPEAL AND SAVINGS**

From the commencement of these Regulations, the “Himachal Pradesh Board of School Education Senior Secondary Certificate (Ten Plus Two) Examination Regulations, 2006” shall stand repealed.

Not with standing such repeal, anything done or any action taken including any orders, Notifications etc; issued in exercise of the powers conferred by or under the repealed Regulations shall be deemed to have been done or taken under the corresponding provisions of these Regulations and in case of any dispute, the decision of the Board shall be final.

### **42. EXAMINATION REGULATIONS**

The provisions of the “Himachal Pradesh Board of School Education Examination Regulations, 1994” shall also remain applicable and shall be read alongwith these Regulations.

**PART - II****SCHEME OF EXAMINATION**

The following is the Scheme of Examination

OBJECTS	No. of Paper(s)	MARKS			Duration
		Theory	Practical	INA	
1. English Compulsory for all Groups	1	85	—	15	3 Hours
<b>HUMANITIES GROUP</b>					
1. Hindi	1	85	—	15	3 Hours
2. Mathematics (Common with Sc. & Comm.)	1	85	—	15	3 Hours
3. Home Science (Common with Sc. & Comm.)	2	60	25	15	3 Hours
4. Informatics Practices (Common with Sc. & Comm.)	2	60	25	15	3 Hours
5. Geography (Common with Sc. & Comm.)	2	60	25	15	3 Hours
6. Economics (Common with Comm.)	1	85	—	15	3 Hours
7. History	1	85	—	15	3 Hours
8. Political Science	1	85	—	15	3 Hours
9. Psychology	2	60	25	15	3 Hours
10. Sociology	1	85	—	15	3 Hours
11. Physical Education	2	60	25	15	3 Hours
12. Public Administration	1	85	—	15	3 Hours
13. Sanskrit	1	85	—	15	3 Hours
14. Music	2	25	60	15	3 Hours
15. Dance	2	25	60	15	3 Hours
16. Urdu	1	85	—	15	3 Hours
17. Philosophy	1	85	—	15	3 Hours
18. Fine Arts	2	25	60	15	3 Hours
19. Yoga	2	60	25	15	3 Hours
20. French	1	85	—	15	3 Hours
<b>SCIENCE GROUP</b>					
21. Physics	2	60	25	15	3 Hours
22. Chemistry	2	60	25	15	3 Hours
23. Biology	2	60	25	15	3 Hours
<b>COMMERCE GROUP</b>					
24. Accountancy	2	60	20Pr.Wor	15	3 Hours
25. Business Studies	1	85	—	15	3 Hours

**PART - III**

**SCHEME OF STUDIES**

**Compulsory for All Groups**

1. English (Core)

**I. Humanities Group :**

Elective Subjects (Combination of four subjects to be offered from the following)

1. **Dance (Any one of the following Indian Classical Dances)**
  - (a) Kathak
  - (b) Bharat Natyam
2. Economics (Common with Commerce Group)
3. Geography (Common with Science Group)
4. History
5. Home Science (Common with Science Group)
6. Mathematics (Common with Science and Commerce Groups)
7. **Modern Indian Language (Any one of the following)**
  - (a) Hindi
  - (b) Urdu
8. **Music (Any one of the following)**
  - (a) Hindustani (Vocal)
  - (b) Hindustani (Instrumental Melodic)
  - (c) Hindustani (Instrumental Percussion)
9. Philosophy
10. Political Science
11. Psychology
12. Sanskrit
13. Sociology
14. Public Administration
15. **Any one of the following :—**
  - (a) Informatics Practices (Common with Science & Commerce Groups)

- (b) Yoga (Common with Science & Commerce Groups)
- (c) Physical Education (Common with Science & Commerce Groups)

16. Fine Arts

17. French

## **II. Science Group**

### **Compulsory**

1. Physics
2. Chemistry
3. Biology and or Mathematics (Mathematics common with Humanities & Commerce Groups)
4. **Any one of the following :**
  - (i) Mathematics/Biology.  
(Mathematics Common with Humanities & Commerce Groups)
  - (ii) Home Science (Common with Humanities Group)
  - (iii) Geography (Common with Humanities Group)
  - (iv) **Any one of the following :—**
    - (a) Informatics Practices (Common with Science, Humanities & Commerce Groups)
    - (b) Yoga (Common with Science, Humanities & Commerce Groups)
    - (c) Physical Education (Common with Science, Humanities & Commerce Groups)
  - (v) All other subjects mentioned as Electives under the Humanities Group.

## **III. Commerce Group**

### **Compulsory**

1. Accountancy.
2. Business Studies.
3. Economics and or Mathematics (Economics Common with Humanities Group and Mathematics common with Humanities & Science Groups).
4. **Anyone of the following :**  
All subjects mentioned as Electives under the Humanities Group.

#### IV. Vocational Group

**The Board Offers the following Vocational Courses :—**

1. Accounting and Auditing
2. Computer Technique
3. Electronics Technology
4. Maintenance and Repair of Electrical Domestic Appliances
5. Food Science
6. Horticulture

#### **Compulsory**

1. General Foundation Course (G.F.C.)

**Elective Subjects to be offered from the Groups given below :—**

#### 1. **Accounting and Auditing**

	<b>Paper</b>
(i) Financial Accounting-I	I
(ii) Business Communication & Statistics	II
(iii) Computer Application in Business	III

#### 2. **Computer Technique**

(i) Vocational Theory-I (Computer Fundamentals, Operating Systems and Utilities)	I
(ii) Vocational Theory-II (Programming in C)	II
(iii) Vocational Theory-III (Data Base Management System)	III

#### 3. **Electronics Technology**

(i) Vocational Theory-I (Basic Electricity)	I
(ii) Vocational Theory-II (Basic Electronics)	II
(iii) Vocational Theory-III (Applied Electronics)	III

#### 4. **Maintenance and Repair of Electrical Domestic Appliances**

(i) Vocational Theory-I (Basic Electrical Technology)	I
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- |   |     |
|---|-----|
| (ii) Vocational Theory-II<br>(Domestic Appliances Non Motorised)                | II  |
| (iii) Vocational Theory-III<br>(Engineering Materials &<br>Workshop Practice-I) | III |
| <b>5. Food Science</b>  |     |
| (i) Fundamentals of Food Preservation   | I   |
| (ii) Food Microbiology and Quality Assurance                                    | II  |
| (iii) Food Preservation Technique   | III |
| <b>6. Horticulture</b>  |     |
| (i) Fundamentals of Horticulture  | I   |
| (ii) Fruit Production   | II  |
| (iii) Vegetable Production  | III |

- Notes :—**
- In addition to the Elective subjects offered under a Group, a student may offer upto two additional subjects if he/she so wishes from amongst the Elective subjects appended under the **Humanities Group**. While offering the number of subjects or their combinations, candidates are advised to keep admission requirements for higher courses in view.
  - Students appearing in the capacity of private candidate(s) cannot offer subject(s) involving practical work except Home Science. However, students offering Commerce Group can appear in private capacity which involves Project Work but such a student shall have to get his Project Work examined at an institution/examination centre notified by the Board for the purpose.
  - The syllabus in Vocational Group has been published separately which may be supplied to the schools on request.

### INSTRUCTIONAL TIME

Regarding instructional time, it has been stipulated that a minimum of one hundred and eighty days in a year will be available for instructional activities after taking into account the activities like evaluation/test, school functions etc; schools will be getting adequate time for effective instruction and the prescribed quantum of the subject areas in syllabus will be properly completed.

The instructional work will be about 31 hours and 30 minutes per week. In addition to the instructional time, each school is expected to devote 45 minutes for each day for Morning Assembly and Recess. The duration of the instructional period will be 35 minutes. There will be 9 periods daily for instructional work.

<b>SUBJECT WISE DIVISION OF SCHOOL TIME PER WEEK</b>
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All five subjects	@	10 periods per week	=	50 periods
Library	@	1 period per week	=	1 period
Moral Education	@	1 period per week	=	1 period
Co-curricular activities (Including games and sports)	@		=	2 periods
<b>Total working period per week</b>				<b>= 54 periods</b>

**Note :—** *While designing the courses, it has been presumed that given margin for vacations, public holidays and other contingencies, a minimum of 30 weeks of teaching time will be available in each session for actual instructional transaction. Accordingly, the distribution of periods over units and sub units has been done which is only suggestive in character. The schools keeping the over all number of periods in each subject/area the same, may assign more or less number of periods to individual units according to their relative importance, if thought necessary. The distribution of marks over each unit (unit wise weightage) is however, prescriptive hence shall remain, unchanged.*



## **PART - IV**

### **COURSE OF STUDY**

## **1. ENGLISH CORE**

### **BACKGROUND**

Students are expected to have acquired a reasonable degree of language Proficiency in English by the time they come to class XII, and the course will aim, essentially, at promoting the higher-order language skills.

For a large number of students, the senior secondary stage will be a preparation for the university, where a fairly high degree of proficiency in English may be required. But for another large group, the senior secondary stage may be a preparation for entry into the world of work. The Core Course should cater to both groups by promoting the language skills required for academic study as well as the language skills required for the workplace.

### **OBJECTIVES**

The general objectives at this stage are :

- to listen to and comprehend live as well as recorded oral presentations on a variety of topics.
- to develop greater confidence and proficiency in the use of language skills necessary for social and academic purposes.
- to participate in group discussion/interviews, making short oral presentations of given topics.
- to perceive the overall meaning and organisation of the text (i.e., the relationships of the different “chunks” in the text to each other).
- to identify the central/main point and supporting details, etc.
- to build communicative competence in various registers of English.
- to promote advanced language skills with an aim to develop the skills of reasoning, drawing inferences, etc. through meaningful activities.
- to translate texts from mother tongue (s) into english and vice versa.
- to develop ability and knowledge required in order to engage in independent reflection and enquiry.
- to develop the capacity to appreciate literary use of English and also use English creatively and imaginatively.

**At the end of this stage learners will be able to do the following :**

- read and comprehend extended texts (prescribed and non-prescribed) in the following genres : fiction, science fiction, drama, poetry, biography, autobiography, travel and sports literature, etc.
- text-based writing (i.e., writing in response to questions or tasks based on prescribed or unseen texts)
- understand and respond to lectures, speeches, etc.
- write expository/argumentative essays of 250-500 words, explaining or developing a topic, arguing a case, etc.
- write formal/informal letters and applications for different purposes.
- write items related to the workplace (minutes, memoranda, notices, summaries reports; filling up of forms, preparing CVs, e-mail messages, etc.).
- taking/making notes from reference materials, recorded talks etc.

#### **LANGUAGE ITEMS**

The Core Course should draw upon the language items suggested for classes IX-X and delve deeper into their usage and functions. Particular attention may, however, be given to the following areas of grammar :

- the uses of different tense forms for different kinds of narration (e.g. media commentaries, reports, programmes, etc).
- the use of passive forms in scientific and innovative writings.
- converting one kind of sentence/clause into a different kind of structure as well as other items to exemplify stylistic variations in different discourses.
- modal auxiliaries - used based on semantic considerations.

#### **METHODS AND TECHNIQUES**

The techniques used for teaching should promote habits of self-learning and reduce dependence on the teacher. In general, we recommend a multi-skill, learner-centred, activity based approach, of which there can be many variations. The core classroom activity is likely to be that of silent reading of prescribed/selected texts for comprehension, which can lead to other forms of language learning activities such as role play, dramatization, group discussion, writing, etc. although many such activities could be carried out without the preliminary use of textual material. It is important that students be trained to read independently and intelligently, interacting actively with texts, with the use of reference materials (dictionaries, thesauruses, etc.) where necessary. Some pre-reading activity will generally be required, and the course books should

suggest suitable activities, leaving teachers free to devise other activities when desired. So also, the reading of texts should be followed by post reading activities. It is important to remember that every text can generate different readings. Students should be encouraged to interpret texts in different ways.

Group and pair activities can be resorted to when desired, but many useful language activities can be carried out individually.

In general, teachers should encourage students to interact actively with texts and with each other. Oral activity (group discussion, etc.) should be encouraged.

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**One Paper** **Time : 3 Hours** **Marks : 85**

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**UNIT-WISE WEIGHTAGE**

<b>Unit/Areas of Learning</b>	<b>Marks</b>
<b>Section A</b>	
A. Reading Skills	17
Reading unseen prose passages and note making	
<b>Section B</b>	
B. Advanced Writing Skills	29
<b>Section C (Prescribed Books)</b>	
(i) English Reader	26
(ii) Supplementary Reader	13

**SECTION - A**

**READING UNSEEN PASSAGES AND NOTE MAKING**

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**17 Marks** **40 Periods**

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Two unseen passage with a variety of questions including 03 marks for vocabulary such as word formation and inferring meaning and 04 marks for note-making.

The total length of the two passages will be between 950-1200 words. The passages will include two of the following :

- (a) **Factual Passages** e.g. instructions, descriptions, reports.
- (b) **Discursive Passage** involving opinion e.g. argumentative, persuasive or interpretative text.
- (c) **Literary Passage** e.g. extract from fiction, drama, poetry, essay or biography.

### SUMMARY

Unseen Passages	No. of Words	Testing Areas	Marks Allotted
1.	600-700	Short answer type questions to test local, global and inferential comprehension, Vocabulary	07 03 ] 10
2.	350-500	Note-making in an appropriate format Abstraction	04 03 ] 07

A passage of about 700-800 words carrying 10 marks and another passage of about 350-500 words carrying 07 marks.

1. A passage to test reading comprehension. The passage can be literary, factual or discursive. The length of the passage should be between 600-700 words. **10 marks**
2. A shorter passage of 350-500 words for note-making and abstraction. **07 marks**

### SECTION - B

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<b>Advanced Writing Skills</b>	<b>29 Marks</b>	<b>70 Periods</b>
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3. One out of two short compositions of not more than 50 words each e.g. advertisement and notices, designing or drafting posters, writing formal and informal invitations and replies. 5
4. A report or a factual description based on verbal input provided (one out of two) (100-125 words) 8
5. Writing one out of two letters based on verbal input. 8

**Letter types include :**

- (a) business or official letters (for making enquiries, registering complaints, asking for and giving information, placing orders and sending replies);

- (b) letters to the editor (giving suggestions on an issue)  
 (c) application for a job
6. One out of two compositions based on visual and/or verbal input (150-200 words). Output may be descriptive or argumentative in nature such as an article, or a speech. 8

**SECTION - C**

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<b>Text Books</b>	<b>39 Marks</b>	<b>100 Periods</b>
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**Prescribed Books :**

<b>English Reader</b>	<b>26</b>
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- |  |   |
|--|---|
| 7. One out of two extracts based on poetry from the text to test comprehension and appreciation  | 4 |
| 8. Three out of four short questions from the poetry sections to test local and global comprehension of text.  | 6 |
| 9. Four short answer questions based on the lessons from prescribed text. (2 x 4)  | 8 |
| 10. One out of two long answer type questions based on the text to test global comprehension and extrapolation beyond the set text. (Expected word limit about 125-150 words each) | 8 |

<b>Supplementary Reader</b>	<b>13</b>
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- |  |   |
|--|---|
| 11. One out of two long answer type question based on Supplementary Reader to test comprehension and extrapolation of theme, character and incidents (Expected word limit about 125-150 words) | 5 |
| 12. Four Short answer questions from the Supplementary Reader (2 x 4)  | 8 |

**Prescribed Books :**

1. Flemingo — Published by H.P. Board of School Education, Dharamshala.
2. Vistas — Published by H.P. Board of School Education, Dharamshala.

## 2. हिंदी ( ऐच्छिक )

उच्चतर माध्यमिक स्तर में प्रवेश लेने वाला विद्यार्थी पहली बार सामान्य शिक्षा से विशेष अनुशासन की शिक्षा की ओर उन्मुख होता है। दस वर्षों में विद्यार्थी भाषा के कौशलों से परिचित हो जाता है। भाषा और साहित्य के स्तर पर उसका दायरा अब घर पास-पड़ोस, स्कूल, प्रांत और देश से होता हुआ धीरे-धीरे विश्व तक फैल जाता है। वह इस उम्र में पहुँच चुका है कि देश की सांस्कृतिक, सामाजिक, राजनीतिक और आर्थिक समस्याओं पर विचार-विमर्श कर सके, एक ज़िम्मेदार नागरिक की तरह अपनी ज़िम्मेदारियों को समझ सके तथा देश और खुद के सही दिशा दे सकने में भाषा की ताकत को पहचान सके। ऐसे दृढ़ भाषिक और वैचारिक आधार के साथ जब विद्यार्थी आता है तो उसे विमर्श की भाषा के रूप में हिंदी की व्यापक समझ और प्रयोग में दक्ष बनाना सबसे पहला उद्देश्य होगा। किशोरावस्था से युवावस्था के इस नाजुक मोड़ पर किसी भी विषय का चुनाव करते समय बच्चे और उनके अभिभावक इस बात को लेकर सबसे अधिक चिंतित रहते हैं कि चयनित विषय उनके भावी कैरियर और जीविका के अवसरों में मदद करेगा कि नहीं। इस उम्र के विद्यार्थियों में चिंतन और निर्णय करने की प्रवृत्ति भी प्रबल होती है। इसी आधार पर वे अपने मानसिक, सामाजिक, बौद्धिक और भाषिक विकास के प्रति भी सचेत होते हैं और अपने भावी अध्ययन की दिशा तय करते हैं इस स्तर पर ऐच्छिक हिंदी का अध्ययन एक सृजनात्मक, साहित्यिक, सांस्कृतिक और विभिन्न प्रयुक्तियों की भाषा के रूप में होगा। इस बात पर भी बल दिया जाएगा कि निरंतर विकसित होती हिंदी के अखिल भारतीय स्वरूप से बच्चे का रिश्ता बन सके।

इस स्तर पर विद्यार्थियों में भाषा के लिखित प्रयोग के साथ-साथ उसके मौखिक प्रयोग की कुशलता और दक्षता का विकास भी ज़रूरी है। प्रयास यह भी होगा कि विद्यार्थी अपने बिखरे हुए विचारों और भावों की सहज और मौलिक अभिव्यक्ति की क्षमता हासिल कर सके।

इस पाठ्यक्रम के अध्ययन से (1) विद्यार्थी अपनी रूचि और आवश्यकता के अनुरूप साहित्य का गहन और विशेष अध्ययन जारी रख सकेंगे। (2) विश्वविद्यालय स्तर पर निर्धारित हिंदी साहित्य से संबंधित पाठ्यक्रम के साथ सहज संबंध स्थापित कर सकेंगे। (3) लेखन कौशल के व्यावहारिक और सृजनात्मक रूपों की अभिव्यक्ति में सक्षम हो सकेंगे। (4) रोजगार के किसी भी क्षेत्र में जाने पर भाषा का प्रयोग प्रभावी ढंग से कर सकेंगे। और (5) यह पाठ्यक्रम विद्यार्थी को संचार तथा प्रकाशन जैसे विभिन्न-क्षेत्रों में अपनी क्षमता आजमाने के अवसर प्रदान कर सकता है।

### उद्देश्य

- सृजनात्मक साहित्य की सराहना, उसका आनंद उठाना और उसके प्रति सृजनात्मक और आलोचनात्मक दृष्टि का विकास।
- साहित्य की विविध विधाओं (कविता, कहानी, निबंध आदि) महत्वपूर्ण कवियों और रचनाकारों, प्रमुख धाराओं और शैलियों का परिचय कराना।

- ❑ भाषा की सृजनात्मक बारीकियों और व्यावहारिक प्रयोग का बोध तथा उसका संदर्भ और समय के अनुसार प्रभावशाली ढंग से मौखिक और लिखित अभिव्यक्ति कर सकना।
- ❑ विभिन्न ज्ञानानुशासनों के विमर्श की भाषा के रूप में हिंदी की विशिष्ट प्रकृति एवं क्षमता का बोध कराना।
- ❑ साहित्य की प्रभावकारी क्षमता का उपयोग करते हुए सभी प्रकार की विविधताओं (धर्म, जाति, लिंग, वर्ग, भाषा आदि) एवं अंतरों के प्रति सकारात्मक और संवेदनशील रवैये का विकास कराना।
- ❑ देश-विदेश में प्रचलित हिंदी के रूपों से परिचित कराना।
- ❑ संचार-माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी की प्रकृति से अवगत कराना और नवीन विधियों के प्रयोग की क्षमता का विकास करना।
- ❑ साहित्य की व्यापक धारा के बीच रखकर रचनाओं का विश्लेषण और विवेचन करने की क्षमता हासिल करना।
- ❑ विपरीत परिस्थितियों में भी भाषा का इस्तेमाल शांति के साथ करना।
- ❑ अमूर्त विषयों पर प्रयुक्त भाषा का विकास तथा कल्पनाशीलता और मौलिक चिंतन के लिए प्रयोग करना।

### पाठ्यसामग्री और पाठ्य बिंदु

1. काव्य और गद्य संग्रह अन्तरा भाग-2 में प्रमुख रचनाकारों द्वारा लिखित विविध विधाओं से संबद्ध काव्य और गद्य (लगभग 20 पाठ) रचनाएँ होंगी। ये रचनाएँ रचनाकारों और विधाओं की विभिन्न शैलियों से विद्यार्थी को परिचित कराएँगी। रचनाओं में लेखक-परिचय में उनकी साहित्यिक पृष्ठभूमि, साहित्यिक प्रवृत्ति संक्षेप में दी जा सकती है। प्रश्न-अभ्यासों में ऐसे प्रश्न होंगे जो विद्यार्थी की सृजनात्मकता और मौलिकता का विकास कर सके। रचनाओं की प्रस्तुति इस प्रकार होगी कि विद्यार्थी में साहित्य के विकासात्मक स्वरूप ही समझ बन सके।
2. ऐच्छिक पाठ्यक्रम के लिए पूरक पठन का प्रावधान-साहित्य की विविध विधाओं की रचनाओं का एक संकलन (अन्तराल भाग-2)
3. रचनात्मक और व्यावहारिक लेखन पर आधारित एक पुस्तक (कक्षा XI और कक्षा XII दोनों के लिए) अभिव्यक्ति और माध्यम। इस पुस्तक में निम्न विषय सम्मिलित होंगे-  
सर्जनात्मक लेखन-कविता, नाटक, डायरी, कहानी  
सूचना तंत्र के लिए लेखन-  
(क) प्रिंटमाध्यम (समाचार पत्र और पत्रिका)  
वृत्त लेखन, पुस्तक-समीक्षा, साक्षात्कार, सामाजिक विषयों पर लेखन  
(ख) इलेक्ट्रॉनिक माध्यम-  
रेडियो-दूरदर्शन के लिए लेखन, समाचार लेखन  
व्यावहारिक लेखन- प्रतिवेदन, कार्यसूची, कार्यवृत्त

(क) अपठित बोध ( गद्यांश और काव्यांश बोध )	(8 + 8)	16
(ख) रचनात्मक तथा व्यावहारिक लेखन		18
(ग) अंतरा, भाग-2 ( काव्य भाग )		18
( गद्य-भाग )		17
पूरक पुस्तक, ( भाग-2 )		16
		<hr/>
		85

क. अपठित बोध : ( गद्यांश और काव्यांश बोध )	16
1. गद्यांश बोध: गद्यांश पर आधारित चार लघूत्तरात्मक प्रश्न तथा शीर्षक का चुनाव	8
2. काव्यांश बोध: काव्यांश पर आधारित चार लघूत्तरात्मक प्रश्न	8
ख. रचनात्मक तथा व्यावहारिक लेखन :	18
सृजनात्मक लेखन से संबंधित दो प्रश्न	(5 + 5) 10
3. निबंध	
4. पत्र	
5. व 6. व्यावहारिक लेखन पर दो प्रश्न	(4 + 4) 8
ग. अंतरा, भाग-2 ( 18 + 17 अंक )	35
काव्य भाग :	18
7. सप्रसंग व्याख्या (दो में से एक)	03
8. कविता के कथ्य पर तीन प्रश्न	(2 + 2 + 2) 6
9. कविता के काव्य-सौंदर्य पर एक प्रश्न	4
10. किसी एक कवि का परिचय -	
<input type="checkbox"/> जीवन परिचय	02
<input type="checkbox"/> रचना-परिचय	02
<input type="checkbox"/> काव्य-शिल्प की विशेषता	01
गद्य भाग :	17
11. सप्रसंग व्याख्या (तीन में से दो)	(4 + 4) 08
12. पाठों की विषय वस्तु पर चार में से तीन प्रश्न	(1½ + 1½ + 1½) 4½
13. दिए गए दो लेखकों में से किसी एक का परिचय (जीवन-परिचय, रचना-परिचय, भाषा-शिल्प की विशेषताएँ)	(1½ + 1½ + 1½) 4½



**पूरक पुस्तक : ( भाग-2 )**

**16**

14. विषय वस्तु पर आधारित (तीन में से दो प्रश्न) (4 + 4) 8

15. विविध विधाओं पर आधारित दो बोधात्मक प्रश्न (4 + 4) 8

- निर्धारित पुस्तकें :-**
- (1) अंतरा भाग-2 (पाठ्य पुस्तक) (हि. प्र. स्कूल शिक्षा बोर्ड द्वारा प्रकाशित)
  - (2) पूरक पुस्तक भाग-2 (हि. प्र. स्कूल शिक्षा बोर्ड द्वारा प्रकाशित)  
(विविध विधाओं का संकलन)
  - (3) अभिव्यक्ति और माध्यम (हि. प्र. स्कूल शिक्षा बोर्ड द्वारा प्रकाशित)

### 3. MATHEMATICS

The syllabus in the subject of Mathematics has undergone changes from time to time in accordance with growth of the subject and emerging needs of society. Senior Secondary stage is a launching stage from where the students go either for higher academic education in Mathematics or for professional courses like engineering, physical and Bioscience, commerce or computer applications. The present revised syllabus has been designed in accordance with National Curriculum Frame Work 2005 and as per guidelines given in Focus Group on Teaching of Mathematics 2005 which is to meet the emerging needs of all categories of students. Motivating the topics from real life situations and other subject areas, greater emphasis has been laid on application of various concepts.

#### OBJECTIVES

The broad objectives of teaching Mathematics at senior school stage intend to help the pupil :

- c to acquire knowledge and critical understanding particularly by way of motivation of visualization of basic facts, concepts, terms, principles and symbols and mastery of underlying processes and skills.
- c to feel the flow of reasons while proving a result or solving a problem.
- c to apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method.
- c to develop positive attitude to think, analyze and articulate logically.
- c to develop interest in the subject by participating in related competitions.
- c to acquaint students with different aspects of mathematics used in daily life.
- c to develop an interest in students to study mathematics as a discipline.
- c to develop awareness of the need for national integration, protection of environment observance of small family norms, removal of social barriers, elimination of sex biases.
- c to develop reverence and respect towards great Mathematicians for their contribution to the field of Mathematics.

Units	Marks
I. RELATIONS AND FUNCTIONS	8
II. ALGEBRA	11
III. CALCULUS	38
IV. VECTORS AND THREE-DIMENSION GEOMETRY	15
V. LINEAR PROGRAMMING	5
VI. PROBABILITY	8
<b>TOTAL</b>	<b>85</b>

### UNIT I. RELATIONS AND FUNCTIONS

**1. Relations and Functions : (10) Periods**

Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function. Binary operations.

