



**COUNCIL OF
SECONDARY EDUCATION MOHALI
PUNJAB**

**CURRICULUM FOR
SENIOR SECONDARY SCHOOL EXAMINATION
CLASS - XII**

www.csemohali.org

SCF 61-62, Industrial Area,
Phase - VII, Mohali, Punjab



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**SCF 61-62, Industrial Area, Phase - VII,
Mohali, Punjab**

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English
Examination Specifications
English Communicative
Code No. 01

One Paper
Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
Reading	20
Writing	30
Grammar	20
Literature	30

SECTION - A

60 Periods

1. Advanced Reading Skills

Two unseen passage (including poems) with a variety of questions including 04 marks for vocabulary such as word formation and inferring meaning. The total range of the 2 passages including a poem or a stanza, should be around 650-1000 words.

- 350-500 words in length (for note-making and summarising) 08
- 300-500 words in length (4 marks for word attack skills) 12

The passages or poems could be of any one fo the following types

Factual passages e.g. illustrations, description, reports

Discursive passages involving opinion e.g. argumentative, persuasive

Literary passage e.g. poems, extracts from fiction, biography, autobiography, travelogue etc.

In the case of a poem, the text may be shorter than the prescribed word limit.

SECTION - B

60 Periods

2. Effective Writing Skills

- One** out of two short writing tasks such as notices, advertisements, factual description of people arguing for or against topics, places and objects, drafting posters, accepting and declining invitations. (50-80 words)

4. Writing One out of two letters of any of the following types based on given verbal/visual input
- Official letters for making inquiries, suggesting changes-registering complaints asking for and giving information, placing orders and sending replies (80-100 words)
 - Letters to the editor on various social, national and international issues (125-150 words)
 - Application for a job including CV (Curriculum Vitae)/Resume
5. **One** out of two long and sustained writing task such as writing a speech, a report or writing an article based on verbal/visual input (200 words)

Section-C

30 Periods

Applied Grammar

Variety of questions, as listed below may be asked, involving the application of grammar items in context (i.e. not in isolated sentences). The grammar syllabus will be sampled each year. Grammar items such as modals, determiners, voice and tense forms have been dealt with class XII. However, other items such as prepositions, verb forms, connectors which have been learnt earlier would also be included.

- Reordering of words and sentences, Filling the blanks
- Composing a dialogue based on the given input
- Error correction in sentences
- Drafting question/questionnaires based on given input

Section - D

30 Periods

Literature

In the *Literature Reader*, questions will be asked to test comprehension at different levels and of different kinds local, global, interpretative, inferential, evaluative and extrapolatory.

- One** out of two extracts from different poem from the *Literature Reader*, each followed by two or three questions to test local and global comprehension of ideas and language used in the text.
- Two** out of the three short answer question based on different poem to test theme, setting and literary devices. It may or may not be based on an extract. (80-100 words)

12. **One** out two questions based on the play from the Literature Reader to test comprehension and drawing/evaluating inferences. An extract may or may not be used (80-100 words)
13. **Two** out of three short questions based on different prose texts from the Literature Reader to test global comprehension of usage & lexis and meaning (80-100 words)
14. **One** out of two extended questions based on one of the prose texts in the Literature Reader to test global comprehension and for extrapolation beyond the text (100-125 words)

Prescribed Books :

1. **Language Skills book - Functional English** published by Central Board of Secondary Education, Delhi.
2. **Literature Reader - Functional English** published by Central Board of Secondary Education, Delhi.

Examination Specifications

Code No. 12

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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भाग	अंक
क	20
ख	30
ग	20
घ	30

भाग क – हिन्दी पुस्तक

(i) कविता भाग

(i) प्राचीन कवियों का जीवन परिचय

सप्रसंग व्याख्या एवं प्रश्नोत्तर

1. सूरदास
2. मीराबाई
3. बिहारी
4. गुरु गोबिन्द सिंह

(ii) प्राचीन कवियों का जीवन परिचय

5. मैथिलीशरण गुप्त
6. जयशंकर प्रसाद
7. सुमित्रानंदन पंत
8. हरिवंश राय 'बच्चन'
9. सच्चिदानन्द हीरानन्द वात्स्यायन 'अज्ञेय'
10. डॉ. शिवमंगल सिंह 'सुमन'
11. गिरिजा कुमार माथुर
12. धर्मवीर भारती
13. डॉ. चन्द्र त्रिखा
14. गीता डोगरा

(ii) निबन्ध भाग

(iii) निबन्धकारों का जीवन परिचय

15. सच्ची वीरता
16. क्यों निराश हुआ जाए ?
17. अगर ये बोल पाते : जलियांवाला बाग
18. समय नहीं मिला
19. शार्टकट सब ओर
20. गुरु गोबिन्द सिंह

(iii) कहानी भाग

(iv) कथाकारों का जीवन परिचय

- | | |
|----------|---------------|
| 21. मधुआ | 22. तत्सत् |
| 23. ठेस | 24. उपेक्षिता |

(iv) एकांकी भाग

(v) एकांकीकारों का जीवन परिचय

- | | |
|-----------|-------------------|
| 25. वापसी | 26. रीढ़ की हड्डी |
|-----------|-------------------|

हिन्दी साहित्य का इतिहास
(रीतिकाल और आधुनिक काल)

भाग — ख : रचनात्मक लेखन

1. निबन्ध लेखन

भाग — ग : व्यवहारिक व्याकरण

- | | |
|----------------------|-------------|
| 1. समास/ समास विग्रह | 2. पद परिचय |
| 3. छंद अलंकार परिचय | |

भाग — घ : सम्प्रेषण कौशल

- | | |
|----------------------------|-----------------------|
| 1. पंजाबी से हिन्दी अनुवाद | 2. पारिभाषिक शब्दावली |
| 3. विज्ञापन लेखन | 4. सूचना लेखन |

बोर्ड पेपर्स

PUNJABI
Examination Specifications
Code No. 13

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One Paper
Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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ਭਾਗ	ਅੰਕ
(ੳ)	20
(ਅ)	30
(ੲ)	20
(ਸ)	30

1. ਕਾਵਿ ਕੀਰਤੀ

1. ਭਾਈ ਵੀਰ ਸਿੰਘ
2. ਪ੍ਰ: ਪੂਰਨ ਸਿੰਘ
3. ਧਨੀ ਰਾਮ ਚਾਤ੍ਰਕ
4. ਦੀਵਾਨ ਸਿੰਘ ਕਾਲੇਪਾਣੀ
5. ਪ੍ਰ: ਮੋਹਨ ਸਿੰਘ
6. ਅਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ
7. ਪ੍ਰੀਤਮ ਸਿੰਘ ਸਫੀਰ
8. ਬਾਵਾ ਬਲਵੰਤ
9. ਹਰਿਭਜਨ ਸਿੰਘ
10. ਭਾਗ ਸਿੰਘ
11. ਸ਼ਿਵ ਕੁਮਾਰ
12. ਸ. ਸ. ਮੀਸ਼ਾ