**2. Inverse Trigonometric Functions : (12) Periods**

Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

### UNIT II. ALGEBRA

**1. Matrices : (18) Periods**

Concept, notation, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

**2. Determinants : (20) Periods**

Determinant of a square matrix (up to  $3 \times 3$  matrices), properties of determinants, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

### UNIT III. CALCULUS

**1. Continuity and Differentiability : (18) Periods**

Continuity and differentiability, derivative of composite functions, chain rule. derivatives of inverse trigonometric functions, derivative of implicit function. Concept of exponential and logarithmic functions and their derivative. Logarithmic differentiation. Derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretations.

**2. Applications of Derivatives : (10) Periods**

Applications of derivatives : rate of change, increasing/decreasing functions, tangents & normals, approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

**3. Integrals : (20) Periods)**

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, only simple integrals of the type

$$\frac{dx}{x^2 - a^2}, \frac{dx}{\sqrt{x^2 - a^2}}, \frac{dx}{\sqrt{a^2 - x^2}}, \frac{dx}{\sqrt{ax^2 + bx^2 + c}}, \frac{dx}{\sqrt{ax^2 - bx + c}}$$

to be evaluated.

Definite integrals as a limit of a sum, Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

**4. Applications of the Integrals : (10) Periods**

Applications in finding the area under simple curves, especially lines, areas of circles/parabolas/ellipses (in standard form only), area between the two above said curves (the region should be clearly identifiable).

**5. Differential Equations : (10) Periods**

Definition, order and degree, general and particular solutions of a differential equation, Formation of differential, equation whose general solution is given, Solution of differential equations by method of separation of variables, homogenous differential equations of first

order and first degree. Solutions of linear differential equation of the

type :  $\frac{dx}{dy} + p(x) y = q(x)$ , where  $p(x)$  and  $q(x)$  are functions of  $x$ ,

#### **UNIT IV. VECTORS AND THREE-DIMENSIONAL GEOMETRY**

**1. Vectors : (12) Periods**

Vectors and scalars, magnitude and direction of a vector. Direction cosines/ratios of vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors). position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors.

**2. Three - Dimensional Geometry : (12) Periods**

Direction cosines/ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines, (ii) two planes. (iii) a line and a plane. Distance of a point from a plane.

#### **UNIT V. LINEAR PROGRAMMING**

**1. Linear Programming : (12) Periods**

Introduction, definition of related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems, mathematical formulation of L.P. problems, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optional feasible solutions (up to three non-trivial constraints).

#### **UNIT VI. PROBABILITY**

**1. Probability : (18) Periods**

Multiplication theorem on probability. Conditional probability, independent events, total probability, Baye's theorem, Random variable and its probability distribution, mean and variance of haphazard variable. Repeated independent (Bernoulli) trials and Binomial distribution.

#### **PRESCRIBED BOOKS :**

1. Mathematics Part-I Published by H.P. Board of School Education Dharamshala.
2. Mathematics Part-II Published by H.P. Board of School Education Dharamshala.

## 4. HOME SCIENCE

Home Science as a discipline aims to empower learners by developing understanding of four different areas, namely :

- c Food and Nutrition
- c Human Development
- c Community Resource Management and Extension
- c Fabric and Apparel Science

The subject helps students to understand changing needs of Indian society, academic principles as well as develop professional skills.

This would make them competent to meet challenges of becoming a responsible citizen.

### OBJECTIVES

The Syllabus at Senior Secondary level develops in the learners an understanding that the knowledge and skills acquired through Home Science facilitates development of self, family and community. It endeavours to-

1. acquaint learners with the basics of human development with specific reference to self and child.
2. help develop skills of judicious management at various resources.
3. enable learners to become alert and aware consumers.
4. impart knowledge of nutrition and lifestyles to enable prevention and management of disease.
5. inculcate healthy food habits.
6. help develop understanding of textiles for selection and care of clothes.
7. develop skills of communication to assist in advocacy and dissemination of knowledge to community.

## THEORY

One Paper (Theory)	Time : 3 hours	60 marks
UNIT		MARKS
I. Know Little Children		15
II. Nutrition for Self and Family (contd.)		15
III. Money Management and Consumer Education		14
IV. My Apparel		14
V. Things I can do with my Home Science Training		2
<b>TOTAL</b>		<b>60</b>

### UNIT I : KNOW LITTLE CHILDREN (0-3 YEARS)

(Periods 34)

**Some specific characteristics** : Physical and motor-height weight and body proportions; motor development during 0-3 months, 3-6 months, 6-9 months, 9-12 months and 1-3 years (milestones only); social and emotional developments; recognition of people around; socialization, expression of emotions; cognitive development; learning through concrete operations and language development.

**Protection from preventable diseases** : immunization - concept and types (natural & acquired), breast feeding (one of the ways to develop natural immunity); Immunisation Chart; Symptoms and incubation period of childhood diseases-TB, DPT, polio, measles, cholera, diarrhoea.

**Special needs of disadvantaged and disabled children-socially disadvantaged, physically handicapped (partially blind & deaf, affected/missing limb)** : Characteristics & needs

**Substitute care at home and outside** : siblings, grand parents, neighbours creche, day care centres etc. Integrated Child Development Scheme (ICDS) objectives & functions.

### UNIT II : NUTRITION FOR SELF AND FAMILY

(Periods 36)

**Planning meals for the family** : meaning and importance of meal planning, principles and factors affecting meal planning, planning meals for the family; keeping in mind the needs of individual members, including children, pregnant women, lactating mother, members suffering from fever or diarrhoea; role and preparation of ORS.

**Ways to ensure good health for the family** : using safe drinking water, importance of potable water for good health, qualities of safe drinking water,

household methods of making water safe for drinking; boiling, filtering, use of alum and chlorine tablet role of hygiene for food handlers at home level. Safety against food adulteration, definition and meaning of food adulteration as given by PFA; common adulterants present in cereals, pulses, milk and milk products, fats and oils, sugar, jaggery, honey, spices and condiments. III effects of some of the adulterants present in the foods : kersari dal, metanil yellow, argemone seeds.

### **UNIT III : MONEY MANAGEMENT AND CONSUMER EDUCATION**

(Periods 36)

**Family Income** : various sources of family income : (i) money income, (ii) real income, direct and indirect, supplementing family income-need & ways; need & procedure for keeping household accounts.

**Savings and investment** : meaning and importance of savings; ways/methods of investment-banks, post-office, LIC Units, PPF, PF, basis for selection of method of investment-risk, security, profit, tax saving

**Consumer Protection & Education** : meaning, problems faced by consumer, Consumer Protection Act (1986) and Services; Consumer aids-levels, Standardization marks, advertising, guidebook/leaflets, Consumer redressal forum.

### **UNIT IV : MY APPAREL**

(Periods 35)

**Clothing and its relation to personality** : Elements of line, colour, texture, (i) elements of design-balance, rhythm proportion, harmony emphasis; factors that influence the selection of clothes : personality, age, climate occupation, figure, occasion, fashion, selection and purchase of fabrics. Purpose, quality, cost season, reliable shop. Quantity required (length and breadth).

Checking size and quality in ready-made garments, need and criteria: seams, hem, plackets, fasteners, workmanship, design, drape.

**Care of clothes** : General principles and precautions to be followed while removing of stains and washing : cleansing agents- soaps and detergents (basic differences), Storage of clothes.

### **UNIT V : THINGS I CAN DO WITH MY HOME SCIENCE EDUCATION**

(Period 3)

Application of knowledge of Home Science in everyday life.

Usefulness of some of the skills learnt here for supplementing family income.



Skills learnt here can be gainfully used for employment (self-employment apprenticeship).

Further training required to make this field a career, various sources and facilities available for training.

## PRACTICALS

Times : 3 Hours

25 Marks

Unit	Marks
I. Know Little Children	2
II. Nutrition for Self and Family (contd.)	10
III. Money Management and Consumer Education	2
IV. My Apparel	5
V. Things I can do with my Home Science Trainig	–
Record	4
Viva	2

### UNIT I : KNOW LITTLE CHILDREN (0-3 YEARS)

(Periods 2)

**Activity** : Observe a child in neighbourhood or at home for various milestones of physical and motor developments and prepare a chart.

**Practical** : Make an interview schedule for working mother.

**Activity** : Interview three mothers working outside the home to find out their arrangements of substitute care for their children (0-3 yrs.) in their absence.

Practical-Prepare of chart of mile stones.

**Practical** : Prepare a chart for immunization of a child.

### UNIT II : NUTRITION FOR SELF AND FAMILY

(Periods 22)

**Practicals** : Plan meals for the family and carry out modifications to suit individual needs including persons suffering from fever or diarrhoea and for pregnant and lactating mother. Prepare and serve one dish.

**Practicals** : Preparation of oral dehydration solution.

**Practicals** : Simple test for checking adulteration in :

- (i) Cerals
- (ii) Pulses

- (iii) Milk and milk products
- (iv) Tea leaves
- (v) Dhania Powder
- (vi) Red Chillies
- (vii) Haldi Powder
- (viii) Gur (Jaggery)
- (ix) Black Pepper (Whole)

### **UNIT III : MONEY MANAGEMENT AND CONSUMER EDUCATION**

**(Periods 8)**

**Activity :** Open account. Find out and report how an account is opened in a bank and post office. Collect and fill forms.

**Activity :** Read and evaluate labels of any four household item bearing different standardization marks.

**Practical :** Fill bank/post office forms.

**Practical :** Prepare one label each for four household items/products bearing different standardization marks.

### **UNIT IV : MY APPAREL**

**(Periods 42)**

**Practical : Make sample of**

(a) basic stitches and seams :

- (i) Running stitch
- (ii) Hemming
- (iii) Blind stitch
- (iv) Inter locking

(b) Fasteners - Buttons and hooks.

(c) Patch work

**Practical :** Examine quality in ready-made garments.

**Practical :** Relative effect of temperature of water on the clothes during the process of washing clothes (cold, lukewarms hot). Draw conclusions and how this knowledge is helpful).

**Practical : Removal of stains of :**

- (i) Tea stain
- (ii) Coffee stain

- (iii) Curry
- (iv) Grease
- (v) Ink
- (vi) Ball point ink
- (vii) Lipstick
- (viii) Blood

**Practical :** Make a soap/detergent (liquid/powder/cake)

**INSTRUCTIONS TO THE EXAMINERS :**

**GROUP A**

1. Two marks are allotted to Q. No. 1 in group A and Know Little Children. Any question can be selected from the list of questions given in Group A. 2 marks for correct chart of milestones/immunisation/interview schedule for working mothers.

**GROUP B**

2. **Eight marks are allotted to Q. No. 2 in Group 2 in Group B on 'Nutrition for Self Family'. Any question can be selected from the list of questions given in Group B Part (a). Further sub-division of eight marks :**

- (i) Planning and selection of foods according to specific requirements 2 marks
- (ii) Preparation of one dish 3 marks
- (iii) Service 2 marks
- (iv) Work place and method of work 1 mark

3. **Two marks are allotted for question No. 3 from Group B Part (b & c). Further Sub-division of two marks :**

- (i) Preparation of oral dehydration solution 2 marks

**OR**

- Detection of adulterant
- 1 mark for correct test 1 mark
- 1 mark for correct identification of adulterant. 1 mark

4. **Two marks are allotted to Q. No. 4 from Group C on money management and consumer education. Further sub-division of two marks :**

- Selection of correct form 1 mark

Correct filling of form 1 mark

**OR**

Preparation of label 1 mark

Correct quality mark according to the product 1 mark

5. Three marks are allotted to Q. No. 5 from Group D part (a) on 'My Apparel', Three marks for checking of quality of ready-made garments.

**OR**

Three marks for correct reporting of effect of temperature on a particular cloth. 3 marks

6. Two marks are allotted to Q. No. 6 from Group D (Part d+e). Further sub-division of two marks :

Selection of correct detergent 1 mark

Removal of stain – using chemicals/detergents/bleach 1 mark

**OR**

Selection of correct ingredients 1 mark

Preparation of soap/detergent 1 mark

7. Class Record 4 marks

8. Viva-questions should be related to practicals conducted during the examination. 2 marks

**GENERAL INSTRUCTIONS :**

- A. Out of the several alternatives given in each group of questions only one is to be assigned to the Group.  
B. Preparation of dish means-methodical procedure, economical use of ingredient and finished product.  
C. Neat work.  
D. In all six questions are to be selected.

1 from Group A 2 Marks

2 from Group B 8 + 2 10 Marks

1 from Group C 2 Marks

2 from Group D 3 + 2 5 Marks

Record 4 Marks

Viva 2 Marks

**TOTAL 25 Marks**

**LIST OF QUESTIONS :**

**I. List of questions regarding the experiments from Group A (Unit I parts a, b, and c) 2 marks**

1. Prepare a chart to record the milestone of physical development of child from 0-1 year.
2. Prepare a chart to record the milestone of language development of a child from 0-3 years.
3. Prepare a chart to record the milestones of motor development of a child from 0-3 years.
4. Prepare an immunisation chart from a child from 0-3 years.
5. Prepare an interview schedule for a working mother to find out her arrangement for her pre-school child in her absence.

**II. List of questions regarding the experiments from Group B (Unit II Part a) 8 marks**

1. **Plan meal for a family and suggest modifications for :**

a lactating mother

*or*

a pregnant woman

*or*

a person suffering from diarrhoea

*or*

a person suffering from fever

Prepare one of the modified dishes.

**III. List of questions regarding experiments from Group B (Unit II Parts b & c) 2 marks**

1. Prepare oral dehydration solution.
2. **Test adulteration and identify the adulterant in one of the following :**
  - (i) Cereals
  - (ii) Pulses
  - (iii) Milk and milk products
  - (iv) Tea leaves
  - (v) Dhania Powder
  - (vi) Gur (Jaggery)
  - (vii) Haldi Powder
  - (viii) Black pepper (Whole)

**IV. List of questions regarding the experiments from Group C (Unit III parts a and b). 2 marks**

**1. Select and fill form for one of the following :**

- (a) To withdraw small amount of money.
- (b) To withdraw large amount of money.
- (c) To open account in post office/Bank.
- (d) To deposite money in cash.

**2. Prepare label for any food product with proper quality mark.**

**V. List of questions regarding experiments from Group D (Unit IV parts a, b and c) 3 marks**

**1. Make sample of any one of the following :**

- (i) Hemming
- (ii) Running stitch
- (iii) Blind stitch
- (iv) Inter locking
- (v) Fastners-Button or hook.

**1. Examine two points (i.e. seam fastness, patch, embroidery finishing of edges) in a readymade garment and write your observations.**

**2. Test the effect of temperature of water (hot, lukewarm and cold on cotton/wool/silk/nylon/terricot cloth) and record your observations.**

**VI. List of questions regarding experiments from Group D (Unit IV Parts c and d). 2 marks**

**1. Remove one of the following stains from a cotton cloth :**

- (i) Tea stain
- (ii) Coffee stain
- (iii) Curry stain
- (iv) Grease
- (v) Ink
- (vi) Ball point ink
- (vii) Lipstick
- (viii) Blood

2. Prepare liquid soap.
3. Prepare powder detergent.

**LIST OF ARTICLES TO BE SUPPLIED BY THE CENTRE :**

1. Cooking utensils for each candidate-Dekchi with cover, Karahi, Tawa, Chakla-Belen, Karchi, Spoons, Frying Spoons, Fry pan, Stove or Gas Burner, Match Box, Pressure Cooker.
2. Sample of adulterated food.
3. Chemicals and reagents for detection of adulteration.
4. Sample of stain.
5. Reagents for removal of stains.
6. Dry and fresh ingredient according to the question paper set e.g. besan, dal, vegetables, milk, spices etc.
7. Different types of bank and post-office forms.
8. Drawing sheets and plain papers.
9. Gum.
10. Samples of different types of cloth (to test effect of temperature of water).
11. Ingredients for preparation of soaps and detergents.
12. Water arrangements.

**LIST OF ARTICLES TO BE BROUGHT BY THE CANDIDATES :**

1. Serving utensils and cutlery
2. Table, cloth, napkin, tray
3. Tray
4. Painting colours and brushes, felt pen, eraser, scale, scissors
5. Cloth (10 cm × 10 cm) (for sample of stitches)
6. Any readymade garment (may be used)
7. Needle and thread
8. Hooks and buttons
9. Dusters – 2
10. Newspapers – 2 sheets
11. Class records or sessional work.

**BOOKS RECOMMENDED :**

Any book confirming to the Syllabus.

## 5. INFORMATICS PRACTICES

### LEARNING OBJECTIVES :

1. To understand the application development environment.
2. To gain programming Skills in GUI Programming Tool and Database Creation in RDBMS.
3. To design, program and develop database application using GUI Programming Tool and RDBMS.
4. To learn database connectivity using Visual Basic as Front-end tool.
5. To develop ability to use the Open Source Technology.

### COMPETENCIES :

1. Student will become familiar with Application Development.
2. Student will be able to develop & debug programs Independently.
3. Student can use SQL for storing and retrieving data from the RDBMS.
4. Ability to arrive at a normalized design of tables and other database objects in RDBMS.
5. Student will be able to develop a Client Server Application using Front end and Back end tools.

**Duration : 3 hours**

**Total Marks : 60**

Unit No.	Unit Name	Marks
1.	BUSINESS COMPUTING	8
2.	PROGRAMMING	26
3.	RELATIONAL DATABASE MANAGEMENT SYSTEM	26
		<b>60</b>

### UNIT 1 : BUSINESS COMPUTING

Introduction to Open Source based software :

**Terminology** : OSS, FLOSS, GNU, FSF, OSI, W3C.

**Definitions** : Open Source Software, Freeware, Shareware, Proprietary software, Localisation, UNICODE

**Software** : Linux, Mozilla web browser, Apache server, MySQL, Postgres, Pango, Open Office, Tomcat, PHP, Python.



**Websites** :www.sourceforge.net, www.openrdf.org, www.opensource.org, www.linux.com, www.linuxindia.net, www.gnu.org.

General concepts, User interfaces (Front End), Underlying Database (Back End), Integration of User Interface and Database;

More application areas of Databases :

Inventory control, Financial Accounting, Pay-Accounting System, Invoicing Management System, Personal Management System / HRD System, Fees Management System, Result Analysis System, Admission Management System, Income Tax Management System;

Advanced Program Development Methodology; System Development Life Cycle, Relational Database Concept, Relational Database, Management System, Data Models (Entity Relationship Model), Entity and Entity Set, Attributes (Single, Composite and Multi-Valued), Relationship (One-to-One, One-to-Many and Many-to-Many), Entity Relationship Modeling Conventions, Communicating with as RDBMS using SQL, Relational Database Management System, SQL Statements, About programming language in SQL.

Data Dictionary, Data Warehousing, Data Mining, Meta Data;

Object Modeling; Introduction to object oriented modeling using Unified Modeling Language (Concepts only).

Client Server Computing : Concept of Client Server Computing.

## **UNIT 2 : PROGRAMMING : VISUAL BASIC**

**Review of Class XI :**

### **PROGRAMMING FUNDAMENTALS**

**Modules** : Modules in Visual Basic-Form Modules, Standard Modules, and Class Modules;

**Procedures** : Procedures (General, Event, Function, Property);

### **CONTROL STRUCTURES :**

Revision of Decision Structure – IF, IF-THEN-ELSE, Select Case;

Revision of Looping Structure-Do While...Loop, Do...Loop While, for....Next, For Each....Next;

**Functions** : Concept of Functions, Defining and Use of User Defined Function, function to perform calculations, Parametrized Functions;

Library Functions (System Functions)

**String Function** : Space( ), Str( ), Right( ), Left( ), Mid( ), InStr( ), Len( ), Ltrim( ), Rtrim( ), Ucase( ), Lcase( ), String( );

**Numeric Function** : Sgn( ), Val( ), Int( );

**Time-Related Function** : Now( ), Time( ), Minute( ), Month( );

**Miscellaneous Function** : MsgBox( ), InputBox( );

**Types of forms** : Single Document Interface (SDI) and Multiple Document Interface (MDI);

**MDI Applications** : Creating MDI from and Child form, Arranging Child Forms;

Accessing database from ORACLE using ODBC or ADO or OLEDB; to connect with database.

**Data Control** : Accessing Data with the Data Control, Using Data-Aware Controls, Using Data Control Properties – Database Name, Exclusive, Options, Read Only, Record Source, Data Control Methods – Refresh, Update Controls, Update Record;

**Bound Controls** : Adding Bound Text and Bound Label Controls. Data-Bound list Boxes, Grids, and Sub-Forms.

**ADO (Active X Data Objects)** : Connection Object, Command Object, and Record Set Object, Special ADO Properties – Connection String (using single table), Command Text, Command Types, Cursor Locations, Cursor Types, Lock Types, Mode Types.

**ADO Data Control** : Simple Data linking using ADO Data Control Methods. ADO Data Control Events.

### **UNIT 3 : RELATIONAL DATABASE MANAGEMENT SYSTEM**

#### **Review of RDBMS from Class XI**

#### **DATABASE FUNDAMENTALS**

Concept of Database Transaction, Committing a Transaction, Concept of “All or None” in a Transaction, Network Protocols Required (TCP/IP) for Data Communication, Stored Procedures, Concept of Database Fragmentation and Distribution Databases.

#### **PL/SQL (PROGRAMMING LANGUAGE IN SQL)**

**Importance of Writing Procedures, Declaring Variables** : About PL/SQL, PL/SQL Block Structure, Program Constructs, Use of Variables, Handling Variables in PL/SQL, Types of Variables, Declaration, Naming Rules, Assigning Values to Variables. Initialization and Keywords, Scalar Data types,

Base Scalar Data Types, Scalar Variable Declaration, % TYPE attribute: for variable declaration, Declaring Boolean Variables, PL/SQL Record Structure, Referencing Non-PL/SQL variables, DBMS\_OUTPUT.PUT\_LINE.;

**Writing Executable Statements** : PL/SQL Block Syntax and Guidelines, SQL functions in Code, SQL Functions in PL/SQL, PL/SQL Functions, Data type Conversion, Nested Blocks and Variable Scope, Operators in PL/SQL, Using Bind Variables, Programming Guidelines, Determining Variable Scope, SQL Statements in PL/SQL, Retrieving data in PL/SQL. Manipulating Data using PL/SQL, Inserting Data, Updating Data, Deleting Data, Naming Conventions, Commit and Rollback Statements, SQL Cursor, and Cursor Attributes;

**Writing Control Structures** : Controlling PL/SQL Flow of Execution, IF statements, IF-THEN-ELSE Statement Execution Flow, IF-THEN-ELSEIF Statement Execution Flow, Building Logical Conditions, Logic Tables, Boolean Conditions, Iterative Control; LOOP Statement, Basic Loop, FOR Loop, While Loop;

**Creating Procedures** : Overview of Procedures, Syntax for Creating Procedures, Developing Stored Procedures and its Advantages, Creating a Stored Procedure, Procedure Parameter Modes, Creating Procedures with Parameters, IN and OUT parameters and Usage, DEFAULT Option for Parameters, Removing Stored Procedures;

**Writing Cursors** : Introduction to Cursors (Implicit and Explicit), Explicit Cursor Functions, Controlling Explicit Cursors, Declaring, Opening and Closing the Cursor, Fetching data from the Cursor, Explicit Cursor Attributes (%ISOPEN, %NOTFOUND, %ROWCOUNT), controlling multiple fetches, Cursors and Records, Cursor FOR Loops, Cursor FOR Loops using Sub Queries.

**Triggers** : Types of Triggers : Row-Level Triggers, Statement Level Triggers, BEFORE and AFTER Triggers, INSTEAD of Triggers, Valid Trigger Type, Trigger Syntax, Combining Trigger Types, Enabling and Disabling Trigger, Replacing Trigger, Dropping a Trigger.

**Development of Data Base Applications (Application Domain)** : Student database for School, Employee database for a company, Library Database for Library Student database management system for school, Employee database management system for a company, Library Database management system for Library, Railway Reservation System, Hotel Reservation, Inventory Control System;

## PRACTICAL

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**Duration : 3 Hours**

**Total Marks : 25**

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<b>I. HANDS ON EXPERIENCE :</b>	<b>13</b>
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A problem should be given covering the following features.

1. Start a Standard Exe Project and it should contain MDI form with Menu Bar and Tool Bar (with Images).
2. Table structure in the database for the application with Constraints (Primary Key, Foreign Key, Check, and Unique).
3. A New Form to place an ADO component on it, for accessing data in table Stored Procedure to perform transactions/conditional update.
4. Trigger (any)
5. Making executable files of project.

<b>2. RECORDS</b>	<b>04</b>
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1. Create an Application using Visual Basic for Students Information System Having a Student Table in Relational Database and a Student Data Form in Visual basic to enter data into the database.
2. Create an Application using Visual Basic for Criminals Information System Having a Criminal Table in Relational Database and a Criminals Data Entry Form in Visual Basic to enter data into the database. The Data entry form should contain form level and Field level checks using procedures.
3. Create an Application using Visual Basic for Nursing Home Automation System having Linked tables (for example : Patient, Employee, Bill) in Relational Database and a required Data Entry Forms in Visual Basic to enter data into the database. The Data entry form should contain form level and Field level checks using procedure. Use of Bound Controls and Sub-Forms are to be encouraged in this application.
4. Create a database handling application for Student Expert System. Following features are to be incorporated in the application :
  - (a) **Create following linked tables of Student in the Relational Database.**
    - (i) Student Master : containing general information about the student.
    - (ii) Student Detail : Table to store data having details such as Class, Section, Marks and other relevant information.

- (iii) Student Fee Detail : Should contain details like Financial Year, Class, Fee, Fee Status (such as Paid and UnPaid).
- (iv) Accounts : General Accounts table to store fee collection details such as received from, date, chequeno and other relevant information.
- (b) The database should have Procedures to update data, Insert data and to perform other database transactions.
- (c) Database triggers should also be defined wherever automatic data modification is required.
- (d) Visual basic forms for data entry.
- (e) Procedures in Visual Basic to perform Database Transactions and Commit changes made.
- (f) Reporting tool to make the MIS reports, required to analyse data entry.

### **3. PROJECT**

**04**

The following case study is to be adopted for the development of project.

A book publishing company BR Publishing Group is in existence since 1950. They were untouched with latest technological inventions. They are still using a traditional approach of book keeping and accounts maintenance.

A company, Nova technology, introduced themselves as system integrator and developers who can change existing working system into the latest concept of paper less office. They wanted few details from the company about its working. The details are as under :

- Name of the company is BR Publishing Group.
- The company is having 20 employees. One Managing Director, Two Managers (Work manager and marketing Manager) and 17 employees who work as a team for book publishing.
- The company publishes book in different Indian languages and different topics.
- Every book involves an Author and its detail.
- The book is sold in the market at a variable discount options.  
Book Seller : 30%  
Schools : 20%  
Customer : 15%
- The company is maintaining information about Author and all its details such as Personal Information, Royalty etc.

- The company manages information about the book such as Book Name, Author, Quantity Sold, Quantity in Stock, etc.
- The company maintains Customer (Book Sellers) information, Books Sold, Subject, Language, and Amount Pending etc.
- Reports are required at different levels, such as
- Customer Listing
- Book Listing
- Language Wise Book Listing
- Topic Wise Book Listing
- Pending Amount Listing (Customer Wise, Book Wise)
- Author Royalty Detail
- Bill Generation etc.

As a developer you are required to design the project and develop it as per customer needs (Developer can also visit a publishing company to collect customer details and live data). Suitable assumptions can be made during implementation. A proper normalized database is to be maintained in the RDBMS and the front end is to be developed using advanced interface controls. User-friendly interface is to be generated.

**Note** :— This is a sample case study. Similar type of cases can be developed on different application areas such as Library, Hospital, Transport Authority, Transporters, Wholesale Merchants, and Chemist Shops etc. The cases to be developed should preferably be obtained from live situations.

#### 4. VIVA VOCE

04

Five questions from topics covered in the syllabus.

#### REFERENCE BOOK

- Mastering Visual Basic 6 – Petroustos (BPB).
- Programming with Visual Basic 6 - Bay Ross (BPB).
- Visual Basic 6 Complete - Sybex (BPB).
- Successful Projects in Visual Basic – Christopher (BPB).
- **Oracle 8** : The Complete Reference – George Koch, Kevin Loney (TMHP).
- Visual Basic Black Book (IDG).

- Programming in Visual Basic - McBride (BPB).
- Learn Oracle 8i - Ramalho (BPB).
- TEACH YOURSELF SQL / PL SQL USING ORACLE 8i & 9i with SQL J – BAYROSS (BPB).
- Visual Basic and ORACLE SSI Press.
- Oracle Programming with Visual Basic – Snowdon (BPB).
- Quan Book 'O' Level all Vol. – DOEACC (BPB).

## 6. ECONOMICS

### RATIONALE

Economics is one of the social sciences, which has great influence on every human being. As economic life and the economy go through change, the need to ground education in children's own experience becomes essential. While doing so, it is imperative to provide them opportunities to acquire analytical skills to observe the understand the economic realities.

At senior secondary stage, the learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage, the learners are exposed to the rigour of the discipline of economics in a systematic way.

The economics courses are introduced in such a way that in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day life and also from issues, which are broader and invisible in nature. The academic skills that they learn in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

### OBJECTIVES

1. Understanding of some basic economic concepts and development of economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.
2. Realisation of learners' role in nation building and sensitivity to the economic issues that the nation is facing today.
3. Equipment with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond senior secondary stage.
4. Development of understanding that there can be more than one views on any economic issue and necessary skills to argue logically with reasoning.



<b>Paper 1</b>	<b>3 Hours</b>	<b>85 Marks</b>
<b>Units</b>	<b>Periods</b>	<b>Marks</b>

**PART A : INTRODUCTORY MICRO ECONOMICS**

1. Introduction	10	3
2. Consumer Behaviour and Demand	25	12
3. Producer Behaviour and Supply	37	20
4. Forms of Market and Price Determination	20	8
5. Simple applications of Tools of demand and supply curves	12	—
	<b>104</b>	<b>43</b>

**PART B : INTRODUCTORY MACRO ECONOMICS**

6. National Income and Related Aggregates	30	12
7. Determination of Income and Employment	25	10
8. Money and Banking	18	7
9. Government Budget and the Economy	17	7
10. Balance of Payments	14	6
	<b>104</b>	<b>42</b>

**UNIT 1 : INTRODUCTION**

**10 Periods**

**What is microeconomics ?**

Central problems of an economy, production possibility curve and opportunity cost.

**UNIT 2 : CONSUMER BEHAVIOUR AND DEMAND**

**25 Periods**

Consumer's Equilibrium - meaning and attainment of equilibrium through Utility Approach: One and two commodity cases.

Demand, market demand, determinants of demand, demand schedule, demand curve, movement along and shifts in demand curve, price elasticity of demand, measurement of price elasticity of demand - percentage, total expenditure and geometric methods.

**UNIT 3 : PRODUCER BEHAVIOUR AND SUPPLY****37 Periods**

Production function - Returns to a factor and returns to scale.

Supply, market supply, determinants of supply, supply schedule, supply curve, movement along and shifts in supply curve, price elasticity of supply, measurement of price elasticity of supply - percentage and geometric method.

Cost and Revenue - Short-run costs-Total cost, Total variable cost, Total Fixed cost; Average Fixed cost, Average Variable cost and Marginal cost-meaning and their relationship. Revenue total, average and marginal revenue-Producers' equilibrium-Meaning and its conditions in terms of total cost and total revenue.

**UNIT 4 : FORMS OF MARKET AND PRICE DETERMINATION** 20 Periods

Forms of market - Perfect competition, Monopoly, Monopolistic competition - their meaning and features.

Price determination under perfect competition - Equilibrium price, effects of shifts in demand and supply.

**UNIT 5 : SIMPLE APPLICATIONS OF TOOLS OF DEMAND AND SUPPLY CURVES** 12 Periods**Part B : Introductory Macro-Economics****UNIT 6 : NATIONAL INCOME AND RELATED AGGREGATES** 30 Periods

Macroeconomics: Meaning.

Circular flow of income, concepts of GDP, GNP, NDP, NNP (at market price and factor cost), National Disposable Income (gross and net); Private Income, Personal, Income and Personal Disposable Income, Measurement of National Income - Value Added method, Income method and Expenditure method.

**UNIT 7 : DETERMINATION OF INCOME AND EMPLOYMENT** 25 Periods

Aggregate demand, Aggregate supply and their components.

Propensity to consume and propensity to save (average and marginal).

Meaning of Involuntary unemployment and full employment.

Determination of income and employment : Two sector model

Concept of investment multiplier and its working.

Problems of excess and deficient demand.

Measures to correct excess and deficient demand - availability of credit, change in Government spending.

**UNIT 8 : MONEY AND BANKING**

**18 Periods**

Money - meaning and functions.

Central bank - meaning and functions.

Commercial banks - meaning and functions.

Recent significant reforms and issues in India Banking System.

Privatisation and Modernisation.

**UNIT 9 : GOVERNMENT BUDGET AND THE ECONOMY**

**17 Periods**

Government budget - meaning and its components.

Objectives of government budget.

Classification of receipts - revenue and capital; classification of expenditure - revenue and capital, plan and non-plan, and developmental and non-developmental. Balanced budget, surplus budget and deficit budget : meaning and implications. Revenue deficit, fiscal deficit and primary deficit : meaning and implications; measures to contain different deficits.

Down sizing the role of government : Meaning and implications.

**UNIT 10 : BALANCE OF PAYMENTS**

**14 Periods**

Foreign exchange rate - meaning (Fixed and Flexible), merits and demerits; Determination through demand and supply

Balance of payments account - meaning and components.

A brief analysis about recent exchange rate issues.

**BOOKS RECOMMENDED :**

व्यष्टि अर्थशास्त्र एक परिचय

समष्टि अर्थशास्त्र एक परिचय

Introductory Microeconomics

Introductory Macroeconomics

Published by N.C.E.R.T., NEW DELHI.

## 7. HISTORY

### RATIONALE

Through a focus on a range of important historical sources the students would be introduced to a set of important historical events and processes. A discussion of these themes, it is hoped, would allow students not only to know about these events and processes, but also to discover the excitement of doing history.

### OBJECTIVES

- Effort in these senior secondary classes would be to emphasize to students that history is a critical discipline, a process of enquiry, a way of knowing about the past, rather than just a collection of facts. The syllabus would help them understand the process through which historians write history, by choosing and assembling different types of evidence, and by reading their sources critically. They will appreciate how historians follow the trails that lead to the past, and how historical knowledge develops.
- The syllabus would also enable students to relate/compare developments in different situations, analyze connection between similar processes located in different time periods, and discover the relationship between different methods of social enquiry within different social sciences.
- In class XII the focus will be on a detailed study of some themes in Ancient, Medieval and Modern Indian history. The object would be to study a set of these themes in some detail and depth rather than survey the entire chronological span of Indian history. In this sense the course will built on the knowledge that the students have acquired in the earlier classes.
- Each theme in class XII will also introduce the student to one type of source for the study of history. Through such a study students would begin to see what different types of sources can reveal and what they cannot tell. They would come to know how historians analyze these sources, the problems and difficulties of interpreting each type of source, 'and the way a larger picture of an event, a historical process, or a historical figure, is built by looking at different types of sources.
- Each theme for class XII will be organized around four subheads : (a) a detailed overview of the events, issues and processes under discussion, (b) a summary of the present state of research on the theme, (c) an account of how knowledge about the theme has been acquired. (d) an

excerpt from a primary source related to the theme, explaining how it has been used by historians.

- In the textbooks each theme would be located in a specific time and place. But these discussions would be situated within a wider context by (a) plotting the specific event within time-lines, (b) discussing the particular event or process in relation to developments in other places and other times.

<b>One Paper</b>	<b>3 Hours</b>	<b>85 Marks</b>
<b>UNITS</b>	<b>PERIODS</b>	<b>MARKS</b>
<b>PART-I</b>	<b>44</b>	<b>20</b>
1. The Story of the First Cities Harappan Archaeology	10	5
2. Political and Economic History: How Inscriptions tell a story	14	6
3. Social Histories : Using the Mahabharata	9	4
4. A History of Buddhism : Sanchi Stupa	11	5
<b>PART-II</b>	<b>57</b>	<b>27</b>
5. Agrarian Relations : The Ain-i-Akbari	10	5
6. The Mughal Court: Reconstructing Histories Through Chronicles	13	6
7. New Architecture : Hampi	10	5
8. Religious Histories: The Bhakti-Sufi tradition	11	5
9. Medieval Society Through Travellers' Accounts	13	6
<b>PART-III</b>	<b>69</b>	<b>33</b>
10. Colonialism and Rural Society: Evidence from Official Reports'	10	5
11. Representations of 1857	16	7
12. Colonialism and Indian Towns : Town Plans and Municipal Reports	10	5
13. Mahatma Gandhi Through Contemporary Eyes	13	6
14. Partition through Oral Sources	10	5
15. The Making of the Constitution	10	5
<b>Map Work (Units 1 to 15)</b>	<b>10</b>	<b>5</b>

## THEMES IN INDIAN HISTORY

THEMES	OBJECTIVES
<p><b>1. The Story of the First Cities : Harappan Archaeology.</b></p> <p><b>Broad overview :</b> Early urban centres.</p> <p><b>Story of discovery :</b> Harappan civilization</p> <p><b>Excerpt :</b> Archaeological report on a major site.</p> <p><b>Discussion:</b> how it has been utilized by archaeologists/historians.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with early urban centres as economic and social institutions.</li> <li><input type="checkbox"/> Introduce the ways in which new data can lead to a revision of existing notions of history.</li> <li><input type="checkbox"/> Illustrate how archaeological reports are analyzed and interpreted by scholars.</li> </ul>
<p><b>2. Political and Economic History : How Inscriptions tell a story.</b></p> <p><b>Broad overview :</b> Political and economic history from the Mauryan to the Gupta period.</p> <p><b>Story of discovery :</b> Inscriptions and the decipherment of the script. Shifts in the understanding of political and economic history.</p> <p><b>Excerpt :</b> Asokan inscription and Gupta period land grant.</p> <p><b>Discussion :</b> Interpretation of inscriptions by historians.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with major trends in the political and economic history of the subcontinent.</li> <li><input type="checkbox"/> Introduce inscriptional analysis and the ways in which these have shaped the understanding of political and economic processes.</li> </ul>
<p><b>3. Social Histories : Using the Mahabharata Broad Overview :</b> Issues in social history, including caste, class kinship and gender.</p> <p><b>Story of discovery :</b> Transmission and publications of the Mahabharat.</p> <p><b>Excerpt :</b> from the Mahabharata, illustrating how it has been used by historians.</p> <p><b>Discussion :</b> Other sources for reconstructing social history.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with issues in social history. introduce strategies of textual analysis and their use in reconstructing social history.</li> </ul>

THEMES	OBJECTIVES
<p><b>4. A History of Buddhism : Sanchi Stupa</b></p> <p><b>Broad overview :</b> (a) A brief review of religious histories of Vedic religion, Jainism, Vaisnavism, Saivism (b) Focus on Buddhism.</p> <p><b>Story of discovery :</b> Sanchi Stupa</p> <p><b>Excerpt :</b> Reproduction of sculptures from Sanchi.</p> <p><b>Discussion:</b> Ways in which sculpture has been interpreted by historians, other sources for reconstructing the history of Buddhism</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss the major religious developments in early India.</li> <li><input type="checkbox"/> Introduce strategies of visual analysis and their use in reconstructing histories of religion.</li> </ul>
<p><b>5. Agrarian Relations : The Ain-i-Akbari</b></p> <p><b>Broad overview :</b> (a) Structure of agrarian relations in the 16th and 17th centuries (b) Patterns of change over the period.</p> <p><b>Story of discovery :</b> Account of the compilation and translation of Ain-i-Akbari</p> <p><b>Excerpt :</b> From the Ain-i-Akbari</p> <p><b>Discussion :</b> Ways in which historians have used the text to reconstruct history.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss developments in agrarian relations.</li> <li><input type="checkbox"/> Discuss how to supplement official documents with other sources.</li> </ul>
<p><b>6. The Mughal Court : Reconstructing Histories through Chronicles</b></p> <p><b>Broad overview :</b> (a) Outline of political history 15th-17th centuries. (b) Discussion of the Mughal court and politics.</p> <p><b>Story of discovery :</b> Account of the production of court chronicles and their subsequent, translation and transmission.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with the major landmarks in political history.</li> <li><input type="checkbox"/> Show how chronicles and other sources are used to reconstruct the histories of political institutions.</li> </ul>

THEMES	OBJECTIVES
<p><b>Excerpts</b> : From the <i>Akbarnama</i> and <i>Padshahnama</i>.</p> <p><b>Discussion</b> : Ways in which historians have used the texts to reconstruct political histories.</p>	
<p><b>7. New Architecture : Hampi</b></p> <p><b>Broad overview</b> : (a) Outline of new buildings during Vijayanagar period- temples, forts, irrigation facilities. (b) Relationship between architecture and the political system.</p> <p><b>Story of discovery</b> : Account of how Hampi was found.</p> <p><b>Excerpt</b> : Visuals of buildings at Hampi.</p> <p><b>Discussion:</b> Ways in which historians have analyzed and interpreted these structures.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with the new buildings that were built during the time.</li> <li><input type="checkbox"/> Discuss the ways in which architecture can be analyzed to reconstruct history.</li> </ul>
<p><b>8. Religious Histories : The Bhakti-Sufi tradition</b></p> <p><b>Broad overview</b> : (a) Outline of religious development during this period. (b) Ideas and practices of the Bhakti-Sufi saints.</p> <p><b>Story of Transmission</b> : How Bhakti-Sufi compositions have been preserved.</p> <p><b>Excerpt</b> : Extracts from selected Bhakti Sufi works.</p> <p><b>Discussion</b> : Ways in which these have been interpreted by historians.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with religious developments.</li> <li><input type="checkbox"/> Discuss ways of analyzing devotional literature as sources of history.</li> </ul>
<p><b>9. Medieval Society Through Travellers' Accounts</b></p> <p><b>Broad overview</b> : Outline of social and cultural life as they appear in travellers' accounts.</p> <p><b>Story of their writings</b> : A discussion of where they travelled, why they travelled, what they wrote, and for whom they wrote.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with the salient features of social histories described by the travellers.</li> <li><input type="checkbox"/> Discuss how travellers' accounts can be used as sources of social history.</li> </ul>



THEMES	OBJECTIVES
<p><b>Excepts</b> : from Alberuni, Ibn Batuta, Bernier.</p> <p><b>Discussion</b> : What these travel accounts can tell us and how they have been interpreted by historians.</p>	
<p><b>10. Colonialism and-Rural Society : Evidence from official Reports.</b></p> <p><b>Broad overview</b> : (a) Life of zamindars, peasants and artisans in the later 18 century (b) East India Company, revenue settlements and surveys. (c) Changes over the nineteenth century.</p> <p><b>Story of official records</b> : An account of why official investigations into rural societies were under taken and the types of records and reports produced.</p> <p><b>Excerpt</b> : From Firminger's Fifth Report, Accounts of Frances Buchanan-Hamilton, and Deccan Riots Report.</p> <p><b>Discussion:</b> What the official records tell and do not tell, and how they have been used by historians.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss how colonialism affected Zamindars, peasants and artisans.</li> <li><input type="checkbox"/> Understand the problems and limits of using official sources for understanding the lives of people</li> </ul>
<p><b>11. Representations of 1857</b></p> <p><b>Broad overview</b> : (a) The events of 1857-58. (b) How these events were recorded and narrated.</p> <p><b>Focus</b> : Lucknow.</p> <p><b>Excerpts</b> : Pictures of 1857. Extracts from contemporary accounts.</p> <p><b>Discussion</b> : How the pictures of 1857 shaped British opinion of what had happened.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss how the events of 1857 ae being reinterpreted.</li> <li><input type="checkbox"/> Discuss how visual material can be used by historians.</li> </ul>
<p><b>12. Colonialism and Indian Towns : Town Plans and Municipal Reports.</b></p> <p><b>Broad overview</b> : The growth of Mumbai, Chennai, hill stations and cantonments in the 18th and 19th century.</p> <p><b>Excerpts</b> : Photographs and paintings. Plans of cities. Extract from town plan reports.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with the history of modern urban centres.</li> </ul>

THEMES	OBJECTIVES
<p>Focus on Kolkata town planning.  <b>Discussion</b> : How the above sources can be used to reconstruct the history of towns. What these sources do not reveal.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss how urban histories can be written by drawing on different types of sources.</li> </ul>
<p><b>13. Mahatma Gandhi Through contemporary Eyes</b>  <b>Board Overview</b> : (a) The nationalist movement 1918-48, (b) The nature of Gandhian politics and leadership  <b>Focus</b> : Mahatma Gandhi in 1931.  <b>Excerpts</b> : Reports from English and Indian language newspapers and other contemporary writings.  <b>Discussion</b> : How newspapers can be a source of history.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize the learner with significant elements of the nationalist movement and the nature of Gandhian leadership.</li> <li><input type="checkbox"/> Discuss how Gandhi was perceived by different groups.</li> <li><input type="checkbox"/> Discuss how historians need to read and interpret newspapers diaries and letters as historical source.</li> </ul>
<p><b>14. Partition through oral sources</b>  <b>Board Overview</b> : (a) The history of the 1940s; (b) Nationalism. Communalism and Partition.  <b>Focus</b> : Punjab and Bengal  <b>Excerpts</b> : Oral testimonies of those who experienced partition.  <b>Discussion</b> : Ways in which these have been analyzed to reconstruct the history of the event.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss the last decade of the national movement, the growth of communalism and the story of Partition.</li> <li><input type="checkbox"/> Understand the events through the experience of those who lived through these years of communal violence.</li> <li><input type="checkbox"/> Show the possibilities and limits of oral sources.</li> </ul>
<p><b>15. The Making of the Constitution</b>  <b>Board Overview</b> : (a) Independence and the new nation state (b) The making of the constitution.  <b>Focus</b> : The Constitutional Assembly debates.  <b>Excerpts</b> : From the debates.  <b>Discussion</b> : What such debates reveal and how they can be analyzed.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiarize students with the history of the early years after independence.</li> <li><input type="checkbox"/> Discuss how the founding ideals of the new nation state were debated and formulated.</li> <li><input type="checkbox"/> Understand how such debates and discussions can be read by historians.</li> </ul>

**PRESCRIBED BOOKS :**

1. भारतीय इतिहास के कुछ विषय भाग 1, 2 और 3 हि. प्र. स्कूल शिक्षा बोर्ड धर्मशाला द्वारा प्रकाशित

## 8. POLITICAL SCIENCE

### RATIONALE

At the senior secondary level students who opt Political Science are given an opportunity to get introduced to the diverse concerns of a Political Scientist. At this level there is a need to enable students to engage with political processes that surround them and provide them with an understanding of the historical context that has shaped the present. The different courses introduce the students to the various streams of the discipline of political science : political theory, Indian politics and international politics. Concerns of the other two streams — comparative politics and public administration — are accommodated at different places in these courses. In introducing these streams, special care has been taken not to burden the students with the current jargon of the discipline. The basic idea here is to lay the foundations for a serious engagement with the discipline at the undergraduation stage.

### OBJECTIVES

#### **Indian Constitution At Work :—**

- 1 Enable students to understand historical processes and circumstances in which the Constitution was drafted.
- 1 Provide opportunity for students to be familiar with the diverse visions that guided the makers of the Indian Constitution.
- 1 Enable students to identify the certain key features of the Constitution and compare these to other constitutions in the world.
- 1 Analyse the ways in which the provisions of the Constitution have worked in real political life.

### POLITICAL THEORY

- 1 Develop the skills for logical reasoning and abstraction.
- 1 Inculcate attention to and respect for viewpoints other than one's own.
- 1 Introduce students to the different political thinkers in relation to a concept and in everyday social life.
- 1 Enable students to meaningfully participate in a concern of current political life that surrounds them.
- 1 Encourage the students to analyse any unexamined prejudices that one may have inherited.

### **POLITICS IN INDIA AFTER INDEPENDENCE**

- 1 Enable students to be familiar with some of the key political events and figures in the post-independence period.
- 1 Develop skills of political analysis through events and processes of recent history.
- 1 Develop their capacity to link macro processes with micro situations and their own life.
- 1 Encourage the students to take a historical perspective of making sense of the contemporary India.

### **CONTEMPORARY WORLD POLITICS**

- 1 Enable the students to expand their horizon beyond India and make sense of the political map of contemporary world.
- 1 Familiarise the students with some of the key political events and processes in the post cold war era.
- 1 Equip student to be conscious of the way in which global events and processes shape our everyday lives.
- 1 Strengthen their capacity for political analysis by thinking of contemporary developments in a historical perspective.

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**One Paper**

**85 Marks**

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<b>UNITS</b>	<b>PERIODS</b>	<b>MARKS</b>
<b>PART A : POLITICS IN INDIA SINCE INDEPENDENCE</b>		
1. Era of one-party dominance	12	5
2. Nation-Building and its problems	12	8
3. Politics of Planned Development	10	
4. India's External relations	12	5
5. Challenges to and Restoration of Congress System	10	4
6. Crisis of the Constitutional order	14	6
7. Regional aspirations and conflicts	10	4
8. Rise of New Social Movements	12	5
9. Democratic upsurge and coalition parties	10	4
10. Recent issues and challenges	10	4
	<b>112</b>	<b>45</b>

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## PART B : CONTEMPORARY WORLD-POLITICS

11. Cold War Era in World Politics	14	8
12. Disintegration of the Second World and the Collapse of Bipolarity	12	10
13. US Dominance in World Politics	12	
14. Alternative centres of Economic and Political Power	10	8
15. South Asia in the Post-Cold war Era	12	
16. International organizations in a unipolar world	12	4
17. Security in Contemporary World	12	4
18. Globalisation and its Critics	12	6
	<u>96</u>	<u>40</u>

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### COURSE CONTENTS PERIODS

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- 1. Era of One-Party Dominance :** **12**  
First three general elections, nature of Congress dominance at the national level, uneven dominance at the state level, coalitional nature of Congress. Major opposition parties.
- 2. Nation-Building and Its Problems :** **12**  
Nehru's approach to nation-building: Legacy of partition: challenge of 'refugee' resettlement, the Kashmir problem. Organisation and reorganization of states; Political conflicts over language.
- 3. Politics of Planned Development** **10**  
Five year plans, expansion of state sector and the rise of new economic interests. Famine and suspension of five year plans. Green revolution and its political fallouts.
- 4. India's External Relations** **12**  
Nehru's foreign policy. Sino-Indian war of 1962, Indo-Pak war of 1965 and 1971. India's nuclear programme and shifting alliances in world politics.
- 5. Challenge to and Restoration of Congress System :** **10**  
Political succession after Nehru. Non-Congressism and electoral upset of 1967, Congress split and reconstitution, Congress' victory in 1971 elections, politics of 'garibi hatao'.
- 6. Crisis of the Constitutional Order :**  
Search for 'committed' bureaucracy and judiciary. Navnirman movement in Gujarat and the Bihar movement. Emergency: context, constitutional

and extra-constitutional dimensions, resistance to emergency. 1977 elections and the formation of Janata Party. Rise of civil liberties organisations.

**7. Regional Aspirations and Conflicts 10**

Rise of regional parties. Punjab crisis and the anti-Sikh riots of 1984. The Kashmir situation. Challenges and responses in the North East.

**8. Rise of New Social Movements 12**

Farmers' movements, Women's movement, Environment and Development-affected people's movements. Implementation of Mandal Commission report and its aftermath.

**9. Democratic Upsurge and Coalition Politics 10**

Participatory upsurge in 1990s. Rise of the JD and the BJP. Increasing role of regional parties and coalition politics. UF and NDA governments. Elections 2004 and UPA government.

**10. Recent issues and challenges 10**

Challenge of and responses to globalization: new economic policy and its opposition. Rise of OBCs in North Indian politics. Dalit politics in electoral and non-electoral arena. Challenge of communalism: Ayodhya dispute, Gujarat riots.

**PART B : CONTEMPORARY WORLD POLITICS**

**LEARNING OBJECTIVES :**

<b>COURSE CONTENT</b>	<b>PERIODS</b>
<b>11. Cold War Era in World Politics</b>	<b>14</b>
Emergence of two power blocs after the second world war. Arenas of the cold war. Challenges to Bipolarity: Non Aligned Movement, quest for new international economic order. India and the cold war.	
<b>12. Disintegration of the 'Second World' and the Collapse of Bipolarity</b>	<b>12</b>
New entities in world politics: Russia, Balkan states and Central Asian states, Introduction of democratic politics and capitalism in post-communist regimes. India's relations with Russia and other post-communist countries.	
<b>13. US Dominance in World Politics :</b>	<b>12</b>
Growth of unilateralism : Afghanistan, first Gulf War, response to 9/11 and	

attack on Iraq. Dominance and challenge to the US in economy and ideology. India's renegotiation of its relationship with the USA.

**14. Alternative Centres of Economic and Political Power : 10**

Rise of China as an economic power in post-Mao era, creation and expansion of European Union, ASEAN. India's changing relations with China.

**15. South Asia in the Post-Cold War Era : 12**

Democratisation and its reversals in Pakistan and Nepal. Ethnic conflict in Sri Lanka, Impact of economic globalization on the region. Conflicts and efforts for peace in South Asia. India's relations with its neighbours.

**16. International Organizations in a unipolar World : 12**

Restructuring and the future of the UN. India's position in the restructured UN. Rise of new international actors: new international economic organisations, NGOs. How democratic and accountable are the new institutions of global governance ?

**17. Security in Contemporary World :**

Traditional concerns of security and politics of disarmament. Non-traditional or human security: global poverty, health and education. Issues of human rights and migration.

**18. Globalisation and Its Critics. 12**

Economic, cultural and political manifestations. Debates on the nature of consequences of globalisation. Anti-globalisation movements. India as an arena of globalization and struggle against it.

**PRESCRIBED BOOKS :**

1. समकालीन विश्व राजनीति हि.प्र. स्कूल शिक्षा बोर्ड, धर्मशाला द्वारा प्रकाशित।
2. स्वतन्त्र भारत में राजनीति हि.प्र. स्कूल शिक्षा बोर्ड, धर्मशाला द्वारा प्रकाशित।

## 9. GEOGRAPHY

### RATIONALE

Geography is introduced as an elective subject at the senior secondary stage. After ten years of general education, students branch out at the beginning of this stage and are exposed to the rigours of the discipline for the first time. Being an entry point for the higher education, students choose geography for pursuing their academic interest and, therefore, need a broader and deeper understanding of the subject. For others, geographical knowledge is useful in daily lives because it is a valuable medium for the education of young people. Its contributions lie in the content, cognitive processes, skills and values that geography promotes and thus helps the students explore, understand and evaluate the environmental and social dimensions of the world in a better manner.