2. ਸੋਭਾ ਸਕਤੀ

ਕਥਾ ਕਹਾਣੀ

1. ਬਾਗਾਂ ਦਾ ਰਾਖਾ
2. ਮੰਗੋ

3. ਸ਼ੇਰਨੀਆ
4. ਗੋਈ
5. ਅੰਨ੍ਹੀ ਮਾਂ ਦਾ ਪੁੱਤਰ
6. ਨੰਦੂ
7. ਗਰਜਾ ਮਾਰੇ
8. ਇੰਤ ਤਰਵਾਸੇ
9. ਤਿੜਕਿਆ ਹੋਇਆ ਸੀਸਾ
10. ਕਾਰ ਖਿਡੋਣਾ
11. ਖੰਭ
12. ਦੁੱਧ ਦੀਆਂ ਨਹਿਰਾਂ

ਏਕ ਰਚਨਾ

1. ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ
2. ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਜੀ
3. ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ
4. ਮਹਾਨ ਸ਼ਹੀਦ ਸ: ਭਗਤ ਸਿੰਘ
5. ਮੇਰਾ ਮਨ ਭਾਉਂਦਾ ਕਵਿ
6. ਮੇਰਾ ਮਨ ਭਾਉਂਦਾ ਲੇਖਕ
7. ਪੰਜਾਬੀ ਦੇ ਲੋਕ ਗੀਤ
8. ਪੰਜਾਬ ਦੇ ਮੇਲੇ
9. ਬਸੰਤ ਰੁੱਤ
10. ਅੱਖੀ ਡਿੱਠਾ ਮੇਲਾ

ਛੰਦ ਤੇ ਅਲੰਕਾਰ

1. ਛੰਦ
2. ਅਲੰਕਾਰ

ਵਿਆਕਰਨ

1. ਵਾਕ ਵੰਡ
2. ਵਾਕਾਂ ਦੀ ਸੋਧ

Physics
Examination Specifications
Code No. 61

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One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	70 Marks										
	<table><tr><th>Section</th><th>Marks</th></tr><tr><td>A</td><td>20</td></tr><tr><td>B</td><td>20</td></tr><tr><td>C</td><td>15</td></tr><tr><td>D</td><td>15</td></tr></table>	Section	Marks	A	20	B	20	C	15	D	15		
Section	Marks												
A	20												
B	20												
C	15												
D	15												

Unit I

25 Periods

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 dipole; torque on 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 charge and of electric dipole in an electrostatic field.

Conductors and insulators, free charges and bound charges inside a conductor, Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with dielectric medium between the plates, energy stored in a capacitor. Van de Graaff generator.

Unit II

Periods 22

Electric current, flow of electric charges in a metallic conductor, drift velocity, 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. emf and potential difference of a cell, internal resistance of cell, combination of cell 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 small resistances and internal resistance of a cell.

Unit III: Magnetic Effects of Current and Magnetism**Periods 25**

Concept of magnetic field, Oersted's experiment.

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

Ampere's law and its applications to infinitely long straight wire, Force between two parallel current-carrying conductors-definition of ampere, straight and toroidal solenoids.

Force on a current-carrying conductor in uniform magnetic field. Torque experienced by a current loop in uniform magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.

Force on a moving charge in uniform magnetic and electric fields. Cyclotron. Current loop as a magnetic dipole and its magnetic dipole moment of a revolving electron. Magnetic field intensity due to magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in 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 Currents**Periods 20**

Electromagnetic induction; Faraday's law, induced emf and current; Lenz's Law, Eddy currents. Self and mutual inductance, 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**

Displacement current, Electromagnetic waves and their characteristics (qualitative ideas only) Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radio waves, 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 sunrise and sunset.

Wave optics: wave front and Huygens principle, reflection and refraction of plane wave at a plan 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. Polarisation plane polarised light; Brewster's uses of plane polarised light and Polaroids.

Optical instrument; 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. Resolving power of microscope and astronomical telescopes.

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 particle, de Broglie relation. Davisson-Germer experiment.

Unit VIII: Atoms & 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, nuclear reactor, nuclear 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 system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic wave 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) & 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.

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 material.
3. To verify the laws of combination (series/parallel) of resistances using metre bridge.
4. To compare the emf of two given primary cells using potentiometer.

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Chemistry

Examination Specifications

Code No. 62

One Paper
Unitwise Allocation

Unit	Areas of	3 Hours	70 Marks
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Section	Marks
A	20
B	20
C	15
D	15

Unit I : Solid State :

12 Periods

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 reaction); concept of collision theory (elementary idea, no mathematical treatment)

Unit V: Surface Chemistry

Periods 8

Adsorption - physisorption and chemisorption; factors affecting adsorption of gases on solids; catalysis; homogeneous 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 - type of emulsions.

Unit VI : General Principles and Processes of Isolation of Elements**Period 18**

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**Period 4**

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 and properties of ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous- allotropic forms; compounds of phosphorous; preparation and properties of phosphine, halides (PCl_3 , PCl_5) and oxyacid (elementary 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; 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; compound of halogens; preparation, properties and uses of chlorine and hydrochloric and 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 KMnO_4 .

Lanthanoids - electronic configuration, oxidation states, chemical reactivity, and lanthanoid contraction.

Unit IX: Coordination Compounds**Periods 12**

Coordination compounds - Introduction, ligands, 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, acidic nature of phenol, electrophilic 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, iodoform, freons, DDT.

Unit XI : 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.

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 α -amino acids, peptide bond, polypeptides proteins, primary structure, secondary structure, tertiary structure and quaternary structure (qualitative idea only), denaturation of proteins; enzymes.

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, polysters, 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.

Biology

Examination Specifications

Code No. 63

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	70 Marks
	Section	Marks	
	A	20	
	B	20	
	C	15	
	D	15	

Unit I : Physiology of Plants**30 Periods**

Cell as a physiological unit; Water relations- absorption and movement (diffusion, osmosis, plasmolysis, permeability, water potential, imbibition); Theories of water translocation- root pressure, transpiration pull; Transpiration-significance, factors affecting rate of transpiration; mechanism of stomatal opening and closing (Potassium ion theory).

Mineral nutrition- functions of minerals, essential major elements and trace elements; deficiency symptoms of elements; translocation of solutes, nitrogen and nitrogen metabolism with emphasis on biological nitrogen fixation.

Photochemical-significance, site of photosynthesis (functional aspect of chlorophyll structure); photochemical and biosynthetic phases; electron transport system; photophosphorylation (cyclic and non-cyclic); C_3 and C_4 pathway; photorespiration; factors affecting photosynthesis; mode of nutrition (autotrophic, heterotrophic-saprophytic, parasitic and insectivorous plants), chemo-synthesis.

Mechanism of respiration-glycolysis, Krebs cycle, pentose phosphate pathway, anaerobic respiration; respiratory quotient; compensation point; fermentation.

Unit II: Physiology of Animals**Periods 40**

Nutrition and its types; Nutrients-food and vitamins; intracellular and extracellular digestion; digestive system of invertebrate (cockroach); digestive system and process in humans (digestion, ingestion, absorption, assimilation, egestion); role of enzymes and hormones in digestion; malnutrition and undernutrition; disorders related to nutrition.

Gaseous exchange in animals (earthworm cockroach); respiration in humans-respiratory organs, mechanism; breathing and its regulation; transport of gases through blood; Common respiratory disorders-prevention and cure.

Circulation of body fluids-open system in cockroach; closed system in humans, blood and its composition, structure and pumping action of human heart; pulmonary and systemic circulation; heart beat and pulse, rhythmicity of heart-beat, Blood related disorders-hypertension, atheroma and atherosclerosis, ECG, pacemaker; lymphatic system; immunity and immune system.

Nitrogenous waste elimination-ammonotelism, ureotelism, uricotelism; excretory system of cockroach and humans; composition and formation of urine; role of kidney in osmoregulation, kidney failure, dialysis, kidney transplantation; role of ADH; role of liver in excretion.

Locomotion and movements; Human skeleton-axial and appendicular including cranium and rib cage bones; joints and their types; bone, cartilage and their disorders (arthritis, osteoporosis); mechanism of muscle contraction; red and white muscles in movements.

Nervous coordination in cockroach and humans; Human nervous system-structure and functions of brain and spinal cord, transmission of nerve impulse; reflex action; sensory receptors; Structure and function of sense organs-eye, ear, nose and tongue.

Human endocrine system; hormones and their functions; hormonal imbalance and diseases; role of hormones as messengers and regulators; hypophyseal axis; feedback controls.

Unit III : Reproduction, Development and Growth

Periods 20

Mode of reproduction in flowering plants-vegetative propagation (natural and artificial), significance of vegetative propagation; micropropagation; Sexual reproduction-development of male and female gametophytes; pollination (types and factors); double fertilisation; incompatibility; embryo development; parthenogenesis and parthenocarpy.

Characteristics of plant growth; Growth regulators (phytohormones)-auxins, gibberellins, cytokinins, ethylene, ABA; Seed germination-mechanism and factors affecting germination, role of growth regulators in seed dormancy; senescence; abscission; stress factors (salt and water) and growth; Plant movement-geotropism, phototropism, turgor growth movements (tropic, nastic and natation); Process of flowering-photoperiodism, vernalisation.

Types of reproduction-a general account (asexual and sexual); human male and female reproductive systems; reproductive cycle in human female, gametogenesis; Fertilization-physical and chemical events; development of zygote upto 3 germinal layers and their derivatives; extra-embryonic membranes; general aspects of placenta.

Cellular growth-growth rate and growth curve; hormonal control of growth; mechanism and types of regeneration; Ageing-cellular and extracellular changes; theories of ageing.

Unit IV : Ecology and Environment**Periods 40**

Organisms and their environment; Factors-air, water, soil, biota, temperature and light; range of tolerance; ecological adaptations.

Levels of organisation- population, species, community, ecosystem and biosphere; Ecological interactions-symbiosis, mutualism, commensalism, parasitism, predation and competition.

Ecosystem-structure and functions; productivity; energy flow; ecological efficiencies; decomposition and nutrient cycling; Major biomes-forests, grasslands and deserts.

Ecological Succession-types and mechanism.

Natural resources-types, use and misuse of natural resources.

Environmental pollution-kinds, sources and abatement of air, water, soil and noise pollution.

Global environmental changes; greenhouse, global warming, sea level rise and ozone layer depletion.

Biotic resources-terrestrial and aquatic including marine resources; bio-diversity benefits and assessment; threats, endangered species, extinctions; conservation of bio-diversity (biosphere reserves and other protected areas); National and international efforts-both government and non-governmental; environmental ethics and legislation.

Unit V : Biology in Human Welfare**Periods 50**

Population, environment and development; Population growth and factors-(natality, mortality, immigration, emigration, age and sex ratio); impact of population growth; reproductive health; common problems of adolescence (drugs, alcohol and tobacco); social and moral implications; population as a resource.

Food production, breeding, improved varieties, biofertilizers, plant tissue culture and its applications; brief account of some common crop and animal diseases; biopesticides; genetically modified food; bio-war, biopatent; biotechnology and sustainable agriculture.

Recent advances in vaccines; organ transplantation; immune disorders; modern techniques in disease diagnosis; elementary knowledge of haemoglobin estimation, sugar and urea in blood, TLC, DLC, ESR, lipid profile, ELISA and VIDAL tests; AIDS, STD, cancer (types, causes, diagnosis, treatment); Biotechnology in therapeutics-hormones, interferon and immuno modulations.

Basic concepts of ECG, normal ECG, EEG, CT Scan, MRI and ultrasound.

Maths

Examination Specifications

Code No. 60

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

Unit I : Relations and Functions

- Relations and Functions:** **30 Periods**
Types of relations; reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function. Binary operations.
- 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

- 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).
- Determinants:** **20 Periods**
Determinant of a square matrix (up to 3×3 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 : Vectors and three-dimensional geometry**1. Vectors:****12 Periods**

Vectors and scalars, magnitude and direction of a vector. Direction cosines/ratios vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors), positive vector of a point, negative of a vector, components of a vector, addition of vector multiplication of a vector by a scalar, product of vectors, projection of a vector line. Vector (cross) product of vectors.

2. Three - Dimensional Geometry:**12 Period**

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) line and a plane. Distance of a point from a plane.

Unit-IV : Linear Programming**1. Linear Programming:****12 Period**

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 variables, feasible and infeasible region, feasible and infeasible solutions, optimal feasible solution (up to three non-trivial constraints).

Unit-V : Probability**1. Probability:****18 Period**

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

Recommended Textbooks.

- 1) Mathematics Part I - Textbook for Class XII, NCERT Publication
- 2) Mathematics Part II - Textbook for Class XII, NCERT Publication

Unit-VI : Calculus**18 Period****1. Continuity and Differentiability:**

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 function, 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

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

$$\int \frac{(px+q)}{\sqrt{ax^2 + bx + c}} dx, \int \frac{(px+q)}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 \pm x^2} dx \text{ and } \int \sqrt{a^2 - a^2} dx$$

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 Period

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:

Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:

$$\frac{dy}{dx} + py = q, \text{ where } p \text{ and } q \text{ are functions of } x.$$

Business Study

Page-22

Examination Specifications

Code No. 59

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

Part A : Principles and Functions of Management

- Unit I : Nature and significance of Management** **14 Periods**
Management - concept, objectives, importance
Management as Science, Art, Profession.
Levels of management
Management functions - planning, organizing, staffing, direction and controlling
Coordination - characteristics and importance
- Unit 2 : Principles of Management** **14 Periods**
Principles of Management - concept, nature and significance
Fayol's principles of management
Taylor's Scientific Management - principles and techniques
- Unit 3 : Management and Business Environment** **10 Periods**
Business Environment - importance
Dimensions of Business Environment - Economic, Social, Technological, Political and Legal.
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**14 Periods**

Concept, features, importance, limitations

Planning process

Types of Plans - Objectives, Strategy, Policy, Procedure, Method, Rule, Budget, Programme.

Unit 5 : Organising**16 Periods**

Concept and importance.

Steps in the process of organising.

Structure of organizations - functional and divisional

Formal and informal organization.

Delegation : concept, elements and importance

Decentralization : concept and importance

Unit 6 : Staffing**(Periods 16)**

Concept and importance of staffing

Staffing as a part of Human Resource Management

Staffing process

Recruitment - meaning and sources

Selection - process

Training and Development - Concept and importance, Methods of training

Unit 7 : Directing**(Periods 22)**

Concept and importance

Elements of Directing

Supervision - concept and role

Motivation - concept, Maslow's hierarchy of needs;

Financial and non-financial incentives.

Leadership - concept; qualities of a good leader

Communication - concept, formal and informal communication; barriers to effective communication.