Since geography explores the relationship between people and their environment, it includes studies of physical and human environments and their interactions at different scales - local, state/region, nation and the world. The fundamental principles responsible for the varieties in the distributional pattern of physical and human features and phenomena over the earth's surface need to be understood properly. Application of these principles would be taken up through selected case studies from the world and India. Thus, the physical and human environment of India and study of some issues from a geographical point of view will be covered in greater detail. Students will be exposed to different methods used in geographical investigations.

### OBJECTIVES

#### **The course in geography will help learners :**

- Familiarise themselves with the terms, key concepts and basic principles of geography,
- Search for, recognize and understand the processes and patterns of the spatial arrangement of the natural as well as human features and phenomena on the earth's surface;
- Understand and analyse the inter-relationship between physical and human environments and their impact;
- Apply geographical knowledge and methods of inquiry to new situations or problems at different levels-local, regional, national and global;





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**Unit 2 : People** **15 Periods**

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- Population of the world — distribution, density and growth
- Population change-spatial patterns and structure; determinants of population changes;
- Age-sex ratio; rural-urban composition;
- Human development - concept; selected indicators, international comparisons

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**Unit 3 : Human Activities** **(Periods 25)**

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- Primary activities - concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agricultural and allied activities - some examples from selected countries;
- Secondary activities-concept; manufacturing: agro-processing, household, small scale, large-scale; people engaged in secondary activities - some examples from selected countries;
- Tertiary activities-concept, trade, transport and communication; services; people engaged in tertiary activities - some examples from selected countries
- Quaternary activities-concept; knowledge based industries; people engaged in quaternary activities - some examples from selected countries

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**Unit 4 : Transport, Communication and Trade** **(Periods 19)**

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- Land transport - roads, railway- rail network; trans-continental railways;
- Water transport - inland waterways; major ocean routes;
- Air Transport Inter continental air routes;
- Oil and gas pipelines;
- Satellite communication and cyber space
- International trade-Basis and changing patterns; ports as gateways of international trade, role of WTO in international trade.

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**Unit 5 : Human Settlements** **(Periods 8)**

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- Settlement types - rural and urban; morphology of cities (case study); distribution of mega cities; problems of human settlements in developing countries.

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**Unit 6 : Map Work outline Political Map of World- Identification only** **2 Marks**

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**B. India : People and Economy****(70 Periods) 30 MARKS**

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**Unit 7 : People****(Periods 12)**

- Population distribution, density and growth; composition of population; linguistic and religious; rural-urban population; change through time-regional variations; occupation;
- Migration: international, national-causes and consequences;
- Human Development - selected indicators and regional patterns.
- Population, environment and development.

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**Unit 8 : Human Settlements****(Periods 8)**

- Rural Settlements - types of distribution;
- Urban settlements - types, distribution, and functional classification.

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**Unit 9 : Resources and Development****(Periods 28)**

- Land resources- general land use; agricultural land use-major crops; agricultural development and problems; Distribution of Wheat, Rice, Tea, Coffee, Cotton, Jute, Sugar cane and Rubber).
- Water resources - availability and utilization-irrigation, domestic, industrial and other uses; scarcity of water and conservation methods-rain water harvesting and watershed management (one case study related with participatory watershed management to be introduced).
- Mineral and energy resources-metallic (Ironore, Copper, Bauxite, Manganese) and non-metallic (Mica, Salt) minerals and their distribution; conventional (Coal, Petroleum Natural gas and Hydro electricity) and non-conventional energy sources (solar, wind, biogas).
- Industries - types and distribution; industrial location and clustering; changing pattern of selected industries - iron and steel, cotton textiles, sugar, petrochemicals and knowledge based industries; impact of liberalization, privatisation and globalisation on industrial location.
- Planning in India- target area planning (case study); idea of sustainable development (case study)

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**Unit 10 : Transport, Communication and International Trade****(Periods 12)**

- Transport and communication - roads, railways, waterways and airways; oil and gas pipelines; national electric grids; communication networkings - radio, television, satellite and internet.

- International trade-changing pattern of India's foreign trade; sea ports and their hinterland and airports,

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**Unit 11 : Geographical Perspective on Selected Issues and Problems  
(One case study to be introduced for each topic)**

**(Periods 10)**

- Environmental pollution; urban-waste disposal.
- Urbanisation-rural-urban migration; problem of slum.
- Land Degradation.

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**Unit 12 : Map Work - on outline political map of India for locating and labelling**

**3 Marks**

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**C. Practical Work**

**25 Marks**

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**Unit I : Processing of Data and Thematic Mapping**

**(Periods 20)**

- Sources of data.
- Tabulating and processing of data; calculation of averages, measures of central tendency, deviation and rank correlation;
- Representation of data- construction of diagrams: bars, circles and flowchart; thematic maps; construction of dot; chropleth and isopleth maps;
- Use of computers in data processing and mapping.

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**Unit II : Field Study of Spatial Information Technology**

**(Periods 10)**

Field visit and study: map orientation, observation and preparation of sketch; survey on any one of the local concerns; pollution, ground water changes, land use and land-use changes, poverty, energy issues, soil degradation, drought and impacts, flood catchment area of school, Market survey and Household survey (any one topic of local concern may be taken up for the study; observation and questionnaire survey may be adopted for the data collection; collected data may be tabulated and analysed with diagrams and maps):

**OR**

**Spatial Information Technology**

Introduction to GIS; hardware requirements and software modules; data formats; roster and vector data, data input, editing & topology building; data analysis; overlay & buffer.

**BOOKS RECOMMENDED :**

तीन पाठ्यपुस्तकें :

मानव भूगोल के मूल सिद्धान्त, भारत-लोग और अर्थव्यवस्था, भूगोल में प्रयोगात्मक कार्य भाग-2 राष्ट्रीय प्रौक्षिक अनुसंधान और प्रशिक्षण परिषद द्वारा प्रकाशित।

## 10. PSYCHOLOGY

Psychology is introduced as an elective subject at the higher secondary stage of school education. As a discipline, psychology specializes in the study of experiences, behaviours and mental processes of human beings within a socio-cultural and socio-historical context. This course purports to introduce the learners to the basic ideas, principles and methods in psychology so as to enable them to understand themselves and their social world better. The emphasis is put on creating interest and exposure needed by learners develop their own knowledge base and understanding.

The course deals with psychological knowledge and practices which are contextually rooted. It emphasizes the complexity of behavioural processes and discourages simplistic cause-effect thinking. This is pursued by encouraging critical reasoning, allowing students to appreciate the role of cultural factors in behaviour, and illustrating how biology and experience shape behaviour. The course while developing an appreciation of subjectivity, also focuses on multiplicity of worldviews.

It is suggested that the teaching-learning processes should involve students in evolving their own understanding. Therefore, Teaching of Psychology should be based on the use of case studies, narratives, experiential exercises, analysis of common everyday experiences, etc.

The present effort at reforming and updating the syllabus is based on the feedback received from the teachers and students as well as some new educational and curricular concerns such as, the curriculum load, interdisciplinary approach, issues related to gender parity, concerns of special and marginalised groups, peace and environmental concerns, and inculcating citizenship values.

### OBJECTIVES

1. To develop appreciation about human behaviour and human mind in the context of learners' immediate society and environment.
2. To develop in learners an appreciation of multidisciplinary nature of psychological knowledge and its application in various aspects of life.
3. To enable learners to become perceptive, socially aware and self-reflective.
4. To facilitate students' quest for personal growth and effectiveness, and to enable them to become responsive and responsible citizens.

**UNIT-WISE WEIGHTAGE**

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<b>UNITS</b>	<b>MARKS</b>
Psychology and Self & Psychology and Society	
I. Variations in Psychological Attributes	07
II. Self and Personality	08
III. Meeting Life Challenges	06
IV. Psychological Disorders	07
V. Therapeutic Approaches	06
VI. Attitude and Social Cognition	07
VII. Social Influence and Group Processes	06
VIII. Psychology and Life	07
IX. Developing Psychological Skills	06
Practicals (Psychological testing, Case Profile etc.)	<b>25</b>

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**Psychology and Self & Psychology and Society**

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**Unit I : Variations in Psychological Attributes 07 Marks (20 Periods)**

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*The unit aims at studying how people differ with respect to their various psychological attributes.*

Individual differences in human functioning Assessment of psychological attributes; Intelligence: Individual difference in intelligence: Theories of Intelligence: Culture and Intelligence: Emotional intelligence: Special abilities: Aptitude-nature and measurement; Creativity;

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**Unit II : Self and Personality 08 Marks (24 Periods)**

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*The unit focuses on the study of self and personality in the context of different approaches in an effort to appraise the person. The assessment of personality will also be discussed.*

Concepts of self, concept, self-esteem, self-efficacy, and self-regulation; Culture and self; Personality concept; Major approaches-Type and Trait, Psychodynamic, Humanistic, Behavioural, Cultural; Assessment of personality: Self-report measures, behavioural analysis, and projective measures.

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**Unit III : Meeting Life Challenges** **06 Marks (14 Periods)**

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*This unit deals with the nature of stress and how responses to stress depend on an individual's appraisal of stressors. Strategies to cope with stress will also be dealt with.*

Nature, types and sources of stress; Effects on psychological functioning and health; Coping and stress; Promoting positive health and well-being.

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**Unit IV : Psychological Disorders** **07 Marks (24 Periods)**

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*This unit discusses the concepts of normality and abnormality and the major psychological disorders.*

Concepts of abnormality and Psychological disorder, Factors, underlying abnormal behaviour, Classification of disorder, Major psychological disorders - Anxiety, Somato-form Dissociative, Mood, Schizophrenic, Developmental and Behavioural Substance Related.

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**Unit V : Therapeutic Approaches** **06 Marks (20 Periods)**

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*The unit discusses the goals, techniques and effectiveness of different approaches to treat psychological disorders.*

Nature and process of therapy; Therapeutic relationship; Types of therapies: Psycho-dynamic, Humanistic, Cognitive, Behaviour and Bio-medical; Alternative therapies - Yoga, Meditation; Rehabilitation of mentally ill.

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**Unit VI : Attitude and Social Cognition** **07 Marks (20 Periods)**

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*This unit focuses on formation and change of attitudes, cultural influences on attributional tendencies and conditions influencing pro-social behaviour.*

Explaining social behaviour: Impression formation and explaining behaviour of others through attributions; Social cognition; Schemas and stereotypes; Nature and components of attitudes; Attitude formation and change; Behaviour in the presence of others; Pro-social Behaviour; Prejudice and discrimination; Strategies for handling prejudice.

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**Unit VII : Social Influence and Group Processes** **06 Marks (22 Periods)**

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*The unit deals with the concept of group, its functions and the dynamics of social influence on conformity, obedience and compliance. Different conflict resolution strategies will also be discussed.*

Conformity, Obedience, and Compliance; Cooperation and Competition; Groups : Nature, formation and Types; Influence of group on individual behaviour, Inter-Group Conflicts; Conflict resolution strategies.

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**Unit VIII: Psychology and Life** **07 Marks (18 Periods)**

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*The unit focuses on the application of psychological understanding to some important social issues.*

Human-environment relationship; Environmental effects on human behaviour: Noise, pollution, crowding, natural disasters, Psychology and social concerns: Aggression, Violence and Peace, Discrimination and Poverty, health, impact of television on behaviour Promoting pro-environmental behaviour.

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**Unit IX: Developing Psychological Skills** **06 Marks (18 Periods)**

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*The unit deals with some effective Psychological and interpersonal skills for facilitating personal-social development.*

Effective psychological skills: Observational skills, Interviewing skills, Testing skills Counselling skills, Communication skills.

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**Practicals Psychological testing (Profile)** **25 Marks (60 Periods)**

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The students shall be required to prepare one case profile and conduct five practicals related to the topics covered in the course. The case profile will include developmental history of the subject, using both qualitative (observation, interview, rating scale etc.) and quantitative (Psychological testing) approaches. Practical would involve using standardised psychological assessment devices in different domains (intelligence, personality, aptitude, adjustment, attitude, self-concept, and anxiety).

**MARKS DISTRIBUTION :**

- (i) Reporting file including case profile : 04 Marks
- (ii) Viva Voce : 05 Marks
- (iii) Two practicals 8 marks each 4 for accurate conduct and 4 for reporting).

**BOOKS RECOMMENDED :**

मनोविज्ञान  
Psychology

Published by N.C.E.R.T., NEW DELHI.



## 11. SOCIOLOGY

### RATIONALE

Sociology is introduced as an elective subject at the senior secondary stage. The syllabus is designed to help learners to reflect on what they hear and see in the course of everyday life and develop a constructive attitude towards society in change; to equip a learner with concepts and theoretical skills for the purpose. The Curriculum of Sociology at this stage should enable the learner to understand dynamics of human behaviour in all its complexities and manifestations. The learners of today need answers and explanations to satisfy the questions that arise in their minds while trying to understand social world. Therefore, there is a need to develop an analytical approach towards the social structure so that they can meaningfully participate in the process of social change. There is scope in the syllabus not only for interactive learning, based on exercises and project work but also for teachers and students to jointly innovate new ways of learning.

- 1 Sociology studies society. The child's familiarity with the society in which she/he lives in makes the study of sociology a double edged experience. At one level sociology studies institutions such as family and kinship, class, caste and tribe religion and region-contexts with which children are familiar of, even if differentially. For India is a society which is varied both horizontally and vertically. The effort in the books will be to grapple overtly with this both as a source of strength and as a site for interrogation.
- 1 Significantly the intellectual legacy of sociology equips the discipline with a plural perspective that overtly engages with the need for defamiliarization, to unlearn and question the given. This interrogative and critical character of sociology also makes it possible to understand both other cultures as well as relearn about one's own culture.
- 1 This plural perspective makes for an inbuilt richness and openness that not too many other disciplines in practice share. From its very inception sociology has had mutually enriching and contesting traditions of an interpretative method that openly takes into account 'subjectivity' and causal explanations that pays due importance to establishing causal correspondences with considerable sophistication. Not surprisingly its field work tradition also entails large scale survey methods as well as a rich ethnographic tradition. Indeed Indian sociology, in particular has bridged this distinction

between what has often been seen as distinct approaches of sociology and social anthropology. The syllabus provides ample opportunity to make the child familiar with the excitement of field work as well as its theoretical significance for the very discipline of sociology.

- 1 The plural legacy of sociology also enables a bird's eye view and a worm's eye view of the society the child lives in. This is particularly true today when the local is inextricably defined and shaped by macro global processes.
- 1 The syllabus proceeds with the assumption that gender as an organizing principle of society cannot be treated as an add on topic but is fundamental to the manner that all chapters shall be dealt with.
- 1 The chapters shall seek for a child centric approach that makes it possible to connect the lived reality of children with social structures and social processes that sociology studies.
- 1 A conscious effort will be made to build into the chapters a scope for exploration of society that makes learning a process of discovery. A way towards this is to deal with sociological concepts not as givens but a product of societal actions humanly constructed and therefore open to questioning.

### OBJECTIVES

1. To enable learners to relate classroom teaching to their outside environment.
2. To introduce them to the basic concepts of sociology that would enable them to observe and interpret social life.
3. To be aware of the complexity of social processes.
4. To appreciate diversity in society in India and the world at large.
5. To build the capacity of students to understand and analyze the changes in contemporary Indian society.

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<b>One Paper</b>	<b>3 Hours</b>	<b>Marks : 85</b>
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#### UNIT-WISE WEIGHTAGE

UNITS	MARKS
<b>INDIAN SOCIETY</b>	<b>43 MARKS</b>
I. Structure of Indian Society	7
II. Social Institutions: Continuity & Change	12

III. Social Inequality & Exclusion	12
IV. The Challenges of Unity in Diversity	12
<b>CHANGE AND DEVELOPMENT IN INDIA</b>	<b>42 MARKS</b>
V. Process of Social Change in India	8
VI. Social Change and the Polity	8
VII. Social Change & The Economy	10
VIII. New Areas of Social Change	8
IX. Social Movements	8
<b>INDIAN SOCIETY</b>	<b>MARKS 43</b>
<b>UNIT I : STRUCTURE OF INDIAN SOCIETY</b>	<b>(Periods 20)</b>
● Introduction Indian Society: Colonialism, Nationalism, Class and Community	7 Marks
● Demographic Structure	
● Rural-Urban Linkages and Divisions	
<b>UNIT II : SOCIAL INSTITUTIONS: CONTINUITY &amp; CHANGE</b>	<b>(Periods 24)</b>
● Family and Kinship	12 Marks
● The Cast System	
● Tribal Society	
● The Market as a Social Institution	
<b>UNIT III : SOCIAL INEQUALITY &amp; EXCLUSION</b>	<b>(Periods 24)</b>
● Caste Prejudice, Scheduled Castes and Other Backward Classes	12 Marks
● Marginalization of Tribal Communities	
● The Struggle for Women's Equality	
● The Protection of Religious Minorities	
● Caring for the Differently Abled	
<b>UNIT IV : THE CHALLENGES OF UNITY IN DIVERSITY</b>	<b>(Periods 12)</b>
● Problems of Communalism, Regionalism, Casteism & Patriarchy	(12 Marks)
● Role of the State in a Plural and Unequal Society	
● What We Share	

**CHANGE AND DEVELOPMENT IN INDIA****MARKS 42****UNIT V : PROCESS OF SOCIAL CHANGE IN INDIA****(Periods 22)**

- Process of Structural Change : (8 Marks)  
Colonialism, Industrialization, Urbanization
- Process of Cultural Change :  
Modernization, Westernization, Sanskritisation, Secularization.
- Social Reform Movements & Laws

**UNIT VI : SOCIAL CHANGE AND THE POLITY****(Periods 22)**

- The Constitution as an instrument of Social Change (8 Marks)
- Parties, Pressure Groups and Democratic Politics
- Panchayati Raj and the Challenges of Social Transformation

**UNIT VII : SOCIAL CHANGE & THE ECONOMY****(Periods 24)**

- Land Reforms, the Green Revolution and (10 Marks)  
Agrarian Society
- From Planned Industrialization to Liberalization
- Change in the Class Structure

**UNIT VIII : NEW AREAS OF SOCIAL CHANGE****(Periods 22)**

- Media and Social Change (8 Marks)
- Globalization and Social Change

**UNIT IX : SOCIAL MOVEMENTS****(Periods 22)**

- Class-Based Movements: Workers, Peasants. (8 Marks)
- Caste-Based Movements: Dalit Movement, Backward Castes, Trends in Upper Caste Responses.
- Women's Movements in Independent India.
- Tribal Movements.
- Environmental Movements.

**BOOKS RECOMMENDED :**

भारतीय समाज-समाजशास्त्र

Indian Society-Sociology

Published by N.C.E.R.T., NEW DELHI.

## **12. PHYSICAL EDUCATION**

### **It covers the following aspects :**

Eligibility Conditions for Admission to the course, Conditions for Granting Affiliation to Schools offering Physical Education as an Elective subject, Norms for Physical Fitness Test (For use at the time of Admission), Theory Syllabus Practical Activity Syllabus - Part A, Part B, Part C, Part-D.

### **ELIGIBILITY CONDITIONS FOR ADMISSION TO THE COURSE**

The following category of Students will be permitted to join the course :

1. Those who have represented the school in Inter-school Tournaments in any game/sport.
2. Those who do not represent the school but are keen to join the course should undergo a physical fitness test and secure a minimum of 40% marks. The norms of the test to be used for ascertaining eligibility is given on page 2.
3. Those granted permission to join the course should be medically fit to follow a prescribed programme of physical education.
4. The unit of a class in physical education and health education should not exceed 40 students.
5. Instructional hours and duration of the period should be strictly as per the norms of the Board.

### **CONDITIONS FOR GRANTING AFFILIATION TO SCHOOLS FOR OFFERING PHYSICAL EDUCATION AS AN ELECTIVE SUBJECT**

Only those schools satisfying the following conditions will be permitted to offer physical education as a course study at +2 stage as an elective subject :

1. The school should have adequate open space to accommodate at least 200 mts. Track and play fields for minimum three games/sports.
2. The teacher handling the elective programme to physical education should hold a Master Degree in Physical Education.
3. The school should provide adequate funds for physical education and health education for the purchase of equipments, books on physical education and also for the maintenance of sport facilities.

**PHYSICAL FITNESS TEST  
(For admission)**

**NORMS FOR PHYSICAL FITNESS TEST  
(Boys)**

<b>Points Marks</b>	<b>100 mts. (Sec.)</b>	<b>12 min. Run/Walk (Mts.)</b>	<b>Long Jump (Mts.)</b>	<b>Cricket Ball throw (Mts.)</b>	<b>Shuttle Run (4~10mts.) Sec.)</b>
10	12.0	2000	5.50	70	8.5
9	12.5	1900	5.25	65	9.0
8	13.0	1800	5.00	60	9.4
7	13.5	1700	4.80	55	9.7
6	13.8	1650	4.65	50	10.0
5	14.0	1600	4.50	45	10.3
4	14.5	1550	4.35	40	10.6
3	14.8	1450	4.10	35	11.0
2	15.3	1350	3.85	30	11.5
1	15.8	1250	3.60	25	12.0

**NORMS FOR PHYSICAL FITNESS TEST  
(Girls) :**

<b>Points Marks</b>	<b>100 mts. (Sec.)</b>	<b>12 min. Run/Walk (Mts.)</b>	<b>Long Jump (Mts.)</b>	<b>Cricket Ball throw (Mts.)</b>	<b>Shuttle Run (4~10mts.) Sec.)</b>
10	14.0	1700	5.0	50	9.5
9	14.5	1600	4.75	46	10.0
8	15.0	1500	4.50	42	10.5
7	15.5	1400	4.25	38	11.0
6	16.0	1300	4.00	34	11.5
5	16.5	1200	3.75	30	12.0
4	17.0	1100	3.50	26	12.5
3	17.5	1000	3.25	22	13.0
2	18.0	900	3.00	18	13.5
1	18.5	800	2.75	14	14.0

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<b>ONE PAPER</b>	<b>3 Hours</b>	<b>60 Marks</b>
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**PART - A**

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<b>THEORY</b>	<b>28 Marks</b>
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**1. PHYSICAL FITNESS AND WELLNESS**

- 1.1 Meaning and Importance of Physical Fitness and Wellness.
- 1.2 Components of Physical Fitness and Wellness.
- 1.3 Factors affecting Physical Fitness and Wellness.
- 1.4 Principles of Physical Fitness development.
- 1.5 Means of fitness development.
  - 1.5.1 Aerobic Activities - Jogging, Cycling Calisthenics and Rhythmic exercises.
  - 1.5.2 Participation in Games and Sports,.
  - 1.5.3 Circuit Training

**2. TRAINING METHODS**

- 2.1. Meaning and Concept of Training
- 2.2. Warming up, Limbering down and their importance.
- 2.3. Methods of Training
  - 2.3.1. Methods of Strength Development-Isometric, and Isokinetic Exercises.
  - 2.3.2. Methods of Endurance Development-Continuous Method, Interval Training and Fartlek.
  - 2.3.3. Methods of Speed Development-Acceleartion Runs and Pace Races.

**3. SOCIOLOGICAL ASPECTS OF PHYSICAL EDUCATION**

- 3.1 Meaning of Sociological and its importance in Physical Education and Sports.
- 3.2 Games and Sports as man is cultural Heritage.
- 3.3 Development of leadership qualities and group dynamics.

**PART - B**

**15 Marks**

- 1. History of the game/sport (Any one game/sport of student's choice).
- 2. Latest general rules of the game/sport (Any one game/sport of student's choice).

3. Measurement of play fields and specifications of sports equipment.
4. Fundamental skills of the game/sport.
5. Related sports terminologies.
6. Important tournaments and venues.
7. Sports personalities.
8. Sports Awards

**PART - C**

**17 Marks**

**1. HEALTHFUL LIVING**

- 1.1. Concept of environment
- 1.2. Scope of environment - living environment, work place environment and environment for leisure activities.
- 1.3. Essential elements of healthful environment - safe water, low levels of noise, clean air, sanitary surrounding, low levels of radio active radiations and absence of hazards responsible for accidents in (i) home and neighbourhood in rural and urban areas (ii) school and work place (iii) during leisure time activities - recreation and sports.
- 1.4. Role of individual in improvement of environment for health promotion and prevention of accidents related to transportation swimming and water sports.
- 1.5. Disaster preparedness and health care during disasters.

**2. FAMILY HEALTH EDUCATION**

- 2.1 Meaning and functions of family and its importance as a social institution.
- 2.2 Needs and problems of adolescents and their management.
- 2.3 Human reproduction - menstruation, conceptional and prenatal care.
- 2.4 Problems associated with pre-marital sex and teenage pregnancies.
- 2.5 Preparation of marriage.
- 2.6 Role of parent in child care.

**3. PREVENTION AND FIRST AID FOR COMMON SPORTS INJURIES**

- 3.1 Soft Tissue Injuries - sprain and strain.
- 3.2 Bone Injuries.
- 3.3 Joint Injuries.



## PRACTICAL

**25 Marks**

The activity syllabus has been divided into following four parts. The marks of each part are as follows :

Part - A	Track and Field (Two events)	—	8 marks
Part - B	Games and Sports (One Game)	—	4 marks
Part - C	Achievement in Sports	—	10 marks
Part - D	Practical Note Book (Class Record)	—	3 marks

### PART - A TRACK AND FIELD

Any two events may be opted. Each event will carry 4 marks out of which 2 marks are for viva concerning athletics event selected by the candidate.

1. Sprints 100 meters or 200 meters or 400 meters.
2. Middle and Long distance running 800 meters or 1500\* meters or 3000\* meters.
3. Broad Jump.
4. Triple Jump\*.
5. High Jump.
6. Shot Put.
7. Discuss Throw.
8. Javelin Throw.

\*denotes 'for boys only'

### PART B TEAM GAMES

Any one game from Group A and B may be opted. The game will carry 4 marks out of which 2 marks will be for proficiency in the game and skills of the game.

<b>Group A</b>	<b>Group B</b>
Hockey	Badminton
Football*	Wrestling*
Volley Ball	Table Tennis
Basket Ball	Boxing*
Kabaddi	Rhythmic (Folk Dance, Drill & Marching)
Kho-Kho	
Hand Ball	

\*denotes 'for boys only'

### **PART C ACHIEVEMENT IN SPORTS**

(Breakup of 10 marks shall be as follows)

- |    |                              |    |
|----|------------------------------|----|
| 1. | School level participation   | 4  |
| 2. | Zonal level participation    | 5  |
| 3. | District level participation | 7  |
| 4. | State level participation    | 9  |
| 5. | National level participation | 10 |

### **PART D PRACTICAL NOTE BOOK**

Practical Record (activities)      3 marks

#### **BOOKS RECOMMENDED :**

Any book confirming to the Syllabus.

## 13. PUBLIC ADMINISTRATION

One Paper

3 Hours

85 Marks

*Some Aspects of Indian Administration :*

### Unit I Evolution of Indian Administration :

Evolution and Development of Central Administration in India (Mughal and British Period) British influence on Indian administration and its legacies.

### Unit II Indian Administration and Constitution :

Indian Administration and its social, Economical, Political, legal and constitutional influence. Legislative administration and financial relations between the Union and the States. Controversy regarding centre-state relations.

### Unit III Personnel Administration :

**All India Services** :- Characteristics, merits and demerits Recruitment and Training of I.A.S., I.P.S. and I.F.S. (Forest) Defects of Recruitment and Training in India. Role of U.P.S.C.

### Unit IV State Administration

Governor as Chief Executive. Administrative Secretariat. Role of Chief Secretary.