Unit 8 : Controlling**(Periods 14)**

Concept and importance

Relationship between planning and controlling

Steps in the process of control

Techniques of controlling; budgetary control,

Part B : Business Finance and Marketing

Unit 9 : Financial Management

(Periods 22)

Concept, importance, objectives of financial management

Financial decisions : factors affecting

Financial planning - concept and importance.

Capital Structure - concept and factors affecting

Fixed and Working Capital - concept and factors affecting its requirements

Unit 10 : Financial Markets

(Periods 20)

Concept of Financial Market : Money Market and its instruments.

Capital market and types - primary and secondary market.

Stock Exchange - functions, Trading Procedure, NSE1, OCTEI.

Securities and Exchange Board of India (SEBI) - Objectives and Functions

Unit 11 : Marketing Management

(Periods 30)

Marketing - meaning, functions and role, marketing and selling

Marketing management philosophies.

Marketing mix - elements

Product - nature, classification, branding, labeling and packaging

Price - Factors determining fixation of price

Physical distribution: Elements; Channels of distribution; types, function, choice of channels.

Promotion-Elements of promotion mix: Advertising - role, limitation, objections against advertising. Personal selling - concept, importance; Sales promotion - merits, limitations, methods; Publicity - concept and role.

Unit 12 : Consumer Protection

(Periods 16)

Importance of consumer protection

Consumer rights

Consumer responsibilities

Ways and means of consumer protection - Consumer awareness and legal redressal with reference to Consumer Protection Act.

Role of consumer organizations and NGOs.

Economics

Examination Specifications

Code No. 56

Page-25

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

Part A : Introductory Microeconomics

Unit 1 : Introduction

10 Periods

What is an economy? Central problems of an economy : what, how and for whom to produce; concepts of production possibility frontier and opportunity cost.

Distinctions between (a) planned and market (b) Positive and normative perspectives in economics, and (c) micro-economics and macroeconomics.

(Non-evaluative topics : Some basic tools in the study of economics - equation of a line, slope of a line, slope of a curve.)

Unit 2 : Consumer Equilibrium and Demand

32 Periods

Consumer's equilibrium - meaning of utility, marginal utility, law of diminishing marginal utility, conditions of consumer's equilibrium using marginal utility analysis.

Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.

Demand, market demand, determinants of demand, demand schedule, demand curve, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand-(a) percentage-change method and (b) geometric method (linear demand curve); relationship between price elasticity of demand and total expenditure.

Unit 3 : Producer Behaviour and Supply**32 Periods**

Production function : Total Product, Average Product and Marginal Product.

Returns to a Factor.

Cost and Revenue : Short run costs - total cost, total fixed cost, total variable cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationship.

Revenue - total, average and marginal revenue.

Producer's equilibrium - meaning and its conditions - under (a) total revenue - total cost approach and (b) marginal revenue - marginal cost approach.

Supply, market supply, determinants of supply, supply schedule, supply curve, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - (a) percentage- change method and (b) geometric methods.

Unit 4 : Forms of Market and Price Determination**22 Periods**

Perfect competition - meaning and features.

Market Equilibrium under perfect competition - Determination of equilibrium price, Effects of shifts in demand and supply.

Non-Competitive Markets - monopoly, monopolistic competition, oligopoly - their meanings and features.

Unit 5 : Simple applications of Tools of demand and supply**8 Periods**

(not to be examined)

Part B : Introductory Macroeconomics**Unit 6 : National Income and related aggregates****30 Periods**

Macroeconomics: Its meaning.

Some basic concepts of macroeconomics: consumption goods, capital goods, final goods, intermediate goods: stocks and flows; gross investment and depreciation.

Circular flow of income; Methods of calculating National Income - Value Added or Product method Expenditure methods, Income Method.

Concepts and aggregates related to National Income :

Gross National Product (GNP), Net National Product (NNP), Gross and Net Domestic Product (GDP and NDP) - at market price, at factor cost; National Disposable Income (gross and net Private Income, Personal Income and Personal Disposable Income; Real and Nominal GDP.

GDP and Welfare

Unit 7 : Money and Banking**18 Periods**

Money - its meaning and function.

Supply of money - Currency held by the public and net demand deposits held by commercial bank Money creation by the commercial banking system.

Central banking and its functions (example of the Reserve Bank of India)

Unit 8 : Determination of Income and Employment**25 Periods**

Aggregate demand and its components.

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

Short-run fixed price in product market, equilibrium output; investment or output multiplier and the multiplier mechanism.

Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them - change in government spending, availability of credit.

Unit 9 : Government Budget and the Economy**17 Periods**

Government budget - meaning, objectives and components.

Classification of receipts - revenue receipt and capital receipt; classification of expenditure - revenue expenditure and capital expenditure.

Various measures of government deficit - revenue deficit, fiscal deficit, primary deficit: their meaning and implications.

Fiscal policy and its role (non-evaluative topic).

Unit 10 : Balance of Payments**14 Periods**

Balance of payments accounts - meaning and components; balance of payments deficit-meaning

Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

Determination of exchange rate in a free market.

Accounts

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Examination Specifications

Code No. 58

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

Part A : Accounting for Not-for-Profit Organisations, Partnership Firms and Companies

Periods 124

Unit 1 : Accounting for Not-for-Profit Organisations

22 Periods

- ❖ Meaning and features of Not-for-profit organisations.
- ❖ Meaning and features of Fund based accounting.
- ❖ Receipts and Payments Account.
- ❖ Preparation of Income and Expenditure Account and Balance Sheet from Receipt and Payment Account with additional information.

Unit 2 : Accounting for Partnership firms

14 Periods

- ❖ Nature of Partnership firm : Partnership Deed - Meaning, importance.
- ❖ Partner's Capital Accounts : Fixed vs Fluctuating Capital, Division of Profit among partners, Profit and Loss Appropriation Account including past adjustments.

Unit 3 : Reconstitution of Partnership

34 Periods

- ❖ Changes in Profit Sharing Ratio among the existing partners - Sacrificing Ratio and Gaining Ratio.
- ❖ Accounting for Revaluation of Assets and Liabilities and distribution of reserves and Accumulated Profits.

- ❖ **Goodwill** : Nature, factors affecting and methods of valuation : Average profit, Super profit and Capitalisation methods.
- ❖ **Admission of a Partners** : Effect of Admission of Partner, Change in Profit Sharing Ratio, Accounting Treatment of Goodwill (as per AS-10), Revaluation of Assets and Liabilities, Adjustment of Capitals.
- ❖ **Retirement/ Death of a Partner** : Change in Profit Sharing ratio, accounting treatment of Goodwill, Revaluation of Assets and Liabilities, Adjustment of capitals.
- ❖ **Dissolution of partnership firm, (Excluding Garner Vs Murray and Piecemeal System)**

Unit 4: Accounting for Share Capital and Debenture

(54 Periods)

- ❖ **Share Capital** : Meaning and Types
- ❖ **Accounting for share capital** : Issue and Allotment of Equity and Preference Shares; 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. Meaning of private placement of shares and employee stock option plan.
- ❖ **Forfeiture of shares** : accounting treatment, re-ssue of forfeited shares.
- ❖ Presentation of Share Capital in company's Balance Sheet.
- ❖ Issue of debentures at par; at premium; Writing off loss on issue of debentures; Issue of debentures as collateral security; issue of debentures for consideration other than cash.
- ❖ **Redemption of debentures; sources** : Out of profits - debenture redemption reserve; Out of Capital - method : Lump sum payment, draw of lots, purchase in the open market and conversion (excluding cum-interest and ex-interest).

Sociology

Page-30

Examination Specifications

Code No. 54

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

Unit 1 : Traditional basis of Social Organisation : Varna, Ashrama, Purushartha

Unit 2 : Caste System : Definition, Features, Structure, Functions, Changes.

Unit 3 : Marriage : Meaning, Forms of Traditional Hindu Marriage, Classification - Monogamy. Polygamy - Polygyny and Polyandry.

Unit 4 : Family : Meaning, Features, Function, Types - Nuclear and Joint, Changes in Family and Social Functions.

Unit 5 : Religion : Features and Social Functions.

Note : Kindly tally the syllabus with the syllabus published by Punjab School Education Board, Mohali. We undertake no responsibility with regard to this.

History

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Examination Specifications

Code No. 51

Separate question paper and answer sheet format replaces combined booklet format from March, 2012 examination

One Paper

3 Hours

100 Marks

Units	Marks
Unit 1 : India and the contemporary World-II	20
Unit 2 : India-Resources and their Development	20
Unit 3 : Democratic Politics - II	20
Unit 4 : Understanding Economic Development - II	20
Unit 5 : Disaster Management-only project work and assignment	-
Internal Assessment	
1. Tests (Formative and summative)	10
2. Assignments (School & Home Assignment)	04
3. Project Work	06

Instructions :

- This question paper contains 3 Sections A, B, and C.
- All questions are compulsory **Section A** is of 50 marks
- Section B** is of 22 marks, **Section C** is of 8 marks.

Part 1

45 Periods

Themes

1. The Story of the First Cities : Harappan Archaeology 11

Broad overview : Early urban centres.

Story of discovery : Harappan civilization

Excerpt : Archaeological report on a major site.

Discussion : how it has been utilized by archaeologists/historians.

Objectives

- Familiarize the learner with early urban centres as economic and social institutions.
- Introduce the ways in which new data can lead to a revision of existing notions of history.
- Illustrate how archaeological reports are analyzed and interpreted by scholars.

2. **Political and Economic History : How Inscription tell a story : 11**
Broad overview : Political and economic history from the Mauryan to the Gupta period.
Story of discovery : Inscription and the decipherment of the script. Shifts in the understanding of political and economic history.
Excerpt : Asokan inscription and Gupta period land grant.
Discussion : Interpretation of inscriptions by historians.
3. **Social Histories : Using the Mahabharata 12**
Broad overview : Issues in social history, including caste, class, kinship and gender.
Story of discovery : Transmission and publications of the Mahabharat.
Excerpt : from the Mahabharata, illustrating how it has been used by historians.
Discussion : Other sources for reconstructing social history.
4. **A History of Buddhism : Sanchi Stupa 11**
Broad overview : (a) A brief review of religious histories of Vedic religion, Jainism, Vaisnavism, Saivism. (b) Focus on Buddhism.
Story of discovery : Sanchi Stupa
Excerpt : Reproduction of sculptures from Sanchi.
Discussion : Ways in which sculpture has been interpreted by historians, other sources for reconstructing the history of Buddhism.
- Familiarize the learner with major trends in the political and economic history of the subcontinent.
- Introduce inscriptional analysis and the ways in which these have shaped the understanding of political and economic processes.
- Familiarize the learner with issues in social history.
- Introduce strategies of textual analysis and their use in reconstructing social history.
- Discuss the major religious developments in early India.
- Introduce strategies of visual analysis and their use in reconstructing histories of religion.

PART - II

5. **Agrarian Relations : The Ain-i-Akbari 11**
Broad overview: (a) Structure of agrarian relations in the 16th and 17th centuries.
 (b) Patterns of change over the period.
Story of Discovery: Account of the compilation and translation of Ain-i-Akbari.
- Discuss developments in agrarian relations.
- Discuss how to supplement official documents with other sources.

Excerpt: from the *Ain-i-Akbari*.

Discussion: Ways in which historians have used the text to reconstruct history.

6. The Mughal Court: Reconstructing 11

Histories through chronicles

Broad Overview: (a) Outline of political history 15th-17th centuries. (b) Discussion of the Mughal court and politics.

Story of Discovery: Account of the production of court chronicles, and 'their subsequent.

Translation and transmission.

Excerpts: from the *Akbarnama* and *Padshahnma*.

Discussion: Ways in which historians have used the texts to reconstruct political histories.

7. New Architecture: Hampi 11

Broad Overview: (a) Outline of new buildings during Vijayanagar period- temples, forts, irrigation facilities.

(b) Relationship between architecture and the political system..

Story of Discovery: Account of how Hampi was found.

Excerpt: Visuals of buildings at Hampi

Discussion: Ways in which historians have analyzed and interpreted these structures.

8. Religious Histories: The Bhakti-Sufi tradition Broad overview: (a) Outline of religious-developments during this period. (b) Ideas and practices of the Bhakti-Sufi saints. 11

Story of Transmission: How Bhakti-Sufi compositions have been preserved.

Excerpt: Extracts from selected Bhakti Sufi works.

Discussion: Ways in which these have been interpreted by historians.

9. Medieval Society Through Travellers' Accounts 11

Broad Overview: Outline of social and cultural life as they appear in travellers'

- Familiarize the learner with the major landmarks in political history

- Show how chronicles and other sources are used to reconstruct the histories of political institutions.

- Familiarize the learner with the new building that were built during the time.

- Discuss the ways in which architecture can be analyzed to reconstruct history.

- Familiarize the learner with religious developments.

- Discuss ways of analyzing devotional literature as sources of history.

- Familiarize the learner with the salient

accounts.

Story of their writings: A discussion of where they travelled, why they travelled, what they wrote, and for whom they wrote.

Excerpts: From Alberuni, Ibn Batuta, Bernier.

Discussion: What these travel accounts can tell us and how they have been interpreted by historians.

features of social histories described by the travellers.

- Discuss how travellers' accounts can be used as sources of social history.

Part - III

10. Colonialism and -Rural Society: Evidence from official Reports 11

Broad overview: (a). Life of zamindars, peasants and artisans in the late 18 century (b) East India Company, revenue settlements and surveys. (c) Changes over the nineteenth century.

Story of official records: An account of why official investigations into rural societies were under taken and the types of records and reports produced.

Excerpts: From Firminger's Fifth Report, Accounts of Frances Buchanan-Hamilton, and Deccan Riots Report,

Discussion: What the official records tell and do not tell, and how they have been used by historians.

- Discuss how colonialism affected Zamindars, peasants and artisans.
- Understand the problems and limits of using official sources for understanding the lives of people.

11. Representations of 1857 11

Broad overview: (a) the events of 1857-58. (b) How these events were recorded and narrated.

Focus: Lucknow.

Excerpts: Pictures of 1857. Extracts from contemporary accounts.

Discussion: How the pictures of 1857 shaped British opinion of what had happened.

- Discuss how the events of 1857 are being reinterpreted.
- Discuss how visual material can be used by historians

12. Colonialism and Indian Towns: Town Plans and Municipal Reports 11

Broad Overview: The growth of Mumbai, Chennai, hill stations and cantonments in the 18th and 19th century.