### Unit V Administration of Local Govts.

Meaning, Features, Kinds (Panchayat, Panchayat Samiti, Zila Parishad, Municipal Committee and Municipal Corporation. Role of B.D.O. and Executive Officer. Reasons for unsatisfactory functions of Local Govts. and remedies.

### Unit VI Development Administration :

Meaning, significance and essential factors for development administration. Composition and functions of Planning Commission in India, NDC (National Development Council), Contributions and problems of Public Sector in India.

**Unit VII Financial Administration :**

**Budget** : Meaning, Kinds, Principles and Significance, Preparation of Budget.

**Unit VIII Citizen and Administration :**

Importance of citizen's participation in administration causes of poor citizen's participation in administration. Methods to make effective citizen's participation in India.

**Unit IX Administrative Tribunals :**

Meaning, reasons for growth, advantages and disadvantages  
Differences between administrative tribunals and law courts.

**Unit X Administrative Corruption :**

Meaning, Causes and remedies, Ombudsman (Lokpal)  
Central Vigilance Commission.

**BOOKS RECOMMENDED :**

Any book confirming to the Syllabus.

## 14. संस्कृतम् ( ऐच्छिकम् )

पाठ्यक्रमः परीक्षानिर्देशाश्च

अवधि: होरात्रयम्

एकम् प्रश्नपत्रे

पूर्णाङ्कः : 85

अस्मिन् प्रश्नपत्रे चत्वारः खण्डाः भविष्यन्ति

खण्डः	“क”	अपठितांश-अवबोधनम्	13
खण्डः	“ख”	रचनात्मककार्यम्	16
खण्डः	“ग”	पठितांश-अवबोधनम्	40
खण्डः	“घ”	छन्द अलंकाराः	16

प्रतिखण्डं विस्तृतविवरणम्

खण्डः ‘क’

( अपठितांशावबोधनम् )

अंकाः 13

(i) 40-60 शब्दपरिमितः एकः सरलः अपठितः गद्यांशः 5

प्रश्नवैविध्यम्-

(i)	एकपदेन उत्तरम्	1
(ii)	पूर्णावाक्येन उत्तरम्	2
(iii)	भाषिककार्यम्	2
	कर्तु-क्रियापदचयनम्	
	सर्वनाम- संज्ञापदचयनम्	
	विशेषण- विशेष्यचयनम्	
	समानार्थक- विलोमपदचयनम्	

(ii) 80-100 शब्दपरिमितः एक सरल अपठितः गद्यांशः। (सम्पादितः सरलः साहित्यिकः अंशः) 8

प्रश्नवैविध्यम्-

	एकपदेन उत्तरम् ( प्रश्नद्वयम् )	2
	पूर्णावाक्येन उत्तरम् ( एकप्रश्नः )	1
भाषा-	सम्बद्धकार्यम्	4
	कर्ता-क्रियापदचयनम्	1
	विशेषण-विशेष्य-प्रयोगः	1

सर्वनामप्रयोगः/संज्ञाप्रयोगः	1
शब्दार्थचयनम्/विलोमचयनम्	1
समचितशीर्षकप्रदानम्।	1

**खण्ड-‘ख’ ( रचनात्मकं कार्यम् )**

अंकाः 16

1. प्रदत्तरूपरेखाया कथासंयोजनम् / क्रमायोजनम्	8
2. सङ्केताधारितम् वर्णनम्	8

**खण्डः ‘ग’ ( पठित-अवबोधनम् )**

अंकाः 40

1. त्रयः अंशाः	
(i) गद्यांशः	5
(ii) पद्यांशः	5
(iii) नाट्यांशः	5

**प्रश्नवैविध्यम्**

एकपदेन उत्तरम्	2
पूर्णावाक्येन उत्तरम्	2
विशेषण-विशेष्यप्रयोगः/अन्वितिः	1
विलोमचयनम्/पर्यायचयनम्, कर्तृपदक्रियापदयननम्	1
2. शब्दार्था :	2
3. कथननि आश्रित्य प्रश्ननिर्माणम्	4
4. भावार्थलेखनम्	3 + 3
5. अन्यलेखनम्	3
6. पाठ्यपुस्तकम् आधारितं भाषिककार्यम्	5
● कर्तृक्रियापदचयनम्	1
● विशेषणविशेष्यचयनम्	1
● सर्वनामसंज्ञाप्रयोगः	1
● समानविलोमपदचयनम्	1
● कः कं कथयति	1
7. पाठ्यपुस्तकयोः सङ्कलितगद्यांशानां काव्यांशानां लेखकानां/ग्रन्थानां सङ्क्षिप्तपरिचयः।	5

**खण्ड: 'घ' ( छन्दोऽलंकारपरिचयः )**

अंका: 16

1. गणानाम् परिचयः लघुगुरुस्वरविवेकः 2
2. अधोलिखितछन्दसाम् उदाहरणपरिभाषासहितम् सामान्यज्ञानम् 6

**छन्दांसि-**

अनुष्टुप, उपजाति, वशंस्थ, वसन्ततिलका, मालिनी, शिखरिणी, शार्दूलविक्रीडितम्  
(प्रदत्तश्लोकेषु छन्दसः अभिज्ञानमाध्यमेन, प्रदत्तपरिभाषासु रिक्तस्थानपूर्तिमाध्यमेन च परीक्षणम्)

3. अधोलिखित-अलंकाराणाम् उदाहरणपरिभाषासहितसामान्यपरिचयः 8

**शब्दालंङ्काराः -**

अनुप्रासः यमकम्, श्लेषः

**अर्थालङ्काराः -**

उपमा, रूपकम्, उत्प्रेक्षा अर्थान्तरन्यासः

प्रदत्तश्लोकेषु अलंकारस्य अभिज्ञानमाध्यमेन, 3 + 3

प्रदत्तपरिभाषासु रिक्तस्थानपूर्तिमाध्यमेन च परीक्षणम्। 2

**निर्धारित पुस्तकानि :**

- शास्वती ( भागः:2) हि०प्र० स्कूल शिक्षा बोर्ड द्वारा प्रकाशित
- व्याकरणसौरभम् ( संशोधितसंस्करणम्) (राष्ट्रीय-शैक्षिक-अनु. एवं प्रशिक्षणपरिषदा प्रकाशितम्)
- हायरसंस्कृतग्रामर ( एम् आरकालेलिखितम्)
- रचनानुवादकौमुदी ( कपिलदेवद्विवेदीलिखितम्)
- संस्कृतसाहित्यपरिचयः (संदर्भपुस्तकम्) (रा.शै.अनु.प्र. परिषदा प्रकाशितम्-संशोधितसंस्करणम्)

## 15. MUSIC (HINDUSTANI VOCAL)

MARKS 85

One Theory Paper

Time : 3 Hours

Marks 25

### A. THEORY

1. (a) **Definition of the following :**  
Varna, Grama, Murchana, Alankar, Gamaka, Khatka, Murki, Kan, Laya and Tala.  
(b) Classification of Ragas. Time theory of Ragas.
2. (a) Brief history of ancient Hindustani Music with special reference to Sangeet Ratnakar.  
(Brief history of medieval and modern period of Hindustani Music with special reference of Sangeet Parijata and the works of Pt. Bhatkhande).
3. Description of the Ragas prescribed for Class XII Practical.
4. To recognise the Ragas from given passages of Swaras.
5. Writing of Notation of prescribed Songs and Talas.
6. Biography of musicians.
  1. Ustad Abdul Karim Khan (उस्ताद अब्दुल करीम खान)
  2. Ustad Fayaz Khan (उस्ताद फैयाज खान)
  3. Pt. Krishan Rao Shankar (प. कृष्ण राव शंकर)
  4. Ustad Bade ghulam Ali Khan (उस्ताद बड़े गुलाम अली खान)
  5. Tyagaraj (त्याग राज)
  6. Purandan Ghosh (पुरन्दन घोष)

B. One Practical Paper

60 Marks

### PAPER :

1. (a) One Drut Khayal in Bihag, Bhairav, Kedar and Bhimpalasi with simple elaborations.  
(b) One Tarana, one Dhruvada, one Dhamar in any prescribed raga.



- (c) One Thumri or Dadra style Composition in Khamaj or a devotional song.
- (d) One Swarmalika in any Raga.
2. The recitation of Thekas Kehrwa, Dadra, Jhaptaal, Rupak Tilwada and Dhamar with Dugun, keeping Tala with hand beats.
  3. Ability to sing Aroha, Avaroha, Pakad and Simple Swar Vistar with Alap and Tana in the prescribed Ragas.
  4. Ability to recognise the prescribed Ragas from the passages of Swaras rendered by the Examiner.

### **HINDUSTANI MUSIC (VOCAL) PRACTICAL**

#### **GUIDELINES TO THE EXAMINER FOR EVALUATION OF PRACTICALS**

**One Practical Paper**

**Marks : 60**

**TIME DURATION : 20 TO 30 MINUTES PER CANDIDATE :**

#### **GENERAL INSTRUCTIONS :**

1. Examiners are requested to ask the questions directly related to the syllabus.
2. Marks should be awarded in accordance with the marking scheme

#### **DISTRIBUTION OF MARKS**

S. No.	Value Points	Marks
1.	Tunning of Tanpura and questions regarding Tanpura.	04 + 04 = 8
2.	Choice Raga (Vilambit and Drut Khayal)	(8 + 4) 12
3.	Examiners Choice Drut Khayal	8
4.	One Dhruvad or One Dhamar	10
5.	Composition in Raga Khamaj	4
6.	Identification of Swaras & Ragas	05 + 05 = 10
7.	Identification of Tala Played on Tabla	4
8.	Reciting the Theka of a Tala with hand beats	4

## LIST OF QUESTIONS FOR THE GUIDANCE OF THE EXAMINERS

1. **Tuning of Tanpura** : The student may be asked to tune the Tanpura. Some questions to be asked regarding Tanpura (Parts of Tanpura)
2. **Choice Raga** : The student may be asked to sing a Raga prescribed in the syllabus of his / her own choice. Choice Raga with Vilambit Khyal & Drut Khyal with simple Alap & Tanas in Akar Before performing the Raga, they may be asked to sing Aroha, Avaroha and Pakad of the Raga.
3. **Other Drut Khyals** : It is examiner's choice, he/she may ask one or two Drut Khyals with Aroha, Avaroha, Pakad and simple elaboration in medium and fast tempo.
4. **Dhrupad / Dhamar** : It is examiner's choice, he/she may ask the student to sing Dhrupad or Dhamar with Dugun and Chaugun.
5. **Tarana** : The student may be asked to sing Tarana in any prescribed Raga with medium and fast tempo.
6. **Composition in Raga Khamaj** : The student may be asked to sing composition in Raga Khamaj (in Thumri style or dadra style).
7. **Identification of Swaras and Ragas** : The students may be asked to identify the pattern of Swaras and Ragas sung in Akar by the examiner.
8. **Identification of Talas** : The student should be asked to recognise the Tala, played on Tabla. The examiner can ask the student to identify more than one tala.
9. **Reciting of Theka** : The examiner may ask the student to recite the theka of any Tala in Thah (barabar) and Dugun with hand beats.

### (B) HINDUSTANI (INSTRUMENTAL MELODIC)

<b>One Theory Paper</b>	<b>3 Hours</b>	<b>Marks : 25</b>
		<b>72 Periods</b>

#### A. THEORY :

1. (a) **Definition of the following** :—  
Grama, Murchana, Varna, Alankar, Gamaka, Krintan, Zamzama.  
(b) Classification of Ragas, Time theory of Ragas.
2. (a) Brief history of Ancient Hindustani Music with special reference to Sangeet Ratnakar.  
(b) Brief history of medieval and Modern period of Hindustani Music with special reference to Sangeet Parijata and works of Pt. V.N. Bhatkhande.  
(c) Description of the Ragas Prescribed for Class-XII Practical.

3. Description and construction of instruments opted, alongwith the basic techniquis of playing.
4. To Recognise the Ragas from given passages of Swaras
5. Writing Notation of compositions (Gat) and Talas.
6. **Biographies of Musicians.**

(a) Tansen	—	तानसेन ।
(b) Ustad Inayat Khan	—	उस्ताद इनायत खान ।
(c) Ustad Mushtaq Alikhan	—	उस्ताद मुश्ताक अलीखाँ ।
(d) Ustad Alauddin Khan	—	अलाऊद्दीन खाँ ।
(e) Alladiya Khan	—	अल्लाद्धिया खाँ ।

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**One Practical Paper**

**Marks 60**

**168 Periods**

**B. Practical Paper**

1. (a) One Razakhani gat in Bhairav, Bihag, Kedar and bhimpalasi with elaborations (Toda and Jhala) with Sthaya and Antara.  
 (b) Two Masitkhani compositions (gats) in a prescribed Raga with elaborations.  
 (c) One composition in Khamaj in Thumri style or Dhun.  
 (d) Ability to produce Meend in any prescribed Raga of minimum two swaras.  
 (e) One comosition in Ektala and one in Jhaptala.
2. Ability to play Aroha, Abaroha, Pakad, Simple Swara-Vistars with Alap and Toda in the prescribed Ragas.
3. Ability to recite Thekas of Jhaptal, Rupak, Tilwada and Dhamar with Dugun, Keeping tala with hand beats.
4. Ability to recognise the prescribed Ragas from passages of Swaras sung or played by the examiner.
5. To recognize the Swaras.

**HINDUSTANI MUSIC (INSTRUMENTAL) MELODIC PRACTICAL  
GUIDELINES TO THE EXAMINER FOR EVALUATION OF PRACTICALS**

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**One Practical Paper**

**Marks : 60**

Time Duration : 20 to 30 minutes for each candidate.

**GENERAL INSTRUCTIONS :**

1. Examiners are requested to ask the questions directly related to the syllabus.
2. Marks should be awarded in accordance with the marking scheme.

### DISTRIBUTION OF MARKS :

SL. No.	Value Points	Marks
1.	Tuning of Instrument and questions regarding instrument 4 + 4	8
2.	Choice Raga (Masit Khani Gat & Razakhani) (8 + 4)	12
3.	Razakhani Gat with Toda & Jhala of Examiners choice.	4
4.	To play Swara-vistar in a Raga of examiners choice.	8
5.	Meend of Swaras	05
6.	Composition of Raga Khamaj	05
7.	Identifying of the Swaras and Raga	10
8.	Identification of Tala played on Tabla	4
9.	Reciting the Theka of a Tala with hand beats.	4

#### GUIDELINES FOR THE EXAMINERS

- 1. Tuning of Instrument :** The student should be asked to tune his/her instrument. Some questions to be asked regarding instruments (Parts of the instrument).
- 2. Choice Raga :** The student should be asked to play a Raga of his/her own choice prescribed in the syllabus. Choice Raga-Masit Khani Gat and Raza Khani Gat with alap, Toda and Jhala, Before Performing the Raga, the student may be asked to play aroha, Abaroha and Pakad of the Raga.
- 3. Raza Khani Gat :** It is examiner's choice, he/she may ask the student to play any Masit-Khani Gat on his/her instrument with Alap and Tan, Toda in Chaugun.
- 4. Swara Vistar :** The examiner may ask the student to play swar vistar in a Raga of examiner's choice.
- 5. Meend of Swaras :** The student may be asked to play a few simple Alaps using Meend on instrument (Meend upto two swaras)
- 6. Composition in Khamaj :** The student may be asked to play composition in Raga Khamaj on instrument.
- 7. Identify the Raga from the passages of Swaras played by the examiners (Rag Pehchan)**
- 8. Identification of Tala :** The student may be asked to identify the Tala played on Tabla. The examiner can ask the student to identify more than one Tala.

9. **Reciting of Theka** : The examiner may ask the student to recite the Theka (of examiner's choice of any of Thah, Barabar) Dugun and chaugun with hand beats.
10. **Simple question about Raga.** The examiner may ask simple question about any prescribed Raga i.e. Jati, Vadi, Samavadi, thata, Time of singing, Varjit swaras etc.

**(C) HINDUSTANI (INSTRUMENTAL PERCUSSION)**

**(TABLA OR PAKHAWAJ)**

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<b>One Theory Paper</b>	<b>Marks : 25</b>	<b>3 Hours</b>
		<b>72 Periods</b>

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**A. THEORY**

1. (a) **Definition of the following terms.**  
Verna, Alankar, (Gamaka, Krintan, zamzama) Zarab, Kala, Kriya Anga, Peshkar, Chakkardar, (Classification of ragas. Time Theory of Ragas) and Rela & Paran.
- (b) Comparative study of samantar Talas
- (a) Chautal Ektal
- (b) Jhaptal-Sul Tal
- (c) Dhamar-Chautal
- (c) Classification of Jatis of different patterns
- (d) Classification of Layakari.
2. (a) Brief history of Ancient Hindustani Music with special reference to sangeet Ratnakara.
- (b) Brief history of medieval and modern period of Hindustani Music with special reference to sangeet Parijat and the works of Pt. V. N. Bhatkhande.
3. Description of talas prescribed for Class XII practical.
4. Writing Notation of the prescribed talas.
5. Recognition of talas from given portion of the Thekas.

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**One Practical Paper****Marks 60****168 Periods**

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**B. PRACTICAL ACTIVITIES**

1. Playing the thakas of Jhaptal and Rupak or sool tala and chautal Tala on Tabla with simple elaborations.
2. 2 Peshkaras 2 Qayadas, 2 Tukras and a few gats in Tentel, Ektal and Jhaptal or chautal and Dhamar.
3. Playing the Thekas of rupak, Tilwara in Chautaal and dhamar with dugun and chaugun, with Mukhda and Tihai.
4. Recitation of the prescribed talas with dugun and chaugun keeping tala with hand beats.
5. A few simple laggis is Dadra tala or Chautal on Pakhawaj.
6. Knowledge of tuning of the instrument.

**HINDUSTANI MUSIC (INSTRUMENTAL PERCUSSION PRACTICAL GUIDELINES TO THE EXAMINERS FOR EVALUATION OF PRACTICALS.**

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**One Practical Paper****60 Marks**

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**Time Duration : 20 to 30 minutes each candidate****GENERAL INSTRUCTIONS :**

1. Examiners are requested to ask questions directly related to the syllabus.
2. Marks should be given in accordance with the marking scheme.

**DISTRIBUTION OF MARKS :**

SL. NO.	Value Points	Marks
1.	Tuning of Instrument and questions regarding instrument	18
2.	Choice Tala	18
3.	Tala of Examiner's Choice	8
4.	Tala in Dugun, Chaugun with Mukhda & Tihai	8
5.	Reciting of Tala with hand beats	8
		<b>60</b>

## LIST OF QUESTIONS FOR THE GUIDANCE OF THE EXAMINER

1. **Tuning of Instrument** : The students should be asked to tune the instrument. Some questions should be asked regarding instruments.
2. **Choice Tala** : The student should be asked to play the Tala of his/her own choice (Prescribed in the syllabus) with elaborations, Peshkar, Quayada, gat, Tukra and Tihai.
3. **Tala of Examiner's Choice** : The student should be asked to play the tala of examiner's choice with elaborations (Teen Tala/Jhap Tala/Ek Tala/Roopak Tala)
4. **Tala in Dugun Chaugan with Mukhda and Tihai** : (Examiner's choice the examiner may ask to play any (Roopak/Tilwara/Chautala/Dhamar Tala)
5. **To recite the Tala with hand beats** : The student should be asked recite the theka of Tala in Thah, (Barabar) Dugun and Chaugum hand boats. The examiner may ask the student to play more than tala.
6. **Laggi in Dadra Tal** : The student should be asked to play accompanying a song set to Dadra Tala sung by the examiner.
7. **Questions regarding Laya & Tala** : Some questions should be asked regarding Laya (Vilambit Madhya and Drut Laya) and Tala (Roopak, Jhaptal, Ektal, etc.)

## BOOKS RECOMMENDED :

Any book confirming to the Syllabus.

## 16. DANCE

**One Theory Paper**

**Time : 3 Hours**

**Marks : 25**

1. A brief history and acquaintance with the classical styles or folk forms prevalent in the region, other than the one offered for study.
2. Acquaintance with the history of the chief exponents past and present of the dance form.
3. Acquaintance with the contents of the Abhinaya Darpana.
4. **Knowledge of the following terms :**
  - (i) Nirtta, Nritya, Natya Tandava, Lasya.
  - (ii) Anga, Upanga, Pratyanga.
  - (iii) Sthana, Chari, Gati, Mandla, Karna, Bhramari, Utplavana.
  - (iv) Abhinaya (Angika, Vachika, Satvika, Acharya) with special reference to Hasta—Abhinaya, Mukhaja abhinay and Netra—Abhinaya.
  - (v) Sangeet, Tala, Laya.
  - (vi) Rasa, Sthyibhava, Sanchribhava.
5. **Knowledge of the Technical Terminology of the dance form.**
  - (a) **Definition of the following :**
    - (i) Vandana,
    - (ii) Tthaat
    - (iii) Aamad,
    - (iv) Toda/Tukra,
    - (v) Paran,
    - (vi) Chakardar Toda and Paran,
    - (vii) Gatnikas,
    - (viii) Gatbhav,
    - (ix) Tala,
    - (x) Teen Tala,
    - (xi) Jhaptala.
  - (b) Knowledge of Theka of Dadra, Kaharwa, Roopak.
  - (c) Definitions of Tali, Khali, sam, Tihayee.
  - (d) Ability of notate a Tukra/Toda, Paran alongwith its basic Tala.



6. Acquaintance with the traditional costumes make up of the dance type offered.

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**One Practical Paper** **60 Marks**

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1. Practice of the Tatkara to teentala in all layas.
2. **The students should know all the techniques and compositions of the following :—**
  - (i) Vanda 1
  - (ii) Ganesh Paran 1
  - (iii) Tthaat 1
  - (iv) Aamad 2
  - (v) Fast Aamad 2
  - (vi) Pramalu 2
  - (vii) Tihayee 4
  - (ix) Gatbav 3
  - (x) Parhant of Tukra/Toda, Paran learnt with Tala 1

- Note :—**
1. The student should be taught some of these composition in Jhaptaal.
  2. Ability to improvise in Nritta and Abhinaya.
  3. Parhant (recitation of bols) to the basic thetka of all composition learnt.
  4. Ability to play the 'theka' of teentala and jhaptala on the table.

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**One Theory Paper** **3 Hours** **25 Marks**

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1. A brief history and acquaintance with other classical styles or folk-form prevalent in the region, other than the one offered for study.
2. Acquaintance with life history of the chief exponents past and present of the Dance form.
3. Acquaintance with the contents of the Abhinaya Darpana.
4. **Knowledge of the following terms :—**
  - (i) Nritta, Nritya, Natya, Tandava, Lasya.
  - (ii) Anga, Upanga, Pratyanga.
  - (iii) Sthana, Chari, Gati, Mandala, Karna, Bhramari, Utplavana.

- (iv) Abhinaya, (Angika, Vachika, Satvika, Acharya) with special reference to Hasta-Abhinaya, Mukhaja abhinaya and Netra abhinaya.
- (v) Sangeet, Tala, Laya.
- (vi) Rasa, Sthayibhava, Sancharibhava.
- 5. Knowledge of the Technical Terminology of the particular Dance form (Any one to be studied in accordance with the Dance style offered).**
- (a) **Definitions of the following :**  
 Adavu, Korvai, Jati, Teermarnam Sollukattu, Aridi, Usi, Tattukkarhi, Nattuvangam, Attami, Arainadi, Arangetram.
- (b) Ability to write a korvai with Adavu syllable.
- 6. Acquaintance with traditional costumes, make up of the Dance type offered.**

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**One Practical Paper**

**60 Marks**

1. Revision of all the adavus in class XI
2. Jatiswaram 1
3. Sabdam 1
4. Padam or Kitanam 2
5. Tillana 1
6. Tala, Triputa tala and ability to repeat the adavu syllables in rupak a and Triputa talas and of the korvais of the Jatiswaram and Tillana in their respective talas. Knowledge of the Sapta tale with claping.
7. Hastas—Viniyogas of 10 Asamyata and 5 Samuta Hastas, Deva Hastas (all abhinaya darpanam).
8. Knowledge of the Pada bhedas, mandalams bhramaris and Utplavanas occurring in the items learnt (abhinaza darpanam).
9. Basic knowledge in music—Preferably Karnataka Music.
10. One folk Dance of the region.
11. Ability to improvise korvais on Aadi tala and Abhinaya on simple songs.

**Note :— Students will be examined in all the technique and compositions, he has learnt in class XI.**

**BOOKS RECOMMENDED :**

Any book confirming to the Syllabus.

## 17. PHYSICS

Senior Secondary stage of school education is a stage of transition from general education to discipline-based focus on curriculum. The present updated syllabus keeps in view the rigour and depth of disciplinary approach as well as the comprehension level of learners. Due care has also been taken that the syllabus is not heavy and is at the same time, comparable to the international standards. Salient features of the syllabus include :

- c Emphasis on basic conceptual understanding of the content.
- c Emphasis, on use of SI units, symbols, nomenclature of physical quantities and formulations as per international standards.
- c Providing logical sequencing of the units of the subject matter and proper placement of concepts with their linkage for better learning.
- c Reducing the curriculum load by eliminating overlapping of concepts/ content within the discipline and other disciplines.
- c Promoting process-skills, problems-solving abilities and applications of Physics concepts.

**Besides, the syllabus also attempts to :**

- c Strengthen the concepts developed at the secondary stage to provide firm foundation for further learning in the subject.
- c Expose the learners to different processes used in Physics-related industrial and technological applications.
- c Develop process-skills and experimental, observational, manipulative, decision making and investigatory skills in the learners.
- c Promote problem solving abilities and creative thinking in learners.
- c Develop conceptual competence in the learners and make them realize and appreciate the interface of Physics with other disciplines.

### THEORY

One Paper	Time : 3 hrs.	60 Marks
Unit-I	Electrostatics	07
Unit-II	Current Electricity	07
Unit-III	Magnetic effect of current & Magnetism	07
Unit-IV	Electromagnetic Induction and Alternating Current	07
Unit-V	Electromagnetic Waves	03

Unit-VI	Optics	12
Unit-VII	Dual Nature of Matter	03
Unit-VIII	Atoms and Nuclei	04
Unit-IX	Electronic Devices	06
Unit-X	Communication Systems	04
<b>Total</b>		<b>60</b>

### **Unit I : Electrostatics**

**(Periods 25)**

Electric Charges ; Conservation of charge, Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.

Electric field, electric field due to a point charge, electric field lines; electric dipole, electric field due to a dipole; torque on a dipole in uniform electric field.

Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field.

Conductors and insulators, free charges and bound charges inside a conductor; Dielectrics and, electric polarisation, capacitor and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates; energy stored in a capacitor. Van de Graaff generator.

### **Unit II : Current Electricity**

**(Periods 22)**

Electric current, flow of electric charges in a metallic conductor, drift velocity and mobility, and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics, (linear and non-linear) electrical energy and power, electrical resistivity and conductivity, Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance.

Internal resistance of a cell, Potential difference and emf of a cell, combination of cells in series and in parallel.

Kirchhoff's laws and simple applications, Wheatstone bridge, Metre bridge.

Potentiometer - principle and its applications to measure potential difference, and for comparing emf of two cells; measurement of internal resistance of a cell.

### **Unit III : Magnetic Effect of Current and Magnetism**

**(Periods 25)**

Concept of magnetic field, Oersted's experiment.

Biot-Savart law, and its application to current carrying circular loop.

Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids.