Excerpts: Photographs and paintings. Plans of cities. Extract from town plan reports.

- Familiarize the learner with the history of modern urban centres.

- Focus on Kolkata town planning.
- Discussion:** How the above sources can be used to reconstruct the history of towns. What these sources do not reveal.
13. Mahatma Gandhi through Contemporary Eyes 13
- Broad Overview: (a) The nationalist movement 1918-48, (b) The nature of Gandhian politics and leadership.
- Focus: Mahatma Gandhi in 1931.
- Excerpts:** Reports from English and Indian language newspapers and other contemporary writings.
- Discussion:** How newspapers can be a source of history.
14. Partition through Oral Sources 12
- Broad overview: (a) The history of the 1940s; (b) Nationalism. Communalism and Partition.
- Focus: Punjab and Bengal.
- Excerpts:** Oral testimonies of those who experienced partition.
- Discussion:** Ways in which these have been analyzed to reconstruct the history of the event.
15. The Making of the Constitution 12
- Broad Overview: (a) Independence and the new nation state. (b) The making of the constitution..
- Focus: The constitutional Assembly debates.
- Excerpts:** from the debates.
- Discussion:** What such debates reveal and how they can be analyzed.
16. Map Work on Units 1-15 10
- Discuss how urban histories can be written by drawing on different types of sources.
 - Discuss how urban histories can be written by drawing on different types of sources.
 - Familiarize the learner with significant elements of the nationalist movement and the nature of Gandhian leadership.
 - Discuss how Gandhi was perceived by different groups.
 - Discuss how historians need to read and interpret newspapers, diaries and letters as historical source.
 - Discuss the last decade of the national movement, the growth of communalism and the story of Partition.
 - Understand the events through the experience of those who lived through these years of communal violence.
 - Show the possibilities and limits of oral sources.
 - Familiarize students with the history of the early years after independence.
 - Discuss how the founding ideals of the new nation state were debated and formulated.
 - Understand how such debates and discussions can be read by historians.

Recommended text books:

1. Themes in Indian History, Part I, Published by NCERT
2. Themes in Indian History Part-II, Published by NCERT
3. Themes in Indian History Part-III, Published by NCERT

Geography

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Examination Specifications

Code No. 53

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

A. Fundamentals of Human Geography

70 Periods

Unit 1: Human Geography : Nature and Scope

Periods 3

Unit 2: People

Periods 15

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

Unit 3: Human Activities

Periods 25

- ★ 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 : types - household, small scale, large scale; agro based and mineral based industries; 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

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

- ★ Land transport — roads, railways; trans-continental railways.
- ★ Water transport — Inland waterways; major ocean routes.
- ★ Air transport — Intercontinental air routes.
- ★ Oil and gas pipelines.
- ★ Satellite communication and cyber space.
- ★ International trade — Bases and changing patterns; ports as gateways of international trade, role of WTO in International trade.

Unit 5 : Human Settlements**Periods 8**

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

Unit 6 : Map Work on identification of features based on above units on the outline Political map of World.**Part B. India : People and Economy****70 Periods****Unit 7 : People****Periods 12**

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

Unit 8 : Human Settlements**Periods 8**

- ★ Rural Settlements — types and distribution;
- ★ Urban Settlements — types, distribution and functional classification.

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

- ★ Land resources : general land use; agricultural land use, Geographical conditions and distribution of major crops (Wheat, Rice, Tea, Coffee, Jute, Sugarcane and Rubber), agricultural development and problems.
- ★ 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 - distribution of metallic (Iron ore, Copper, Bauxite, Manganese); non-metallic (Mica, Salt) minerals; conventional (Coal, Petroleum, Natural gas and Hydro electricity) and non-conventional energy sources (solar, wind, biogas) and conservation.
- ★ Industries - types, factors of industrial location; distribution and 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; industrial clusters.
- ★ Planning in India - target area planning (case study); idea of sustainable development (case study).

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.

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; problems of slums.
- ★ Land Degradation.

Unit 12 : Map work on locating and labelling of features based on above units on outline political map of India**Part C. Practical Work****Unit 1 : 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; choropleth and isopleth maps.
- ★ Use of computers in data processing and mapping.

Unit 2 : Field Study or 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, impact of floods and drought, 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; raster and vector data, data input, editing & topology building; data analysis; overlay & buffer.

Political Science

Examination Specifications

Page-40

Code No. 52

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

COURSE CONTENTS

Periods 14

Part - A. Contemporary World Politics

1. Cold War Era in World Politics

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.

2. Disintegration of the 'Second World' and the Collapse of Bipolarity.

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.

3. US Dominance in World Politics :

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.

4. Alternative Centres of Economic and Political Power :

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

5. South Asia in the Post-Cold War Era :

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.

6. **International Organizations in a unipolar World :**
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 ?
7. **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.
8. **Environment and Natural Resources in Global Politics :**
Environment movement and evolution of global environmental norms. Conflicts over traditional and common property resources. Rights of indigenous people. India's stand in global environmental debates.
9. **Globalisation and Its Critics**
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.

Part B : Politics of India Since Independence

10. **Nation - Building and Its Problems :**
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.
11. **Era of One-Party Dominance :**
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.
12. **Politics of Planned Development**
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.
13. **India's External Relations**
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.
14. **Challenge to and Restoration of Congress System :**
Political succession after Nehru. Non-Congressism and electoral upset of 1967, Congress split and reconstitution, Congress' victory in 1971 elections, politics of 'garibi hatao'.
15. **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.

16. Regional Aspirations and Conflicts

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

17. Rise of New Social Movements :

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

18. Recent Developments in Indian politics :

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.

Recommended text books :

1. Contemporary World Politics, Published by NCERT
2. Politics of India Since Independence, Published by NCERT

Physical Education Examination Specifications

Page-43

Code No. 75

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	70 Marks
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Section	Marks
A	20
B	20
C	15
D	15

COURSE CONTENTS

Periods

PART A : PHYSICAL EDUCATION

1. शारीरिक योग्यता
(Physical Fitness)
2. गर्माना और ठण्डा करना
(Warming Up and Cooling Down)
3. शारीरिक शिक्षा के सामाजिक पक्ष
(Sociological Aspects of Physical Education)

PART B : HEALTH EDUCATION

4. असमर्थता की रोकथाम तथा पुनर्वास
(Prevention of Disability and Rehabilitation)
5. प्राथमिक सहायता और खेल चोटों से बचाव
(Prevention and First Aid Care for Common Sports Injuries)
6. पारिवारिक जीवन सम्बन्धी शिक्षा
(Family Life Education)

PRACTICAL**PART C : Track and Field Events**

1. ऐथलैटिक्स
(Athletics)

PART D : Team Games (Group -A)

1. हॉकी
(Hockey)

2. हैंडबाल
(Hand Ball)

3. कबड्डी
(Kabaddi)

- 3-A. पंजाब स्टाइल कबड्डी और वृत्त कबड्डी
(Punjab Style Kabaddi or Circle Kabaddi)

4. खो-खो
(Kho-Kho)

6. क्रिकेट
(Cricket)

8. बास्केटबाल
(Basket Ball)

5. फुटबाल
(Foot Ball)

7. वालीबाल
(Volley Ball)

PART D : Team Games (Group - B)

9. टेबल टेनिस
(Table Tennis)

11. लॉन टेनिस
(Lawn Tennis)

- 12-B. डुबकी लगाना
(Diving)

13. यौगिक व्यायाम या आसन
(Yogic Exercises or Asanas)

10. बैड मिन्टन
(Badminton)

- 12-A. तैराकी
(Swimming)

14. जिमनास्टिकस
(Gymnastics)
15. कुश्तियां—फ्री स्टाइल एवं ग्रीको रोमन
(Wrestling-Free Style and Greeco Roman)
16. तालमयी क्रियाएं
(Rhythmic Activities)

प्राैक्टीकल PRACTICAL

- | | |
|------------------------------|----------------------------------|
| 1. हॉकी
(Hockey) | 2. फुटबाल
(Foot Ball) |
| 3. वालीबाल
(Volley Ball) | 4. खो-खो
(Kho-Kho) |
| 5. कबड्डी
(Kabaddi) | 6. बैड मिन्टन
(Badminton) |
| 7. कुश्तियां
(Wrestling) | 8. जिमनास्टिकस
(Gymnastics) |
| 9. तैराकी
(Swimming) | 10. बास्केटबाल
(Basket Ball) |
| 11. ऐथलैटिक्स
(Athletics) | 12. टेबल टेनिस
(Table Tennis) |
| 13. क्रिकेट
(Cricket) | 14. जूडो
(Judo) |
| 15. हैंडबाल
(Hand Ball) | |

RELIGION

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Examination Specifications

Code No. 83

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Section	Marks
A	20
B	30
C	20
D	30

COURSE CONTENTS

Periods

PART A : सिक्ख धर्म की उत्पत्ति एवं विकास (RISE AND DEVELOPMENT OF SIKHISM)

- (i) सिक्ख धर्म का आरम्भ/निकास
(Origin and Evolution of Sikhism)
- (ii) समकालीन धार्मिक परिस्थितियां
(Contemporary Religious Circumstances)
- (iii) गुरु नानक देव जी : जीवन
(Guru Nanak Dev Ji – Life)
- (iv) शिक्षाएं
(Teachings)
- (v) गुरु अंगद देव जी : जीवन
(Guru Angad Dev Ji – Life)
- (vi) सिक्ख धर्म के प्रसार में योगदान
(Contribution in Expansion of Sikhism)
- (vii) गुरु अमरदास जी : जीवन
(Guru Amar Dass Ji – Life)

- (viii) सिक्ख धर्म के विकास में योगदान
(Contribution in the Development of Sikhism)
- (ix) गुरु रामदास जी : जीवन
(Guru Ram Dass Ji – Life)
- (x) सिक्ख धर्म के विकास में योगदान
(Contribution in the Development of Sikhism)
- (xi) गुरु अर्जन देव जी : जीवन
(Guru Arjan Dev Ji – Life)
- (xii) सिक्ख धर्म के विकास में योगदान
(Contribution in the Development of Sikhism)
- (xiii) गुरु अर्जन देव जी का बलिदान
(Martyrdom of Guru Arjan Dev Ji)
- (xiv) गुरु अर्जन देव जी तक सिक्ख धर्म का विकास
(Development of Sikhism upto Guru Arjan Dev Ji)
- (xv) गुरु हरगोबिन्द जी : जीवन
(Guru Hargobind Ji – Life)
- (xvi) नवीन नीति : मीरी एवं पीरी
(New Policy : Miri and Piri)
- (xvii) गुरु हरराय जी : जीवन एवं उपलब्धियाँ
(Guru Har Rai Ji – Life and Achievements)
- (xviii) गुरु हर कृष्ण जी : जीवन
(Guru Harkrishan Ji – Life)
- (xix) गुरु तेग बहादुर जी : जीवन
(Guru Teg Bahadur Ji – Life)
- (xx) सिक्ख धर्म के विकास में योगदान
(Contribution in the Development of Sikhism)
- (xxi) गुरु जी की शहीदी
(Martyrdom of Guru Ji)
- (xxii) गुरु गोबिन्द सिंह जी : जीवन
(Guru Gobind Singh Ji – Life)

- (xxiii) सिक्ख धर्म के विकास में योगदान
(Contribution in the Development of Sikhism)

- (xxiv) खालसा पंथ की सृजना
(Creation of Khalsa)

PART B: सिन्धु घाटी के लोगों का धार्मिक जीवन (RELIGIOUS LIFE OF INDUS VALLEY PEOPLE)

- (i) ऐतिहासिक पृष्ठभूमि
(Historical Background)
- (ii) सिन्धु घाटी की सम्यता से पूर्व का धार्मिक जीवन
(Religious Life before Indus Valley Civilization)
- (iii) सिन्धु घाटी के लोगों का धार्मिक जीवन
(Religious Life of Indus Valley People)
- (iv) धार्मिक विधियां एवं प्रथाएं
(Religious Modes and Conventions)
- (v) पीपल पूजा
(Peepal Worship)
- (vi) स्वस्तिक
(Swastik)
- (vii) सप्त ऋषि
(Sapt Rishi)
- (viii) मातृ देवी
(Mother Goddess)
- (ix) मृतक संस्कार
(Death Ceremonies)

COMPUTER SCIENCE

Examination Specifications

Code No. 68

Page-49

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	70 Marks

SECTION - A

1. Fundamental Principles of Computer

Introduction to Computer – Its comparison with human beings

Computer is a System

How does a computer work ?

2. Computer System for General Purpose

Hardware and Software : Classification of Software, Input / Output Memory

Processor, Processor Structure

Software System : Language Interpreter, Linkers, Loaders, Operating System

3. Starting Up Your Computer

Installing of Computer Sub-systems

Starting up the Computer

Shut down the Computer

4. Information and Communication Technology

Allowing the printer to share with a number of computers in network

Internet Explorer

Word Processor : Clip Art gallery, Hyperlink, Inserting voice comments in word documents,

Sign or Symbol Equation, Table, Tallying Mail, To have a glance on the information through word data.

5. Playing with Data and Graphics

Data and Graphics

Applications and Uses of Graphics

- 6. Database Management**
 Introduction to Database Management System
 Data Model

- 7. Solving Problem**
 Algorithms
 Flowchart and its symbols
 Structures of the flowchart

- 8. LOGO**
 Introduction
 Beginning of the LOGO
 LOGO Primitives

SECTION - B

- 1. Evolution of Computers**
 Origination of the machines owing to Counting, Calculation and Computing
 Generations of Computers
 Classification of Computers
- 2. Hardware and Software**
 Information flow in a Computer
 CPU Cabinet
 Computer Languages
 Language Translator
 Sequence order in machine
 Introduction to the Binary State Logic
- 3. Operating System (O/S)**
 Introduction
 Role of Operating System
 Source Manager
 Buffers
 Spooling
 Operating System for Information Aptitude
- 4. Information and Communication Technology**
 Introduction
 Data Communication
 Communication Channel
 Required Sources for Networking Computers
 Network Topology