Force on a moving charge in uniform magnetic and electric fields. Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current-carrying conductors-definition of ampere. Torque experienced by a current loop in uniform magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment; Magnetic dipole moment of a revolving electron; Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements; Para, dia and ferro-magnetic substances with examples, Electromagnets and factors affecting their strengths Permanent magnets.

### **Unit IV : Electromagnetic Induction and Alternating Current**

**(Period 20)**

Electromagnetic induction, Faraday's laws, Induced emf and current, Lenz's law, Eddy currents, Self and mutual inductance.

Need for displacement current.

Alternating currents, peak and rms value of alternating current/voltage, reactance and impedance; LC oscillations, (qualitative treatment only), LCR series circuit, resonance; Power in AC circuits, wattless current.

AC generator and transformer.,

### **Unit V Electromagnetic Waves**

**(Periods 4)**

Electromagnetic waves and their characteristics (qualitative ideas only); Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radiowaves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses;

### **Unit VI : Optics**

**(Periods 30)**

Reflection of light, spherical mirrors, mirror formula. Refraction of light total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula. Magnification, power of a lens, combination of thin lenses in contact. Refraction and dispersion of light through a prism.

Scattering of light - blue colour of the sky and reddish appearance of the sun at sun rise and sunset.

**Optical instruments** - Human eye, image formation and accommodation, correction of eye defects (myopia, hypermetropia, presbyopia and astigmatism) using lenses. Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

**Wave Optics** : Wave front and Huygen's principle; reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygens' principle. Interference - Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescopes. Polarisation, plane polarised light, Brewster's law; uses of plane polarised light and Polaroids

### **Unit VII : Dual Nature of Matter and Radiation**

**(Periods 8)**

Dual nature of radiation. Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light.

Matter waves - wave nature of particles, de-Broglie relation, Davisson - Germer experiment.

### **Unit VIII : Atomic & Nuclei**

**(Periods 18)**

Alpha-particle scattering experiment, Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.

Composition and size of nucleus, atomic masses, isotopes, isobars; isotones, Radioactivity-alpha, beta and gamma particles/rays and their properties; radioactive decay law. Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number, nuclear fission and fusion.

**Unit IX : Electronic Devices****(Periods 18)**

Semiconductors; Semiconductor diode-I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR); Transistor as a switch.

**Unit X : Communication Systems****(Periods 10)**

Elements of a communication systems (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation. Production and detection of an amplitude-modulated wave.

**PRACTICALS**

Every student will perform 10 experiments (5 from each section) and 8 activities (4 from each section) during the academic year. Two demonstration experiments must be performed by the teacher with participation of students. The students will maintain a record of these demonstration experiments.

**B. Evaluation Scheme for Practical Examination :**

1	One experiment from any one Section	<b>7 Marks</b>
1	Two activities (one from each section)	<b>3 + 3 = 6 Marks</b>
	Practical record (experiments & activities)	<b>5 Marks</b>
1	Record of demonstration experiments & Viva based on these experiments	<b>2 Marks</b>
1	Viva on experiments and activities	<b>5 Marks</b>
<b>Total</b>		<b>25 Marks</b>

**SECTION A****EXPERIMENTS**

1. To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.
2. To find resistance of a given wire using metre bridge and hence determine the specific resistance of its material.
3. To verify the laws of combination (series/parallel) of resistances using a metre bridge.

4. To compare the emf of two given primary cells using potentiometer.
5. To determine the internal resistance of given primary cell using potentiometer,
6. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
7. To convert the given galvanometer (of known resistance of figure of merit) into an ammeter and voltmeter of desired range and to verify the same.
8. To find the frequency of the a.c. mains with a sonometer

### ACTIVITIES

1. To measure the resistance and impedance of an inductor with or without iron core
2. To measure resistance, voltage (AC/DC), current (AC and check continuity of a given circuit using multimeter.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To assemble the components of a given electrical circuit.
5. To study the variation in potential drop with length of a wire for a steady current.
6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

### SECTION B

### EXPERIMENTS

1. To find the value of  $v$  for different values of  $u$  in case of, a concave mirror and to find the focal length.
2. To find the focal length of a convex lens by plotting graphs between  $u$  and  $v$  or between  $1/u$  and  $1/v$ .
3. To find the focal length of a convex mirror, using a convex lens.
4. To find the focal length of a concave lens, using a convex lens.
5. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and the angle of deviation.
6. To determine refractive index of a glass slab using a travelling microscope



7. To find refractive index of a liquid by using (i) concave mirror, (ii) convex lens and plane mirror.
8. To draw the I-V characteristic curve of a p-n junction in forward bias and reverse bias.
9. To draw the characteristic curves of a zener diode and to determine its reverse break down voltage.
10. To study the characteristics of a common-emitter npn or pnp, transistor and to find out the values of current and voltage gains.

### ACTIVITIES

1. To study effect of intensity of light (by varying distance of the source) on an L.D.R.
2. To identify a diode, an LED, a transistor, and IC, a resistor and a capacitor from mixed collection of such items.
3. **Use of multimeter to**
  - (i) identify base of transistor
  - (ii) distinguish between npn and pnp type transistors
  - (iii) see the unidirectional flow of current in case of a diode and an LED.
  - (iv) Check whether a given electronic component (e.g. diode, transistor or I C ) is in working order.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe polarization of ight using two polaroids.
6. To observe diffraction of light due to a thin slit
7. To study the nature and size of the image formed by (i) convex lens (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

### BOOKS RECOMMENDED :

Physics Part-I  
Physics Part-II

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## 18. CHEMISTRY

### RATIONALE

Higher Secondary is the most crucial stage of school education because at this juncture specialized discipline based, content-oriented courses are introduced. Students reach this stage after 10 years of general education and opt for Chemistry with a purpose of pursuing their career in basic sciences or professional courses like medicine, engineering, technology and study courses in applied areas of science and technology at tertiary level. Therefore, there is a need to provide learners with sufficient conceptual background of Chemistry, which will make them competent to meet the challenges of academic and professional courses after the higher secondary stage.

The new and updated curriculum is based on disciplinary approach with rigour and depth taking care that the syllabus is not heavy and at the same time it is comparable to the international level. The knowledge related to the subject of Chemistry has undergone tremendous changes during the past one decade. Many new areas like synthetic materials, bio-molecules, natural resources, industrial chemistry are coming in a big way and deserve to be an integral part of chemistry syllabus at senior secondary stage. At international level, new formulations and nomenclature of elements and compounds, symbols and units of physical quantities floated by scientific bodies like IUPAC and CGPM are of immense importance and need to be incorporated in the updated syllabus. The revised syllabus takes care of all these aspects. Greater emphasis has been laid on use of new nomenclature, symbols and formulations, teaching of fundamental concepts, applications of concepts in chemistry to industry/technology, logical sequencing of units, removal of obsolete content and repetition etc.

### OBJECTIVES

The broad objectives of teaching Chemistry at Senior Secondary Stage are to help the learners :

- c To promote understanding of basic facts and concepts in chemistry while retaining the excitement of chemistry.
- c To make students capable of studying chemistry in academic and professional courses (such as medicine technology) at tertiary level.
- c To expose the students to various emerging new areas of chemistry and apprise them with their relevance in their future studies and their application in various spheres of chemical sciences and technology.

- c To equip students to face various changes related to health, nutrition, environment, population, weather, industries and agriculture.
- c To develop problem solving skills in students.
- c To expose the students to different processes used in industries and their technological applications.
- c To apprise students with interface of chemistry with other disciplines of science such as physics, biology, geology, engineering etc.
- c To acquaint students with different aspects of chemistry used in daily life.
- c To develop an interest in students to study chemistry as a discipline.

**(THEORY)**

**One Paper**

**Time: 3 Hours**

**60 Marks**

Unit No.	Title	Marks
<b>Unit I</b>	Solid State	3
<b>Unit II</b>	Solutions	4
<b>Unit III</b>	Electrochemistry	5
<b>Unit IV</b>	Chemical Kinetics	4
<b>Unit V</b>	Surface chemistry	3
<b>Unit VI</b>	General Principles and processes of Isolation of Elements	2
<b>Unit VII</b>	p-Block Elements	6
<b>Unit VIII</b>	d-and f-Block Elements	5
<b>Unit IX</b>	Coordination Compounds	3
<b>Unit X</b>	Haloalkanes and Haloarenes	4
<b>Unit XI</b>	Alcohols, Phenols and Ethers	4
<b>Unit XII</b>	Aldehydes, Ketones and Carboxylic acids	5
<b>Unit XIII</b>	Organic Compounds containing Nitrogen	4
<b>Unit XIV</b>	Biomolecules	3
<b>Unit XV</b>	Polymers	3
<b>Unit XVI</b>	Chemistry in Everyday life	2
	<b>Total</b>	<b>60</b>

**Unit I : Solid State**

**(Periods 12)**

Classification of solids based on different binding forces : molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two dimensional and three dimensional

lattices, calculation of density of unit cell, packing in solids, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties.

### **Unit II : Solutions**

**(Periods 12)**

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties - relative lowering of vapour pressure, elevation of B.P. depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass.

### **Unit III : Electrochemistry**

**(Periods 14)**

Redox reactions, conductance in electrolytic solutions, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells; lead accumulator, EMF of a cell standard electrode potential, Nernst equation and its application to chemical cells, fuel cells ; corrosion.

### **Unit IV : Chemical Kinetics**

**(Periods 12)**

Rate of a reaction (average and instantaneous), factors affecting rates of reaction; concentration, temperature, catalyst; order and molecularity of a reaction; rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions); concept of collision theory (elementary idea, no mathematical treatment)

### **Unit V : Surface Chemistry**

**(Periods 8)**

Adsorption - physisorption and chemisorption factors affecting adsorption of gases of solids; catalysis : homogenous and heterogeneous activity and selectivity : enzyme catalysis; colloidal state : distinction between true solutions colloids and suspensions; lyophilic, lyophobic multimolecular, and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsion - types of emulsions.

### **Unit VI : General Principles and Processes of Isolation of Elements**

**(Periods 8)**

Principles and methods of extraction - concentration, oxidation, reduction electrolytic method and refining; occurrence and principles of extraction of aluminium, copper, zinc and Iron.

**Unit VII : p-Block Elements****(Periods 16)**

**Group 15 Elements** : General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; nitrogen - preparation, properties and uses ; compounds of nitrogen; preparation, properties of ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous-allotropic forms ; compounds of phosphorous: preparation and properties of phosphine, halides ( $\text{PCl}_3$ ,  $\text{PCl}_5$ ) and oxoacids (elementary idea only)

**Group 16 Elements** : General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; dioxygen: preparation, properties and uses; simple oxides; Ozone. Sulphur- allotropic forms; compounds of sulphur : preparation, properties and uses of sulphur dioxide; sulphuric acid: industrial process of manufacture, properties and uses, oxoacids of sulphur (structures only).

**Group 17 Elements** : General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens : Preparation, properties and uses of chlorine and hydrochloric acid, interhalogen compounds, oxoacids of halogens (structures only)

**Group 18 Elements** : General introduction, electronic configuration. Occurrence, trends in physical and chemical properties, uses.

**Unit VIII : d and f-Block Elements****(Periods 14)**

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals - metallic character, ionization enthalpy, oxidation states, ionic radii, colour catalytic property, magnetic properties, interstitial compounds, alloy formation. Preparation and properties of  $\text{K}_2\text{Cr}_2\text{O}_7$  and  $\text{KMnO}_4$ .

**Lanthanoids** – Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction.

**Actinoids** – Electronic configuration, oxidation states.

**Unit IX : Coordination Compounds****(Periods 12)**

Coordination Compounds - introduction, ligands and coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding; isomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems).

**Unit X : Haloalkanes and Haloarenes.****(Periods 12)****Haloalkanes :**

Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions.

**Haloarenes :**

Nature of C-X bond, substitution reactions (directive influence of halogen for monosubstituted compounds only)

Uses and environmental effects of -dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

**Unit XI : Alcohols, Phenols and Ethers****(Periods 12)**

**Alcohols :** Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses, some important compounds-methanol and ethanol.

**Phenols :** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols

**Ethers :** Nomenclature, methods of preparation, physical and chemical properties, uses.

**Unit XII : Aldehydes, Ketones and Carboxylic Acids****(Periods 12)**

**Aldehydes and Ketones :** Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties and mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses.

**Carboxylic Acids :** Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

**Unit XIII : Organic Compounds containing Nitrogen****(Periods 10)**

**Amines :** Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.

**Cyanides and Isocyanides :** will be mentioned at relevant places in context.

**Diazonium salts :** Preparation, chemical reactions and importance in synthetic organic chemistry.

**Unit XIV : Biomolecules****(Periods 12)**

**Carbohydrates** : Classification, (aldoses and ketoses) monosaccharides, (glucose and fructose), oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); importance.

**Proteins** : Elementary idea of  $\alpha$ -amino acids: peptide bond, polypeptides, proteins, primary structure, secondary structure, tertiary structures and quaternary structure (qualitative idea only), denaturation of proteins; enzymes.

**Vitamins** : Classification and functions

**Nucleic Acids** : DNA & RNA.

**Unit XV : Polymers****(Periods 8)**

Classification : natural and synthetic, methods of polymerization (addition and condensation), copolymerization. Some important polymers : natural and synthetic like polythene, nylon, polyesters, bakelite, rubber.

**Unit XVI : Chemistry in Everyday Life****(Periods 8)**

- 1. Chemicals in medicines** : analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.
- 2. Chemicals in food** : preservatives, artificial sweetening agents,
- 3. Cleansing agents** : soaps and detergents, cleansing action.

**PRACTICALS**

<b>EVALUATION SCHEME FOR EXAMINATION</b>	<b>MARKS</b>
Volumetric Analysis	8 Marks
Salt Analysis	6 Marks
Content Based Experiment	3 Marks
Class Record and Viva	4 Marks
Investigatory Project	4 Marks
<b>Total</b>	<b>25 Marks</b>

## PRACTICALS SYLLABUS

### A. Surface Chemistry

(Periods 6)

- (a) Preparation of one lyophilic and one lyophobic sol.  
Lyophilic sol-Starch, egg albumin and gum.  
Lyophobic sol - aluminium hydroxide, ferric hydroxide, arsenious sulphide.
- (b) Study of the role of emulsifying agent in stabilizing the emulsions of different oils.

### B. Chemical Kinetics

(Periods 4)

- (a) Effect of concentration and temperature on the rate of reaction between sodium thiosulphate and hydrochloric acid.
- (b) **Study of reaction rates of any one of the following :**
- (i) Reaction of iodide ion with hydrogen peroxide at room temperature using different concentration of iodide ions.
- (ii) Reaction between potassium iodate,  $\text{KIO}_3$  and sodium sulphite : ( $\text{Na}_2\text{SO}_3$ ) using starch solution as indicator (clock reaction).

### C. Thermochemistry

(Periods 6)

- (a) **Any one of the following experiments :**
- (i) Enthalpy of dissolution of copper sulphate or potassium nitrate.
- (ii) Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH)
- (iii) Determination of enthalpy change during interaction (Hydrogen bond formation) between acetone and chloroform.

### D. Electrochemistry

(Periods 2)

Variation of cell potential in  $\text{Zn}/\text{Zn}^{2+}||\text{Cu}^{2+}/\text{Cu}$  with change in concentration of electrolytes ( $\text{CuSO}_4$  or  $\text{ZnSO}_4$ ) at room temperature.

### E. Chromatography

(Periods 2)

- (i) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of  $R_f$  values.
- (ii) Separation of constituents present in an inorganic mixture containing cations only (constituents having wide difference in  $R_f$  values to be provided)



**F. Preparation of Inorganic Compounds****(Periods 4)**

- (i) Preparation of double salt of ferrous ammonium sulphate or potash alum.
- (ii) Preparation of potassium ferric oxalate.

**G. Preparation of Organic Compounds****(Periods 4)**

Preparation of any two of the following compounds

- (i) Acetanilide
- (ii) Di-benzal acetone
- (iii) p-Nitroacetanilide
- (iv) Aniline yellow or 2-Naphthol aniline dye.
- (v) Iodoform

**H. Test for the functional groups present in organic compounds :****(Periods 6)**

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary groups).

**I. Study of Carbohydrates, fats and proteins in pure form and detection of their presence in given food stuffs. (Periods 4)****J. Determination of concentration/molarity of  $\text{KMnO}_4$  solution by titrating it against a standard solution of : (Periods 8)**

- (i) Oxalic acid
- (ii) Ferrous ammonium sulphate.

(Students will be required to prepare standard solutions by weighing themselves)

**K. Qualitative analysis****(Periods 16)**

- Determination of one cation and one anion in a given salt

**Cations** -  $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{As}^{3+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^+$ **Anions** -  $\text{CO}_3^{2-}$ ,  $\text{S}^{2-}$ ,  $\text{SO}_3^{2-}$ ,  $\text{SO}_4^{2-}$ ,  $\text{NO}_2^-$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PO}_4^{3-}$ ,  $\text{C}_2\text{O}_4^{2-}$ ,  $\text{CH}_3\text{COO}^-$ **(Note Insoluble salts excluded)****PROJECT :**

Scientific investigations involving laboratory testing and collecting information from other sources.

### **A Few suggested Projects**

Study of presence of oxalate ions in guava fruit at different stages of ripening.

Study of quantity of casein present in different samples of milk.

Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.

Study of the effect of potassium bisulphate as food preservative under various conditions (temperature, concentration, time etc.)

Study of digestion of starch by salivary amylase and, effect of PH and temperature on it.

Comparative study of the rate of fermentation of following materials: wheat flour, gram, flour, Potato juice, carrot juice etc.

Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).

Study of common food adulterants in fat, oil butter sugar, turmeric powder, chilli powder and pepper.

**Note :** Any other investigatory project, which involves about 10 period of work, can be chosen with the approval of the teacher.

### **BOOKS RECOMMENDED :**

Chemistry Part-I  
Chemistry Part-II

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## 19. BIOLOGY

The present syllabus reinforces the ideas introduced in the lower classes while the students learn new concepts besides getting an exposure to contemporary areas of the subject. The syllabus also aims at emphasizing the underlying principles that are common to both animals and plants as well as highlighting the relationships of biology with other areas of knowledge. The format of the syllabus allows a simple, clear, consequential flow of concepts without any jarring jumps. The syllabus also stresses the connection of the study of Biology to real life problems, use of biological discoveries/innovations in everyday life-in environment, nature, medicine, health and agriculture . The updated syllabus also focuses on reducing the curriculum load while ensuring that ample opportunities and scope for learning and appreciating basic concepts of the subject continues to be available within its framework.

The prescribed syllabus is expected to

- c Promote understanding of basic principles of biology
- c Learning of emerging knowledge and its relevance to individual and society.
- c Encourage rational/specific attitude to issues related to population, environment and development.
- c Enhance awareness about environmental issues and problems and the appropriate solutions.
- c Create awareness amongst the learners about variations amongst the living and developing respect for the diversities and to appreciate that the most complex biological phenomenon are also built on essentially simple processes.

It is expected that the students would get an exposure to various branches of Biology in the syllabus in a more contextual and friendly manner as they study its various units.

<b>One Paper</b>		<b>Time : 3 Hours</b>	<b>60 Marks</b>
<b>Unit</b>		<b>Marks</b>	
1.	Sexual reproduction		11
2.	Genetics and evolution		17
3.	Biology and human Welfare		10
4.	Biotechnology and its applications		10
5.	Ecology and environment		12
<b>Total</b>			<b>60</b>

**I. Sexual Reproduction****(35 Periods)**

Pollination and Fertilization in Flowering plants.

Development of seeds and fruits.

Human reproduction : reproductive system in male and female, menstrual cycle. Production of gametes, fertilization, implantation, embryo development, pregnancy and parturation.

Reproductive health-birth control, contraception and sexually transmitted diseases.

**II. Genetics and evolution****(45 Periods)**

Mendelian inheritance.

Chromosome theory of inheritance, deviations from Mendelian ratio (gene interaction-Incomplete dominance, co-dominance, complementary genes, multiple alleles).

Sex determination in human beings : XX, XY

Linkage and crossing over.

Inheritance pattern of haemophilia and blood groups in human beings.

DNA : replication, transcription, translation.

Gene expression and regulation.

Genome and Human Genome Project.

DNA fingerprinting.

Evolution : Theories and evidences.

**III. Biology and Human Welfare****(35 Periods)**

Animal husbandry.

Basic concepts of immunology, vaccines.

Pathogens, Parasites

Plant breeding, tissue culture, food production.

Microbes in household food processing, industrial production, sewage treatment and ene generation.

Cancer and AIDS.

Adolescence and drug/alcohol abuse.

**IV Biotechnology and ITS Applications****(30 Periods)**

Recombinant DNA technology.

Applications in Health, Agriculture and Industry

Genetically modified (GM) organisms; biosafety issues.

Insulin and Bt cotton.

**V. Ecology & Environment****(35 Periods)**

Ecosystems : components, types and energy flow.

Species, population and community.

Ecological adaptations.

Centres of diversity and conservation of biodiversity National Parks and sanctuaries, Environmental issues.

**PRACTICALS**

<b>Time : 3 Hours</b>		<b>60 Periods</b>
		<b>Marks</b>
1.	Two experiments	3 + 3 = 6
2.	Slide preparation	4
3.	spotting	6
4.	Investigatory project and Viva based on the project	5
5.	Record and Viva based on the experiment	4
<b>Total</b>		<b>25</b>

**LIST OF EXPERIMENTS**

1. Study pollen germination on a slide.
2. Collect and study soil from different sites and study them for texture and moisture content.
3. Study the pH and Water holding capacity of soil. Correlate with the kinds of plants found in them
4. Collect water from different water bodies around you and study them for pH clarity and presence of any living organisms.
5. Study the presence of suspended particulate matter in air at the two widely different sites.
6. Study of plant population density by quadrat method.
7. Study of plant population frequency by quadrat method.

**STUDY/OBSERVATION OF THE FOLLOWING (SPOTTING)**

1. Study of flowers adapted to pollination by different agencies (weed, insect)
2. Study of pollen germination on a slide.
3. Study and identify stages of gamete development i.e. t.s. testis and t.s ovary through permanent slide.

4. Study meiosis in onion bud cell or grass hopper testis through permanent slide.
5. Study of t.s. of blastula through permanent slide.
6. Study Mendelian inheritance using seeds of different colour/size of any plant.
7. Study prepared prediqree charts of genetic traits such as rolling of tongue, blood groups, widow's peak, colour blindness.
8. Exercise on controlled pollination-Emasculation, tagging and bagging.
9. To identify common diseases causing organism like Ascaris, Antamoeba, Plasmo dium, ringworm. Comment on symptoms of diseases that they cause through permanent slides or specimens.
10. Study plants and animals found in xerophytic condition. Comment upon their adaptation/ecosystem.
11. Study plants and animals found in aquatic conditions. Comment upon their adaptation/ecosystem.
12. Study analogous and homologous organs in various plants and animals.

**BOOKS RECOMMENDED :**

Biology

Published by N.C.E.R.T., NEW DELHI.

## 20. ACCOUNTANCY

### RATIONALE

The course in Accountancy is introduced at +2 stage of Senior Secondary education, as formal commerce education is provided after first ten years of schooling. With the fast changing economic scenario and business environment in a state of continuous flux, elementary business education along with accountancy as the language of business and as a source of financial information has carved out a place for itself at the Senior Secondary stage. Its syllabus content should give students a firm foundation in basic accounting principles and methodology and also acquaint them with the changes taking place in the presentation and analysis of accounting information, keeping in view the development of accounting standards and use of computers.

Against this background, the course puts emphasis on developing basic understanding about the nature and purpose of the accounting information and its use in the conduct of business operations. This would help to develop among students logical reasoning, careful analysis and considered judgement.

Accounting as an information system aids in providing financial information. The emphasis at Class XI is placed on basic concepts and process of accounting leading to the preparation of accounts for a sole proprietorship firm. Computerised accounting is becoming more and more popular with increasing awareness about use of computers in business. Keeping this in view, the students are exposed compulsorily to the basic knowledge about computers and its use in accounting in the same year.

In class XII, Accounting for Not for Profit Organisations and Partnership Firms are to be taught as a compulsory part. Students will also be given an opportunity to understand further about Computerized Accounting System, as an optional course to Analysis of Financial Statements.

### OBJECTIVES

- c To familiarise the students with accounting as an information system;
- c To acquaint the students with basic concepts of accounting and accounting standards;
- c To develop the skill of using accounting equation in processing business transactions;
- c To develop an understanding about recording of business transactions and preparation of financial statements;
- c To enable the students with accounting for reconstitution of partnership firms;
- c To enable the students of understand and analyse the financial statements; and
- c To familiarise students with the fundamentals of computerised system of accounting.

<b>One Paper</b>	<b>3 Hours</b>	<b>65 Marks</b>
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<b>UNITS</b>	<b>PERIODS</b>	<b>MARKS</b>
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**PART A : ACCOUNTING FOR NOT FOR PROFIT ORGANISATIONS, PARTNERSHIP FIRMS AND COMPANIES**

1. Accounting for not for profit organizations.	22	8
2. Accounting for Partnership Firms	14	4
3. Reconstitution of Partnership	34	17
4. Accounting for Share Capital and Debenture	54	21
	<b>124</b>	<b>50</b>

**PART B : FINANCIAL STATEMENT ANALYSIS**

5. Analysis of Financial Statements	33	9
6. Cash Flow Statement	33	6
<b>One Paper</b>		<b>15</b>
Project Work	18	20
<b>OR</b>		
	<b>84</b>	<b>35</b>

**PART-A :**

**ACCOUNTING FOR NOT-FOR-PROFIT ORGANISATIONS, PARTNERSHIP FIRMS AND COMPANIES. (PERIODS 124)**

<b>Unit 1 : Accounting for Not-For-Profit Organisations</b>	<b>(Periods 22)</b>
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- a Not for profit organisation : Meaning and examples.
- a Receipts and payments : Meaning and concept of fund based accounting.
- a Preparation of Income and Expenditure Account and Balance Sheet from Receipt and Payment Account with additional information.

<b>Unit 2 : Accounting for Partnership firms</b>	<b>(Periods 14)</b>
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- a Nature of Partnership firm : Partnership Deed-meaning, importance.
- a Final Accounts of Partnership : Fixed vs fluctuating Capital, Division of Profit among partners, Profit and Loss Appropriation Account.



### **Unit 3 : Reconstitution of Partnership**

**(Periods 34)**

Changes in Profit Sharing Ratio among the existing partners-Sacrificing Ratio and Gaining Ratio.

- a Accounting for Revaluation of Assets and Liabilities and distribution of reserves and Accumulated Profits.
- a **Goods will** : Nature, Factors affecting and methods of valuation : Average profit, Super profit and Capitalisation methods.
- a **Admission of a partner** : Effect of Admission of Partner, change in Profit sharing Ratio, Accounting Treatment for Goodwill, Revaluation of Assets and Liabilities, Reserves (Accumulated Profits) and Adjustment of Capitals.
- a **Retirement/Death of a partner** : Changer in Profit sharing ratio, accounting treatment of Goodwill, Revaluation of Assets and Liabilities, adjustment of accumulated Profits (Reserves) and capitals.

### **Unit 4 : Accounting for Share Capital and Debenture**

**(Periods 54)**

- a Share Capital : Meaning, Nature and Types.
- a Accounting for share capital : Issue and Allotment of Equity and Preference Shares ; Private placement of shares, meaning of employee stock option plan, public subscription of shares ; over subscription and under subscription ; issue at par, premium and at discount ; calls in advance, calls in arrears, issue of shares for consideration other than cash.
- a Forfeiture of shares : accounting treatment, re-issue of forfeited shares.
- a Presentation of Share Capital and Debenture in company's Balance Sheet.
- a Issue of debenture-at par and premium ; issue of debenture for consideration other than cash.
- a Redemption of debenture.
- a Out of proceeds of fresh issue, accumulated profits and sinking fund.

## **PART-B : FINANCIAL STATEMENT ANALYSIS**

### **Unit 5 : Analysis fo Financial Statments**

**(Periods 33)**

Financial statements of a Company : Preparation of simple balance sheet of a company in the prescribed form with major headings only.

**Financial Statement Analysis** : meaning, significance and purpose, limitations,

Tools for Financial Statement Analysis : Comparative Statements, Common Size Statements.

Accounting Ratios : Meaning and Objectives, types of ratios :

Liquidity Ratios : Current Ratio, Liquidity Ratio

Solvency Ratios : Debt of Equity, Total Assets of Debt, proprietary Ratio

Activity Ratios : Inventory Turnover, Debtors Turnover, Payables Turnover, Working Capital Turnover, Fixed Assets Turnover, Current Assets Turnover.

Profitability Ratio : Gross Profit, Operating Ratio, Net Profit Ratio, Return on Investment, Earning per share, Dividend per Share, Profit Earning Ratio.

**Unit : 6 Cash Flow Statement**

**(Periods 33)**

a **Cash Flow statement** : Meaning and objectives, Preparation, adjustments related to depreciation, dividend and tax, sale and purchase of non-current assets (as per revised standard issued by ICAI)

**Unit : 7 Project Work in Accounting**

**(Period 18)**

**BOOKS RECOMMENDED :**

लेखाशास्त्र भाग A के लिए एक पाठ्यपुस्तक

लेखाशास्त्र भाग B के लिए एक पाठ्यपुस्तक

Accountancy book for Part A

Accountancy book for Part B

Published by N.C.E.R.T., NEW DELHI.

## 21. BUSINESS STUDIES

### RATIONABLE

The courses in Business Studies and Accountancy are introduced at + 2 stage of Higher Secondary Education as formal commerce education is provided after first ten years of schooling. Therefore, it becomes necessary that instructions in these subjects are given in such a manner that students have a good understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society.

Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. To understand the framework in which a business operates, a detailed study of the organisation and management of business processes and its interaction with the environment is required. Globalisation has changed the way firms transact their business. Information Technology is becoming a part of business operations in more and more organisations. Computerised systems are fast replacing other systems. E-business and other related concepts are picking up fast which need to be emphasized in the curriculum.

The course in Business Studies will prepare students to analyse, manage, evaluate and respond to changes which affect business. It provides a way of looking at and interacting with the business environment. It recognizes the fact that business influences and is influenced by social, political, legal and economic forces. It allows students to appreciate that business is an integral component of society and develops an understanding of many social and ethical issues.

Therefore, to acquire basic knowledge of the business world, a course in Business Studies would be useful. It also informs students of a range of study and work options and bridges the gap between school and work.

### OBJECTIVES

- c To develop in students an understanding of the processes of business and its environment;
- c To acquaint students with the dynamic nature and inter-dependent aspects of business;
- c To develop an interest in the theory and practice of business, trade and industry;
- c To familiarize candidates with theoretical foundations of organizing, managing and handling operations of a business firm;
- c To help students appreciate the economic and social significance of business activity and the social costs and benefits arising therefrom;

- c To acquaint students with the practice of managing the operations and resources of business;
- c To prepare students to function more effectively and responsibly as consumers, employers, employees and citizens;
- c To help students in making the transition from school to the world of work including self-employment;
- c To develop in students a business attitude and skills to be precise and articulate.

<b>One Paper</b>	<b>3 Hours</b>	<b>85 Marks</b>
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**UNITWISE WEIGHTAGE**

<b>UNITS</b>	<b>PERIODS</b>	<b>MARKS</b>
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**PART A : PRINCIPLES AND FUNCTIONS OF MANGEMENT**

1. Nature and Significance of Management	14	6
2. Principles of Management	14	6
3. Business Environment	10	-
4. Planning	14	6
5. Organizing	16	8
6. Staffing	16	8
7. Directing	22	10
8. Controlling	14	6
	<b>120</b>	<b>50</b>

**PART B : BUSINESS FINANCE AND MARKETING**

9. Financial Management	22	10
10. Financial Markets	20	8
11. Marketing	30	12
12. Consumer Protection	16	5
	<b>88</b>	<b>35</b>

**PART A : PRINCIPLES AND FUNCTIONS OF MANAGEMENT**

**Unit 1 : Nature and Significance of Mangement**

**(Periods 14)**

- c Management-concept, objectives, importance.
- c Nature of management; Management as Science, Art, Profession.
- c Levels of management-top, middle, supervisory (first level)

- c Management functions-planning, organizing, staffing, directing and controlling
- c Coordination-nature and importance.

## **Unit 2 : Principles of Management**

**(PERIODS 14)**

- c Principles of Management-meaning, nature and significance
- c Fayol's Principles of management.
- c Taylor's Scientific Management-Principles and Techniques.

## **Unit 3 : Business Environment**

**(Periods 10)**

- c Business Environment-meaning and importance.
- c Dimensions of Business Environment-Economic, Social, Technological, Political and Legal.
- c Economic Environment in India; Impact of Government policy changes on business and industry, with special reference to adoption of the policies of liberalization, privatization and globalisation.

## **Unit 4 : Planning**

**(Periods 14)**

- c Meaning features, importance, limitations
- c Planning process.
- c Types of Plans - Objectives, Strategy, Policy, Procedure, Method, Rule, Budget, Programme.

## **Unit-5 Organising**

**(Periods 16)**

- c Meaning and importance.
- c Steps in the process of organising.
- c Structure of organization-functional and divisional.
- c Formal and informal organization.
- c Delegation : meaning, elements and importance.
- c Decentralization : meaning and importance.
- c Difference between delegation and decentralization.

**Unit 6 : Staffing****(Periods 16)**

- c Meaning, need and importance of staffing
- c Staffing as a part of Human Resource Management
- c Steps in staffing process
- c Recruitment-meaning and sources
- c Selection-meaning and process
- c Training and Development-meaning and need. Methods of training : job rotation, apprenticeship, vestibule and internship.

**Unit 7 : Directing****(Periods 22)**

- c Meaning, importance and principles
- c Elements of Directing
  - Supervision-meanings and importance
  - Motivation-meaning and importance, Maslow's hierarchy of needs; Financial and non-financial incentives.
  - Leadership-meaning, importance ; qualities of a good leader.
  - Communication - meaning and importance, formal and informal communication; barriers to effective communication.

**Unit 8 : Controlling****(Periods 14)**

- c Meaning and importance
- c Relationship between planning and controlling
- c Steps in the process of control
- c Techniques of controlling : budgetary control,

**Part-B : Business Finance and Marketing****Unit 9 : Financial Management****(Periods 22)**

- c Meaning, role, objectives of financial management
- c Financial planning - meaning and importance
- c Capital Structure - meaning and factors
- c Fixed and Working Capital-Meanings and factors affecting its requirements.

**Unit 10 : Financial Markets****(Periods 20)**

- c **Concept of Financial Market** : Money Market-nature, instruments
- c **Capital market** : nature and types-primary and secondary market.
- c Distinction between capital market and money market.
- c Stock Exchange-meaning, functions, NSEI, OCTEL, Trading Procedure.
- c Securities and Exchange Board of India (SEBI)- Objectives, Functions.

**Unit 11 : Marketing****(Periods 30)**

- c Marketing - meaning, functions and role
- c Distinction between marketing and selling
- c Marketing mix- concept and elements.
  - Product- nature, classification, branding, labeling and packaging
  - **Physical distribution** : meaning, role; Channels of distribution-meaning, types, factors determining choice of channels.
  - Promotion-meaning and role, promotion mix, Role of Advertising and personal selling; objections to Advertising.
  - **Price** : factors influencing pricing

**Unit-12 : Consumer Protection****(Periods 16)**

- c Importance of consumer protection
- c Consumer rights
- c Consumer responsibilities
- c Ways and means of consumer protection-Consumer awareness and legal redressal with special reference to Consumer Protection Act.
- c Role of consumer organizations and NGOs.

**BOOKS RECOMMENDED :**

व्यवसायिक अध्ययन भाग-1 और भाग-2  
Business Studies Part-I and Part-II

Published by N.C.E.R.T., NEW DELHI.

## 22. URDU (CORE)

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<b>One Paper</b>	<b>3 Hours</b>	<b>85 marks</b>
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<b>SECTION-A</b>	<b>MARKS : 50</b>	<b>Suggested Periods : 210</b>
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<b>1. Reading Skills :</b>	<b>10</b>	<b>25</b>
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- (i) Comprehension of an unseen passage (factual) of about 150 words followed by five questions.

<b>2. Writing Skills :</b>	<b>40</b>	<b>101</b>
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- (i) Essay 12
- (ii) Letter writing (Personal, business and official connected with daily life and application writing) 8
- (iii) Precis Writing 8
- (iv) Sentence making with the help of idiomatic phrases 8
- (v) Advertisements 4

<b>SECTION-B :</b>	<b>Marks : 35</b>
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<b>A. Book 1</b>	<b>18</b>
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Jangal Ki Ek Rat

- (i) One out of two extracts from the prescribed book followed by short answer type questions for comprehension. 6
- (ii) One essay type question (100 words) 4 on content/theme of the prescribed book.
- (iii) Four short answer type questions on the prescribed book 8



**(B) Book -II**

**Heroine Ki Talash**

- (i) One Essay type questions (100 words) on theme/content **9**
- (ii) Four short answer type questions on characters/ events/evaluative nature **8**

**Prescribed Text Book :**

1. Jangal Ki Ek Rat by Rehan Ahmed Abbasi published by Maktaba Payam-e-Ta' leem, N. Delhi.
2. Heroine Ki Talash by prof. M. Mujeeb published by Maktaba Jamia, New Delhi.

**Recommended Book :**

1. Urdu Qawaid, published by the NCERT, New Delhi.

## 23. PHILOSOPHY

### OBJECTIVES

Philosophy , a theoretical enterprise with practical applications , aims at understanding the nature and meaning of life and Reality. It is considered to be the mother of all branches of knowledge . The nature of Philosophy is that in it no answer is left unquestioned . It attempts to understand and explain the fundamental axioms and presuppositions which are taken for granted by all branches of knowledge. The +2 syllabus is designed to give the students a glimpse of the nature of problems and the way they are dealt within its various branches –Logic, Ethics, Classical Indian Philosophy and Western Philosophy.

### (THEORY)

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<b>One Theory</b>	<b>3 Hours</b>	<b>85 Marks</b>
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### UNITWISE WEIGHTAGE

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<b>UNITS</b>	<b>MARKS</b>
<b>A. INDIAN PHILOSOPHY</b>	<b>45</b>
1. Nature and Schools of Indian Philosophy ; some basic issues	9
2. Philosophy of the Bhagwad Gita; Karma Yoga	9
3. Buddhism , Jainism	9
4. Nyaya, Vaisesika and Samkhya-Yoga	9
5. Advaita Vedanta	9
<b>B. WESTERN PHILOSOPHY</b>	<b>40</b>
6. Knowledge and truth	8
7. The causal Principle	8
8. Nature of Reality	8
9. Realism and Idealism	8
<b>C. APPLIED PHILOSOPHY</b>	
10. Environmental Ethics, Professional Ethics and Philosophy of Education	8

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## **A. INDIAN PHILOSOPHY**

- Unit 1** Nature and Schools of Indian Philosophy ; some basic issues **24 Pds.**  
Rta , Karma , Four Purusarthas : Dharma, Artha, Kama, Moksa
- Unit 2 :** Philosophy of the Bhagavad Gita; Karma Yoga (Anasakta Karma), Svadharama, Lokasamgraha **24 Pds.**
- Unit 3 : Buddhism , Jainism** **24 Pds.**  
Four noble truths and eight-fold path ; Theory of dependant origination, Anekantavada and syadvada
- Unit 4 : Nyaya, Vaisesika and Samkhya-Yoga** **24 Pds.**  
Nyaya theory of Pramanas . Yoga- The Eight –fold Practice . Samkhya Theory of Three Gumas, Vaisesika Theory of Padarthas
- Unit 5 : Advaita Vedanta** **24 Pds.**  
The nature of Atman, Brahman and the world .

## **B. WESTERN PHILOSOPHY**

- Unit 6 : Knowledge and truth** **24 Pds.**  
Rationalism, Empiricism and Kant's Critical Philosophy
- Unit 7 : The causal Principle** **24 Pds.**  
**Nature of Cause**  
Aristotle's theory of four fold causation cause-effect relationship ; entailment, regularity, succession.
- Unit 8 : Nature of Reality**  
**Proofs for the existence of God:** **24 Pds.**  
Ontological, Teleological and Cosmological arguments.
- Unit 9 : Realism and Idealism**  
Mind Body Problem **24 Pds.**

## **C. APPLIED PHILOSOPHY**

- Unit 10 : Environmental Ethics and Professional Ethics**  
(a) Study of Physical, mental and spiritual environments  
(b) Medical and Business Ethics.  
(c) Philosophy of Education

### SUGGESTED REFERENCES :

1. John Patrick Introduction to Philosophy
2. John Hospers Introduction to Philosophical Analysis
3. D.M. Datta and S.C. Chatterjee Introduction to Indian Philosophy
4. M. Hiriyanna Essentials of Indian Philosophy
5. A.C. Ewing Fundamental Questions of Philosophy
6. H. Titus Living Issues in Philosophy
7. C.D.Sharma A Critical Survey of Indian Philosophy
8. William Lillie An Introduction to Ethics
9. S.R. Bhatta and Anu Mehrotra Buddhist Epistemology, (Greenwood Publishing House, Connecticut. USA)
10. Shri Aurobindo On Education, Pondicherry

## 24. FINE ARTS

A Student may offer any one of the following courses :—

(a) **PAINTING**

**OR**

(b) **GRAPHICS**

**OR**

(c) **SCULPTURE**

**OR**

(d) **Applied Arts – Commercial Arts**

The following art terminologies for all the four subjects are prescribed only for reference and general enrichment.

1. Elements of Composition : Point line form, colour, tone texture and space.
2. Principles of Composition: Unity, harmony, balance, rhythm, emphasis and proportion, abstraction and stylisation.
3. Drawing & Painting : Terminologies, Foreshortening, perspective, eye-level, fixed point of view, Vanishing point, ratio proportion, sketching, proportion sketching, drawing, light & shade, painting still-life, land-scape, anatomy, vertical, horizontal, two & three dimensional, transparent & opaque.  
Materials : Paper, pencil, water, acrylic colours, tempera colours, poster colours, pasted colours, waterproof ink, canvas, hard-board.
4. Media of Composition : Collage, Mosaic, Painting mural, fresco, batik tie & dye
5. Sculpture : Relief and round sculpture, modelling with clay, terra-cotta, carving in wood and stone bronze casting.
6. Graphics : Linocut, relief printing, etching, Lithography, Silk screen printing letter press and offset printing.
7. Applied Art : Book cover design and illustration, cartooning, poster, advertisements for newspaper and magazine etc. Photography, computer graphic.

## **A. PAINTING**

### **INTRODUCTION**

The course in Painting at Senior Secondary stage as an elective subject is aimed to develop aesthetic sense of the students through the understanding of various important well known aspects and modes of visual art expression in India's rich cultural heritage from the period Indus valley to the present time. It also encompasses practical exercises in drawing and painting to develop their mental faculties of observation, imagination, creation and physical skills required for its expressions.

### **OBJECTIVES**

#### **(A) THEORY (HISTORY OF INDIAN ART)**

The objective of including the history of Indian Art of the students is to familiarise them with the various styles and modes of art expressions from different parts of India. This would enrich their vision and enable them to appreciate and develop an aesthetic sensibility to enjoy the beauty of nature and life. The students will also have an opportunity to observe and study the evolution of its mutations and synthesis with other style and the rise of an altogether new style. The students should be made aware of art as a human experience. The teachers should be able to expose them to the wide range of artistic impressions, the media and the tools used. The history of Indian Art is a long one. Hence the students would be acquainted with brief glimpses of the development of Indian Visual Art as are required for concept formation. Examples included in the course of study are selected because of their aesthetic qualities and are intended purely as guidelines.

#### **(B) PRACTICALS**

The purpose of introducing practical exercises : In painting is to help and enable the students :

- To develop skill of using drawing and painting material (surface, tools and equipments etc.) effectively.
- To sharpen their observation skills through study of common objects and various geometrical and non-geometrical forms found in life and nature.
- To develop their skills to draw and paint these observations :
- To develop an understanding of Painting-Composition (The use of the elements and the principles of painting-composition);

- To create the forms and the colour schemes in imagination with an ability to express them effectively in drawing and painting;
- To express the different feelings and moods of life the nature in lines, forms and colours.

### THEORY

<b>One Theory Paper</b>	<b>Time : 1 Hour</b>	<b>25 Marks</b>
<b>Unitwise Weightage :</b>		
<b>Units</b>		<b>Marks</b>

<b>HISTORY OF INDIAN ART</b>
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- |  |   |
|--|---|
| 1. The Rajasthani and Pahari Schools of Miniature Painting.          | 9 |
| 2. The Mughal and Deccan Schools of Miniature Painting.              | 8 |
| 3. The Bengal School of Painting and the Modern Trends in Indian Art | 8 |

**Unit 1 : The Rajasthani and Pahari Schools of Miniature Painting (16th Century A.D. to 19th Century A.D)** **24 Pds.**

Introduction to Indian Miniature Schools : Western-Indian, Pala, Rajasthani, Mughal, Central India, Deccan and Pahari.

**(A) The Rajasthan ; Schools**

- (1) Original and Development
- (2) Schools- Mewar, Bundi, Jodhpur, Bikaner, Kishangarh and Jaipur
- (3) Main features of the Rajasthani Schools
- (4) Study of the following Rajasthani Paintings :

TITLE	PAINTER	SCHOOL
Maru-Ragini	Sahibdin	Mewar
Raja Aniruddha Singh Heera	Utkal Ram	Bundi
Chaugan Players	Dana	Jodhpur
Krishna on swing	Nuruddin	Bikaner
Radha (Bani-Thani)	Nihal Chand	Kishangarh
Bharat meets Rama at Chitrakut	Guman	Jaipur

**(B) The Pahari Schools :**

- (1) Origin and development
- (2) Schools-Basohli and Kangra
- (3) Main features of the Pahari Schools
- (4) **Study of the following Pahari Paintings :**

Title	Painter	School
Krishna with Gopis		Basohli
Raga Megha		Kangra

**Unit 2 :** The Mughal and Decca Schools of Miniature painting (16th Century AD to 19<sup>th</sup> Century A.D.) **24 Pds.**

**(A) The Mughal School**

- (1) Origin and development
- (2) Main features of the Mughal School
- (3) **Study of the following Mughal Paintings :**

Title	Painter	School
Krishna lifting mount	Goverdhan	Miskin Akbar
Babur crossing the river sone	Jaganath	Akbar
Jahangir holding the	Abul Hassan	Jahangir
Picture of Madona		
Falcon on a bird rest	Ustad Mansoor	Jahangir
Kabir and Raidas	Ustad Faquirullah Khan	Shahjahan
Marriage Procession of	Haji Madni	Provincial
Dara Shikoh		Mughal (Oudh)

**(B) The Deccan School**

- (1) Origin and development
- (2) Main features of the Deccan School
- (3) Study of the following Deccan Paintings :

Title	Painter	School
Raga Hindola	.....	Ahmednagar
Chand Bibi Playing Polo (Chaugan)		Gol Konda

**Unit 3 :** The Bengal School and the Modern trends in Indian Art **24 Pds.**

- (A) (1) (A) New Era in Indian art-an introduction



**(B) Study of the following painting.**

- (1) Rama Vanquishin the pride of the ocean-Raja Ravi Verma
- (2) Evolution of the Indian National Flag (First- 1906, Middle- 1921 and Final 1947 Stages) : Study of the form and the colour scheme.

**(B) (I) Introduction to the Bengal School of Painting**

- (i) Origin and development of the Bengal School.
- (ii) Main features of the Bengal School
- (2) Contribution of Indian artists in the struggle for National Freedom Movement.
- (3) Study of the following paintings of the Bengal School :
  - (i) Journey's End-Rabindranath Tagore
  - (ii) Parthasarathi- Nandlal Bose
  - (iii) Radhika-M. A. R. Chughtai

**(C) The Modern Trends in Indian Art**

**INTRODUCTION**

- (1) **Study of the following Paintings :**
  - (i) Magician-Gaganendranath Tagore
  - (ii) Mother and child-Jamini Roy
  - (iii) Woman Face-Rabindranath Tagore
  - (iv) Three Girls-Amrita SHER Gill
- (2) **Study of the following pieces of Sculpture :**
  - (i) Triumph of Labour-D.P. Roychowdhury
  - (ii) Santhal Family Ramkinker Vaij
- (3) **Study of the following work of contemporary Indian Art**

**A. PAINTINGS**

- (i) Mother Teresa-M.F. Hussain.
- (ii) Birth of Poetry- K.K. Hebbar
- (iii) Gossip- N.S. Bendre
- (iv) Untitled- G.R. Santosh
- (v) Diagonal-Tyeb Mehta

**(4) Graphic Prints**

- (i) Whirl Pool-Krishna Reddy
- (ii) Children-Somnath Hore
- (iii) Devi-Jyoti Bhatt
- (iv) Of Walls-Anupam Sud
- (v) Man, Woman and Tree K. Laxman Goud

**(5) Sculptures**

- (i) Standing Woman-Dhanraj Bhagat
- (ii) Cries Un-heard-Amar Nath Sehgal
- (iii) Ganesha-P.V. Jankiram
- (iv) Figures-Sankho Chaudhuri
- (v) Chaturmukhi Aekka Yada Giri Rao

**Note :** The names of artists and their art work as listed above are only suggestive and in no way exhaustive. Teachers and students should expand this according to their own resources. However, the questions will be set from the above mentioned art works only.

## PAINTING PRACTICAL

<b>One Paper</b>	<b>Time : 6 Hours</b>	<b>60 Marks</b>
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### UNITWISE WEIGHTAGE

<b>Units</b>	<b>MARKS</b>
1. Nature, and Object Study	22
2. Painting Composition	22
3. Sessional Work	16

**UNIT 1: NATURE AND OBJECT STUDY****60 PDS.**

Studies on the basis of exercises done in class XI with two or three objects and drapery for background. Exercises in Pencil with light and shade and in full colour from a fixed point of view.

**UNIT 2 : PAINTING****60 PDS**

Imaginative painting based on subjects from Life and or Nature in water and poster colours with colour values.

**UNIT 3 SESSIONAL WORK****48 PDS.**

- (a) Five selected Nature and object Study exercises in any media done during the session, including minimum of two still life exercises. 8 marks
- (b) Two selected works of paintings done by the candidate during the year 8 marks

These selected works prepared during the course by the candidate and certified by the school authorities as the work done in the school will be placed before the examiners for assessment.

**Note :** The time-table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

**GUIDELINES FOR EVALUATION OF PRACTICAL,****Marking Scheme :****PART I : NATURE AND OBJECT STUDY,**

- |                                 |   |          |
|---------------------------------|---|----------|
| (i) Drawing (composition)       | 9 |          |
| (ii) Treatment of media/colours | 9 | 22 marks |
| (iii) Overall impression        | 4 |          |

**PART-II : PAINTING (COMPOSITION)**

- |   |   |          |
|---|---|----------|
| (i) Compositional arrangement including emphasis on the subject | 9 | 22 marks |
| (ii) Treatment of media colour                                  | 9 |          |
| (iii) Originality and overall impression                        | 4 |          |

**PART-III : SESSIONAL WORK**

- |  |   |          |
|--|---|----------|
| (i) Five Selected Nature and object study exercises in any media including minimum of two still lives. | 8 |          |
| (ii) Two selected painting compositions Prepared on the basis of life and nature                       | 8 | 16 marks |

**Note :** *Sessional-work will also be evaluated on the same pattern.*

## FORMAT OF THE QUESTIONS :

### PART I : NATURE AND OBJECT STUDY

Draw and Paint the still-life of a group of objects arranged on a drawing board before you, from a fixed point of view (given to you), on a drawing paper of half imperial size in pencil/colours. Your drawing should be proportionate to the size of the paper. The objects should be painted in realistic manner with proper light and shade and perspective etc. In this study the drawing-board is not to be included.

**Note :— A group of objects to be decided by the external and internal examiners jointly as per instructions. The objects for Nature study and object study are to be arranged before the candidates.**

### PART II : PAINTING :

Make a painting-composition on anyone of the following five subjects in any medium (Water/Pastel, Tempera, Acrylic) of your choice on a drawing-paper of half imperial size either horizontally or vertically. Your composition should be original and effective. Weightage will be given to a well composed drawing, effective use of media, proper emphasis on the subject matter and utilization of full-space.

**Note :** Any five subjects for Painting Composition are to be decided by the external and internal examiners jointly as per instructions and are to mentioned here strictly just before the start of the examination for part II.

3. (a) **Instructions for the selection of the objects for Nature Study and Object Drawing :**
  1. **The examiners, are to select/decide two or these, suitable objects in such a way so that Natural and Geometrical forms may be covered in the group of objects :**
    - (i) Natural-forms-large size foliage and flowers, fruits, and vegetables etc.
    - (ii) Geometrical forms made of Wood/Plastic/Paper/Metal/Earthen etc. such as cube, cone, prism, cylinder and sphere.
  2. Objects should be selected generally of large (suitable) size.
  3. An object relating to nature, according to the season and location of the examination centre, must be included in the group of objects. The natural-objects should be purchased/arranged only on the day of the examination so that its freshness may be maintained.

4. Two draperies in different colours (one in dark and other in light tone) are also to be included for background and foreground, keeping in view the colours and tones of the objects selected.

**(B) Instructions of decide the subjects for Painting-Composition :**

1. The examiners, are to select/decide five subjects suitable for painting-Composition.
2. The subjects should be so designed that the candidates may get clear-cut ideas of the subjects and they can exercise their imagination freely, because it is not important what you do, but how you do it.
3. The examiners are free to select/decide the subjects, but these should be according to the standard of Class XII and environment of the school/candidates.

Some identified areas of the subjects for Painting-Composition are given below, in which some more areas may also be added.

- (i) Affairs of family friends and daily life.
- (ii) Affairs of family Professional.
- (iii) Games and sports activities.
- (iv) Nature
- (v) Fantasy
- (vi) National, religious, cultural, historical and social events and celebrations.

**4. General Instructions to the examiners :**

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates, for Parts I, II and III is to be evaluated on the spot jointly by the external and internal examiners.
3. Each work of part I, II and III, after assessment is to be marked as examined and duly signed by the external and internal examiners jointly.

**SOME REFERECEN BOOKS SUGGESTED FOR TEACHERS :**

1. "Paint Still life" by Claretta White yet to be revised (Walter T. Foster Publication).
2. "Art of Drawing" Grumbacher Library Wook (Walter T. Foster Publication).
3. "Collage" by Dixi Hall (Walter T. Foster Publication).
4. "On Techniques" By Leon Frank (Walter T. Foster Publication).
5. "More Trees" by Fredrick Gardner (Welter T. Foster Publication).

6. "How to Draw and Paint Textures of Animals" By Walter J. Wilweding (Water T. Foster Publication.)
7. "How to Draw and Pain Animal Expressions" by Walter J. Wilweding (Walter T. Foster Publication).
8. "Art of the Pencil" by Borough Johnson (Sir ISAAC Pitman & Sons Ltd., New Delhi).
9. "Design for you" by Ethel Jane Beitler (John Wilary & Sons Ltd., New Delhi).
10. "Complete Books of Artist's Techniques by Dr. Kurt Herbers, (Thomas and Hudson, London).

## B. GRAPHICS

### INTRODUCTION

The Course in Graphics at Senior Secondary stage as an elective subject is aimed to develop aesthetic sense of the students through the understanding of various important, well known aspects and modes of Visual Art expression in India's rich cultural heritage from the period of Indus Valley to the present time. It encompasses also a wider range of practical exercises in making of Graphic prints for developing their mental faculties of observation, imagination creation and physical & technical skills.

### OBJECTIVES

#### **(A) Theory (History of Indian Art)**

**Note :— As the syllabus of Graphics (Theory) is the same as that of painting (Theory), its objectives are same.**

#### **(B) Practicals.**

The purpose of introducing practical exercises in Graphics is to help and enable to students to make simple compositions in monochrome and in colours through the various print-making techniques using methoes and material specifically prescribed for adequate results. The students should be introduced to the subject by giving a short history of the print making techniques. They should be given exercises to inculcate respect for the tools and apparatus- used in the various processes including their maintenance and proper handling.

**THEORY**

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<b>One Theory Paper</b>	<b>Time : 1 Hrs</b>	<b>25 Marks</b>
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**UNITWISE WEIGHTAGE**

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<b>Units</b>	<b>Marks</b>
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**HISTORY OF INDIAN ART**

- |   |          |
|---|----------|
| 1. The Rajasthan, Pahari School of Miniature Painting.                | <b>9</b> |
| 2. The Mughal Deccan School fo Miniature Painting                     | <b>8</b> |
| 3. The Bengal School of Painting and the Modern Trends in Indian Art. | <b>8</b> |

**Note :— The Syllabus of Graphics (Theory) is the same as that of painting (Theory) given earlier.**

**(PRACTICAL)**

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<b>One Paper</b>	<b>Time 6 Hrs.</b>	<b>60 Marks</b>
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**UNITWISE WEIGHTAGE**

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<b>UNIT</b>	<b>MARKS</b>
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- |  |    |
|--|----|
| 1. Making of graphic-print through Serigraphy/Lithography/Etching and Engraving (Intaglio Process) techniques. | 45 |
| 2. Sessional Work  | 15 |

**Unit 1 : The students in the class are expected to opt for any one of the following media depending upon the facilities available in their schools 120 Pds.**

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**(a) SERIGRAPHY**

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1. The history of stencils and silk screen.
2. Methods and materials.
3. The use and maintenance of the squeeze.
4. Sealing, registration for colour, work and preparation for printing.
5. Solvents for cleaning, use and characteristics of printing inks.
6. Mounting and finishing the print.

**OR**

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**(b) LITHOGRAPHY** **120 Pds.**

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1. **Introduction** : Short history and the methods and material used in producing lithographic prints.

2. The use and characteristics of the Litho stone/Zinc plates.
3. The use of Lithographic Chalks and ink (Tusche).
4. Preparing for printing and use of various chemicals inking and taking proofs.
5. Papers used in lithography and getting the final Print.
6. Finishing and mounting the print.

**OR**

**(c) Etching and Engraving (Intaglio Process)**

**120 Pds.**

1. Introduction to intaglio technique with a short history, methods and materials, Etching press.
2. Preparing the plate and laying the ground (Resist) and Inking.
3. Characteristics of different types of grounds.
4. Characteristics and use of various acids.
5. Colour etching, use of stencils and marks.
6. Finishing and mounting the prints.

**UNIT 2 : SESSIONAL WORK**

**48 PDS.**

Three selected prints prepared during the course by the candidate and certified by the school authorities as works done in the school and to be placed before the external examiner for assessment.

**Note :** The time table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

**GUIDELINES FOR EVALUATION OF PRACTICAL**

**1. MARKING SCHEME :**

**PART I : GRAPHIC-COMPOSITION (PRINT MAKING)**

(i) Emphasis on the subject	8	<b>45 Marks</b>
(ii) Handling on the material and technique of Print-making	12	
(iii) Composition and quality of Print	25	

**PART : II SESSIONAL WORK**

Three selected Prints 5 + 5 + 5 marks for 3 prints) = 15 marks

**Note :** *Sessional work will also be evaluated on the same pattern.*



## **2. FORMAT OF THE QUESTIONS :**

### **PART I : GRAPHIC COMPOSITION (PRINT-MAKING) 45 MARKS.**

Choose one of the print-making medium available and taught in your school viz. serigraphy, lithography, etching and engraving.

Make a Graphic-Composition on anyone of the the five subjects given below according to the possibility and suitability of the medium :

(Note : Any five suitable subjects for “Graphic-Composition (Print-making)” are to be decided by the internal and external examiners jointly in accordance with the instruction are to be mentioned here).

Make use of line, tone and texture, exploiting the medium fully to realize composition.

Print your composition in one or two colours.

Pay special attention to print quality and cleanliness. Submit two identical prints along with all the rough layouts as your final submission.

Size of the plate :

- (i) Serigraphy 30 cm x 20 cm
- (ii) Lithography 30cm x 20 cm
- (iii) Etching & engraving 30cm x 20 cm

## **3. INSTRUCTIONS TO DECIDE THE SUBJECTS FOR GRAPHIC COMPOSITION (PRINT-MAKING) :**

1. The external and internal examiners, jointly are to select/decide five subjects suitable for Graphic-Composition (Print-Making).
2. Each subject should be so designed that the candidate may get a clear-cut idea of the subject, however, any candidate can perceive a subject in his/her own way but graphic quality must be maintained in the composition.
3. The examiners are free to select/decide the subjects, but these should be according to the standard to class XII and environment of the school/candidates.

**Some identified areas of the subjects for Graphic-Composition (Print-making) are given below in which some more areas may be added, ife needed :**

- (i) Affairs of family, friends and daily life.
- (ii) Affairs of Professionals.
- (iii) Games & sports Activities.

- (iv) Nature.
- (v) Fantasy.
- (vi) National, religious & cultural events and celebrations.
- (vii) Ideas personal, social, local, provincial, national or international.

#### **4. INSTRUCTIONS TO THE EXAMINERS**

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates for part I & II is to be evaluated on the spot by the external and internal examiners jointly.
3. Each work of parts I & II, after assessment, is to be marked as examined and duly signed by the external and internal examiners.

#### **SOME REFERENCE BOOKS SUGGESTED FOR TEACHERS**

1. "The Techniques of Graphic Art", by H. Van Kruiningen.
2. "Printing Making, Harvey Daniels (Hamlyn).
3. "Art is Manual for Silk Screen Print Making", by Heavy Shockler
4. "Printing Making today", by Jules Helles.
5. "Silk Screen Techniques", J. I. Biege Leison, Dover Publication, New York.
6. "Introducing Screen Printing", Anthony Kinsey Walson Guplill, New York.
7. "The Art and Craft of Screen Process Printing", Kosloff, All the Bruce Publicshing Co..., New York.
8. "Practical Screen Printing", Stephen Russ, Studio Vista Walson Auptill, New York.
9. "Artists Manual for Silk, Screen Print making", Harry Shekler, American Artist's Group' New York.
10. "Lithography", Vau Nostrav, Reinhold.
11. "Lithography for Artists", Standley Loues, Oxford University Press.
12. "Linocuts and woodcuts", Michael Rothenstein Studio Vista, London.
13. "RElief Printing", Michael Rothenstein Studio Vista London.
14. "Etchin, Engraving and Intaglio Printing". Anthony Grossl Oxford University Press.
15. "The Art of Etching", E.S. Sumaden Gouslable, London.

## **(C) SCULPTURE**

### **INTRODUCTION**

The Course in Sculpture at Senior Secondary stage as an elective subject is aimed at developing aesthetic sense of the students through the understanding of various important, well known aspects and modes of Visual Art expression in India's rich cultural heritage from the period of Indus valley to the present time. It encompasses also a wide range to practical exercises in making of various sculptures for developing their mental faculties of observation, imagination and creation and the physical and technical skills.

### **OBJECTIVES**

#### **(A) THEORY (HISTORY OF INDIAN (ART)**

Note :— As the syllabus of Sculpture (Theory) is the same as that of Painting (Theory), its objectives are same.

#### **(B) PRACTICALS**

The aim is to introduce the student to the fundamental of making sculptures. All assignments should be designed to understand problems of volume, Weight, play of form in space etc., as against rendering on flat two dimensional. Adequate technical skills may be provided depending on the facilities available.

### **THEORY**

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<b>One Theory Paper</b>	<b>Time : 1 Hrs.</b>	<b>Marks 25</b>
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#### **UNITWISE WEIGHTAGE**

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<b>UNITS</b>	<b>MARKS</b>
<hr/> <b>HISTORY OF INDIAN ART</b> <hr/>	
1. The Rajasthan Pahari School of Miniature Painting.	9
2. The Mughal Deccan School of Miniature Paining.	8
3. The Bengal School of Painting and the Modern Trends in Indian Art	8

**PRACTICAL**

<b>One Paper</b>	<b>Time 6 Hrs.</b>	<b>60 Marks</b>
<b>UNITWISE WEIGHTAGE</b>		
<b>UNIT</b>	<b>MARKS</b>	
1. Modelling in Relief (Clay and Plaster of Paris)	22	
2. Modelling in Round (Clay and Plaster of Paris)	22	
3. Sessional Work	16	

<b>Unit 1 :</b> Modelling in Relief*	<b>60 Pds.</b>
<b>Unit 2 :</b> Modelling in Round*	<b>60 Pds.</b>
<b>Unit 3 :</b> Sessional Work	<b>48 Pds.</b>

Four pieces of Works prepared during the course selected by the candidate and certified by the school authorities as work executed in the school are to be placed before the examiners for assessment.

Use of clay Composition in hollow for baking.

\*Modelling of simplified human figures, birds, animals and plants in relief and round. Geometrical shapes like cube, cone, cylinder, etc., and their composition in relief as an exercise in design study of textures. Use of plaster of Paris.

**Note :** The time table to be so framed as to allow the students to work continuously for minimum of two periods as a stretch.

**GUIDELINES FOR EVALUATION OF PRACTICAL**

**1. Marking Scheme :**

<b>Part I : Modelling in Relief</b>	<b>22 Marks</b>
(i) Composition including emphasis on the subject	9
(ii) Handling of media	9
(iii) Creative approach & overall impression	4
<b>Part II : Modelling in Round</b>	<b>22 Marks</b>
(i) Composition including emphasis on the subject	9
(ii) Handling of media	9
(iii) Creative approach & overall impression	4

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**Part III : Sessional Work****16 Marks**

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Four works of Sculpture consisting of :

- |         |                                       |   |
|---------|---------------------------------------|---|
| (a) (i) | One Sculpture in Relief (High Relief) | 4 |
| (ii)    | One Sculpture in Relief (Low Relief)  | 4 |
| (b)     | Two Sculpture in round                | 8 |

**Note :** Sessional work will also be evaluated on the same pattern.

**2. Format of the questions :**

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**Part I : Modelling in Relief :**

Make a Sculpture in Relief (low/high) on anyone of the following five subjects, The size should be within 25 to 30 cm. (horizontally or vertically) and about 4 cm. in thickness from the board.

**Note :** Any five suitable subjects for "Modelling in Relief" are to be decided by the external and internal examiners jointly in accordance with the instructions and are to be mentioned here.

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**Part II : Modelling in Round :**

Prepare a Sculpture in round, in clay medium, on anyone of the following five subjects. The height should be within 25 to 30 cm. horizontally or vertically.

**Note :** Any five suitable subjects for "Modelling in Round" are to be decided in accordance with the instructions and are to be mentioned here strictly just before the start of the examination for Part II.

**3. Instructions to decide the subjects for Modelling in Relief and Round :**

- (1) The examiners are to select/decide five subjects suitable for Modelling in Relief and five subjects for Modelling in round, The subjects for "Modelling in Round" are to be conveyed to the candidates strictly just before the start of the examination for Part II.
- (2) Each subject should be so designed that the candidate may get a clear-cut idea of the subject, however, a candidate can perceive a subject in his/her own way. Distortion of human/animal forms may be allowed.
- (3) Choice of high or low relief should remain open to the candidates.

- (4) The examiners are free to decide the subjects but they should be according to the standard of class XII and environment of the school/ candidates. Some identified areas of the subjects for Modelling in Relief are given below in which some more areas may also be included :
- (i) Nature Study;
  - (ii) Design, nature, decorative, stylized and geometrical;
  - (iii) Family, friends and daily life;
  - (iv) Birds and animals;
  - (v) Games and sports activities;
  - (vi) Religious, social and personal activities;
  - (vii) Cultural activities;
  - (viii) Ideas - Personal, social, local, provincial, national and international.

#### **4. General Instructions to the examiners :**

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates of Parts I, II and III, is to be evaluated on the spot by the external and internal examiners jointly.
3. Each work of Parts I, II and III after assessment, is to be marked as examined and duly signed by the external and internal examiners.

#### **Some Reference Books Suggested for Teachers :**

1. "Indian Sculpture", by Chintaman Kar.
2. "Exploring Sculpture", by Jan Amdell Mills & Boon, London.
3. "The Technique of Sculpture", John W. Mills, P.T. Patsford Ltd., London.
4. "A History Sculpture of the world", Shelden Cneey, Thame and Hudson, London.
5. "Form and Space", Edward Their, Thomes and Hudson; London.
6. "Sculpture and Ideas", Michael F. Andrews.
7. "Modern Sculpture", Jean Selz, Heinemann, London.
8. "Creative Carving", (Material techniques appreciation), Dons Z. Meilach, Pritam Publishing.

## D. APPLIED ART

### INTRODUCTION

The Course in Applied Art (Commercial Art) at Senior Secondary stage as an elective subject is aimed to develop aesthetic sense of the students through the understanding of various important, well known aspects and modes of Visual Art expression in India's rich cultural heritage from the period of Indus Valley to the present time. It encompasses also a wide range of practical exercises in Commercial Art for developing their mental faculties of observation, imagination creation and physical & technical skills.

### OBJECTIVES

#### (A) Theory (History of Indian Art)

**Note** :— As the syllabus of Applied Art-Commercial Art (Theory) is the same as that of Painting (Theory), its objectives are same.

#### (B) Practicals.

The purpose of introducing practical exercises in Applied Art (Commercial Art) is to help and able the students to develop professional competence in making Model Drawing Lettering, layout Preparation and poster so that they can link their lives with productivity.

### THEORY

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<b>One Theory Paper</b>	<b>Time : 1 Hour</b>	<b>Marks 25</b>
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### UNITWISE WEIGHTAGE

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<b>UNITS</b>	<b>MARKS</b>
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### HISTORY OF INDIAN ART

- |  |   |
|--|---|
| 1. The Rajasthan Pahari School of Miniature Painting.                | 9 |
| 2. The Mughal Deccan School of Miniature Painting.                   | 8 |
| 3. The Bengal School of Painting and the Modern Trends in Indian Art | 8 |

**Note** : The Syllabus of Applied Art-Commercial Art (Theory) is the same as that of Painting (Theory) given earlier.

**PRACTICAL**

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**One Paper** **Time 6 Hrs.** **60 Marks**

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**UNITWISE WEIGHTAGE**

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<b>UNITS</b>	<b>MARKS</b>
1. Illustration	22
2. Poster	22
3. Sessional Work	16

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**Unit 1 : Illustration** **60 Pds.**

Study of techniques of Illustration on given subjects and simple situations supported by Drawing from life and outdoor sketching in different media suitable for printing.

**Unit 2 : Poster** **60 Pds.**

Making a poster with specified data and slogan on a given subject in two or four colours.

**Unit 3 : Sessional Work** **48 Pds.**

Submission of portfolio consisting of :

- (i) Five selected drawings in any media done during the year including minimum of two illustrations 8 Marks
- (ii) Two selected posters in chosen subject 8 Marks

**Note :** The time table to be so framed as to allow the students to work continuously for minimum of two periods as a stretch.

**GUIDELINES FOR EVALUATION OF PRACTICAL**

**1. Marking Scheme :**

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<b>Part I : Illustrations</b>	<b>22 Marks</b>
(i) Composition including quality of drawing	9
(ii) Emphasis on the subject with a specific situation	9
(iii) Reproducing quality and overall impression	4
<hr/>	
<b>Part II : Poster</b>	<b>22 Marks</b>
(i) Layout and Lettering	9
(ii) Emphasis on the subject	4
(iii) Proper colour scheme and overall impression	9



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**Part III : Sessional Work** **16 Marks**

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- |  |   |
|--|---|
| (i) Five selected drawings in any media including minimum of two illustrations | 8 |
| (ii) Two selected posters in chosen subjects                                   | 8 |

**Note :** Sessional work will also be evaluated on the same pattern.

**2. Format of the questions :**

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**Part I : Illustration**

---

Make an illustration in black and white in any colour media on anyone of the following five subjects with a specific situation.

Size of the illustration : 30 cm × 22 cm.

**Note :** Any five suitable subjects or illustration, decided by the external and internal examiners jointly in accordance with the instructions are to be mentioned here.

---

**Part II : Poster**

---

Prepare a poster-design with specified data and slogan in English/Hindi language, in three flat colours, on anyone of the following five subjects. The designing of the poster should have balanced use of typography and illustration.

Size of the Poster-design: 1/2 imp size.

**Note :** Any five suitable subjects for poster design decided by the external and internal examiners jointly in accordance with the instructions and are mentioned here, strictly just before the start of the examination for Part II.

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**3. (A) Instructions to decide the subjects for illustration :**

1. The examiners are to select/decide five suitable subjects.
2. Each subject should be given a specific situation, which is a main characteristic of an illustration.
3. Each subject should be so designed that the candidate may get a clear-cut idea of the subject and they can illustrate a specific situation based on given subject areas.
4. The examiners are free to decide the subjects but these should be according to the standard of the Class XII and environment of the school/candidates.

Some identified areas of the subjects for illustration are given below, in which some more areas may be added if needed.

**Subject with a specific situation :**

- (i) Family and friends in daily life.
- (ii) Professionals/professions.
- (iii) Games and sports.
- (iv) Nature.
- (v) National events and celebrations.
- (vi) Religious events and festivals.
- (vii) Culture-Dance, Drama, Music and Art.

**(B) Instructions to decide the subjects for Poster-design :**

1. The examiners are to select/decide five subjects suitable for Poster-design.
2. Each subject should be given a specified data and slogan.
3. The data and slogan should be so framed/designed that the candidates may get a clear-cut idea of the subject.
4. The examiners must give the subjects data and slogan according to the standard of Class XII and environment of the School/Candidates.

Some identified areas for poster-design are given below, in which some more areas/subjects may be added.

**1. For Advertisement on :**

- (i) Excursion/Tourism.
- (ii) Cultural activities.
- (iii) Community & Nature Development.
- (iv) Ideas-Social, national and international.
- (v) Commercial products.

**2. Instructions to the examiners :**

1. Candidates should be given one hour break after first three hours.
2. Work of the candidates for Parts I, II & III is to be evaluated on the spot by the external and internal examiners jointly.
3. Each work of Parts I, II & III, after assessment, is to be marked as examined and signed by the external and internal examiners.

**Some Reference Books Suggested for Teachers :**

1. Typolog-G.M. Rege, Bombay.
2. Kalatmak Lykhai, Published by D.A.V.P.
3. Figure Painting in Water Colour, Charles Reid Watson, Guptill Publication.
4. Walter T.Foster - Objective Drawing.
5. Walter T.Foster - Human Figure.
6. Walter T.Foster - Head Study.
7. Walter T.Foster - Animal Study.
8. Walter T.Foster - Landscape.
9. Applied Art Handbook - G.M. Rege, Bombay.

## 25. FRENCH

One Paper	Time : 3 Hours	Marks : 85	Periods
<b>SECTION-A : APPLIED GRAMMAR</b>		<b>25</b>	<b>50</b>
<ul style="list-style-type: none"><li>- Filling up blanks with appropriate parts of speech.</li><li>- Transformation of sentences.</li><li>- Sentence Correction (not involving punctuation and spelling)</li><li>- Based on chapter 18-30 of Prescribed book</li></ul>			
<b>SECTION-B : COMPREHENSION / READING</b>		<b>20</b>	<b>30</b>
<ul style="list-style-type: none"><li>- One passage from the prescribed book (Prose / Poetry) <span style="float: right;">10</span></li><li>- One Unseen passage <span style="float: right;">10</span> (variety of comprehension questions. including short answer questions &amp; Vocabulary (word attack))</li></ul>			
<b>SECTION-C : WRITING SKILLS/COMPOSITION</b>		<b>16</b>	<b>40</b>
<ul style="list-style-type: none"><li>- Writing a story based on outlines provided (120 words) <span style="float: right;">8</span></li><li>- One unaided composition based on the topics in the Prescribed book (120 words) <span style="float: right;">8</span></li></ul>			
<b>SECTION-D : LITERATURE</b>		<b>24</b>	
(Short answer questions on prescribed texts)			
<b>Prose</b>		<b>16</b>	<b>40</b>
Comprehension of the prescribed text (Chapter 18-30)			
<b>Poetry</b>		<b>8</b>	<b>20</b>

### POEMS TO BE STUDIED :

1. Rienn'est Beau-Ch. Peguy
2. Avection Parapluie- F. Jammes
3. Le Petit Train-Emile Henriot
4. La Petite Ville-A Ke Noailles
5. Sila Garonne-Gustave Nadaud

**PRESCRIBED BOOK : COURS DE LANGUE ET CIVILIZATION  
FRANCAISES II BY G. MAUGER, PUB : HACHETTE (CHAPTER 18- 30)**

**GRAMMAR TOPICS :**

- XI.**
1. Negative
  2. Interrogative
  3. Sentence reordering
  4. Sentence Correction
  5. Tenses of verbs (incl. Subjonctif)
  6. Pronom relatif
  7. Adjectif Interrogatif
  8. Adjectif qualificatif
- XII.**
1. Sentence reordering
  2. Sentence correction
  3. Tenses of verbs (excluding Passe' Simple and Passe' Anti' Neur)
  4. Pronom interrogatif
  5. Uses of infinitif
  6. Pronom Personnel- all types
  7. Prepositions
  8. Pronom indefini & adjectif indefini

## 26. YOGA

### THE SYLLABUS CONSISTS OF TWO PARTS :

I. Theory	60 Marks	
II. Practical	25 Marks	Total : 85 Marks

### THEORY

The theory paper will be divided into two parts and will be of 3 hours duration.

#### PART-A (HISTORICAL AND PHILOSOPHICAL ASPECTS OF YOGA)

1. Yoga as defined in the Indian systems of philosophy with special reference to Sankhya and Yogdarshana.
2. The theory of Chitta its Vrittis and the concept of Kaleshas also the methods of their control.
3. The importance of social and personal ethics in personal life. A detailed study of Yamas, Niyamas and Pratyahara, their contribution towards the inclusion of moral values in life.
4. The role of Yoga Education for the restoration of Communal harmony, Peace and National Integration in the country.
5. **General study of the life of :**
  - (i) Gorakh Nath
  - (ii) Swami Ram Tirtha
  - (iii) Swami Viveka Nanda
  - (iv) Shri Aurbindo
  - (v) Gautama Budha

#### PART-B (THERAPEUTIC AND PHYSIOLOGICAL ASPECTS OF YOGA)

6. Concept of health from the yogic point of view. Yoga as a science of health care and disease cure.
7. Physiological basis of Asanas, Pranayamas, Mudras and Bandhas. The benefits of such yogic practices.
8. Separative study of the effects of yogic and non-yogic system of exercises on human organism. Yogic way of relaxation.
9. Yoga therapy its importance and limitations.  
Study of common diseases such as Diabetes, High and Low Blood Pressure, Obesity, Insomnia, Chronic Fatigue, Memory loss and

retention, Bronchial Asthma. High levels of blood cholesterol. Gastric acidity, Ulcer. Chronic constipation, Piles, Hernia, Cervical spondylitis, Low back pain and certain Postural deformities – their causes, symptoms and treatment through yogic therapeutic measures.

**PRACTICAL**

**3 hours**

Asanas	8 Marks
Pranayama, Mudras, Bhandas & Dhayana	8 Marks
Shatkarmas	5 Marks
Practical Notebook	4 Marks
<b>TOTAL</b>	<b>25 Marks</b>

- (i) Asanas as given in Hatha Yoga Pradeepika, Ghrenda Samhita, Shiva Samhita, Yogapanishads and other in vogue.
- (ii) Kriyas-Shatkarmas (Shatkriyas) as described in Hatha Yoga Pradeepika, Ghrenda Samhita and Shatkarma Sangraha.
- (iii) Pranayamas - Anuloma-Viloma, Ujjai, Bhastrika and familiarity with other Pranayamas such as Surayabhedana- Chandrabhedana, Sitli-Shitkari, Bhastrika, Bharamari and Plavani
- (iv) Bandhas-Jalandhar, Uddiyana, Mula and Mahabandha.
- (v) Meditation-Elementary practice of Meditation, Chanting of “OM” and the practice of dhayana in any of the selected postures i.e. Sidhasna. Swastikasana Padmasana, Sukhasana and Vajarasana.
- (vi) Practical Notebook to be prepared by the students illustrating any nine asanas of their choice, any two kriyas any two body systems out of the following i.e. respiratory, glandular, excretory, Human brain and Spinal chord.

**LIST OF YOGIC ASANAS REQUIRED TO BE PERFORMED BY THE STUDENTS IS AS UNDER :**

**STANDING POSTURES :**

Tarasana, Trikonasana, Konasana, Padahasthasana, Garudasana, Ardha-Chandrasana, Khagasana, Birbhadrasana, Shirshangusthasana.

### **SITTING POSTURES :**

Padmasana, Vajarasana, Parvatasana, Yogmudrasana, Uttitha-Padmasana, Mandukasana, Paschimottanasana, Akaran-Dhanurasana, Shishankasana, Vakasana, Padamvakasana, Ardha-matsyenbrasana, Gomukhasana, Gorakshasana, Ekpadsikandasana, Dwipadsikandasana, Uttithadwipadsikandasana, Puran-matsyenbrasana, Kukutasana, Onkarasana, Ushtrasana.

### **LYING POSTURES :**

Shavasana, Halasana, Uttanapadasana, Matasyasana, Karanpidasana, Makrasana, Bhugangasana, Dhanurasana, Shalabhasana, Naukasana, Mayurasana, Shirshasana, Sarvangasana, Chakrasana, Gharabhasana, Pawanmuktasana.

### **REFERENCES**

1. Patanjali Yogsutras
2. Rajayoga by Swami Vivekananda
3. Asanas by Swami Kuvalayananda.
4. Pranayama by Swami Kuvalayananda.
5. Hathyoga Pradeepika.
6. Gherandasamhita.
7. Suksham vyama by Swami Dharendra Braham Chari.
8. Yoga Therapy by Swami Kuvalayananda and Dr. S.L. Vinkar.
9. Applied Physiology by Samson Wright.
10. Yoga Philosophy by S.N. Dasgupta.
11. Yog Chakitsa by Swami Ram Dev.