Techniques of Communication and Contact

Contact

Communication Devices

E-mail

Notiquets

News group

Conferencing

Internet chatting

Downloading of Software

5. Presentation Packages

Introduction

Power Point Screen Element

Net Presentation

Propagation of Other Slides

Design Templates

Naming the Power Point File

Opening of the Current Application

Saving the Application

Different Views in Power Point

Printing the Application

Animation

Slide Transitions

Tables

Using Charts in Personal Slides

Entering Documents in Slides

Readymade Applications

Multimedia

Propagation of Music and Sound Effects

Save the Application as a web-page

6. Database Management

Database Management System

Database Maintenance and Management

Working through Foxpro database

Making of Database

Opening and Closing the database files

Changing of database table structure

Collection of records in database table

Exit from Foxpro

Looking into the record from database table

- Searching of the record from database table
 - Posting of record in the currently opened database file from a different file
 - Reshuffling of the records of the database table
 - Sorting of database table
 - Quitting the record from database table
 - Reinstatement of the records quitted
- 7. Spreadsheet**
- Introduction
 - Electronic Spreadsheet
 - MS-Excel
- 8. Programming Determination**
- Management Determination
 - Management Development
 - Management Development Lifecycle
 - Tool and Planning of Document
 - Arrays and Following Arrays

SANSKRIT

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Examination Specifications

Code No. 82

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
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Part	Marks
1	20
2	30
3	20
4	30

1. ऋतिका (द्वितीयः भाग) - पाठ्यपुस्तकम्

1. उत्तिष्ठत जाग्रत
2. सूर्यः एव प्रकृतेः आधारः
3. राष्ट्रचिन्ता गरीयसी
4. दूरदृष्टिः फलप्रदा
5. अहो राजते कीदृशीयं हिमानी
6. सुधामुचः वाचः
7. दारिद्र्ये दुर्लभं सत्त्वम्
8. आश्चर्यमयं विज्ञानजगत्

2. अपठितांश-अवबोधनम्

3. संस्कृतेन रचनात्मक कार्यम्

1. अनौचपारिकपत्रम्/ प्रार्थनापत्रम्
2. लघुकथा
3. अनुच्छेदलेखनम् (पञ्चवाक्यमितः अनुच्छेदः)

4. अनुप्रयुक्त व्याकरणम्

1. सन्धि
2. समास
3. प्रत्यय
4. कर्ता-क्रिया-अन्विति
5. विशेषण-विशेष्य-अन्विति
6. कारकों तथा उपपद विभक्तियाँ

5. सामान्यः संस्कृत साहित्य परिचयः

Part	Marks
1	20
2	20
3	20
4	20

प्रतिसङ्ग्रह - (भाग - भाग) परीक्षा

1. भाग - भाग
2. भाग - भाग
3. भाग - भाग
4. भाग - भाग
5. भाग - भाग
6. भाग - भाग
7. भाग - भाग
8. भाग - भाग

प्रतिसङ्ग्रह - भाग - भाग

प्रतिसङ्ग्रह - भाग - भाग

प्रतिसङ्ग्रह - भाग - भाग

प्रतिसङ्ग्रह - भाग - भाग

प्रतिसङ्ग्रह - भाग - भाग

Psychology
Examination Specifications
English Communicative
Code No. 301

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks

Psychology and Self & Psychology and Society

- I. Variations in Psychological Attributes
- II. Self and Personality
- III. Meeting Life Challenges
- IV. Psychological Disorders
- V. Therapeutic Approaches
- VI. Attitude and Social Cognition
- VII. Social Influence and Group Processes
- VIII. Psychology and Life
- IX. Developing Psychological Skills

Practical (Psychological testing, Case Profile etc.)

Psychology and Self & Psychology and Society

Unit I : Variations in Psychological Attributes

(20 Periods)

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;

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

The unit focuses on the study of 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 personlity; Self-reprt measures, behavioural analysis, and protective measures.

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

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.

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

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

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

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

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, Behavior and Bio-medical; Alternative therapies-yoga, Meditation; Rehabilitation of mentally ill.

Unit VI : Attitude ans Social Cognition**(20 Periods)**

This unit focuses on formation and change of attitudes, cultural influences on attributional tendencies and conditions influencing prosocial behavior.

Explaining social behavior: Impression formation and explaining behavior of others through attributions; Social cognition; Schemas and stereotypes; Nature and components of attitudes; Attitude formation and change; Behavior in the presence of other; Prsocial Behaviour; Prjudice and discrimination; Strategies for handling prejudice.

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

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 behavior, Inter-Group Conflicts; Conflict resolution strategies.

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

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.

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

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.

Practical Psychological testing (Profile)**(60 Periods)**

The Students shall be required to prepare one case profile and conduct five practical 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. Practicals would involve using standardised psychological assessment devices domains (intelligence, personality, aptitude, adjustment, 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 :

Published by N.C.E.R.T., New Delhi.

Psychology मनोविज्ञान

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Informatics Practices
Examination Specifications
English Communicative
Code No. 302

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks						
		<table><tr><th>Part</th><th>Marks</th></tr><tr><td>Theory</td><td>70</td></tr><tr><td>Practical</td><td>30</td></tr></table>	Part	Marks	Theory	70	Practical	30	
Part	Marks								
Theory	70								
Practical	30								

Learning Objective:

1. To Understand the application development environment.
2. To gain programming Skills 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.

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.

Unit No.	Unit Name
1.	Business Computing
2.	Programming
3.	Relational Database Management System

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 Relational 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 Statement, About programming language in SQL.

Data Dictionary, Data Warehousing, Data Mining, Meta;

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(), String();

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

Time-Related Function : Now(), Time(), 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 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 Statement, 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 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 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

I. HANDS ON EXPERIENCE:

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 Constrains (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.

2. RECORDS

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 Experts 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 Free Detail** : Should contain details like Financial year, Class, Free, 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

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.
- * 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

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).

Yoga

Examination Specifications

English Communicative

Code No. 303

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks						
	<table><tr><th>Part</th><th>Marks</th></tr><tr><td>Theory</td><td>70</td></tr><tr><td>Practical</td><td>30</td></tr></table>	Part	Marks	Theory	70	Practical	30		
Part	Marks								
Theory	70								
Practical	30								

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 inculcation 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	(iv) Shri Aurbindo
(ii) Swami Ram Tirtha	(v) Gautama Budha
(iii) Swami Viveka Nanda	

Part-B (Therapeutic and Physiological Aspects of Yoga)

6. Concept of Health from the yogic point of view. Yoga as a science fo 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 yogic therapeutic measures.

Practical
Asanas
Pranayama, Mudras, Bhandas & Dhayana
Shatkarmas
Practical Notebook

- (i) Asanas as given in Hatha Yoga Pradeepika, Ghrenda Samhita, Shiva Samhita, Yoganishada and other in vogue.
- (ii) Kriyas-Shatkarmas (Shatkriyas) as described in Hatha Yoga Pradeepika, Ghrenda Samhita and Shatkarma
- (iii) Pranayamas-Anuloma-Viloma, Ujjai, Bhastrika and familiarity with other Pranayamas such as Surayabhedana-Chandrabhedana, Sitili-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 dhyana in any of the selected postures i.e. Sidhasana. Swastikasana Padmasana, Sukhasana and Vijarasana.
- (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, Padahastana, 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 BOOK

1. Patanjali Yogsutras
2. Rajayoga by Swami Vivekanada
3. Asanas by Swami Kuvalayanda.
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.

French

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Examination Specifications

English Communicative

Code No. 304

Unit	Areas of	Time : 3 Hours	100: Marks
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Part	Marks
Theory	70
Practical	30

Section-A : Applied Grammar

- Filling up blanks with appropriate parts of speech.
- Transformation of sentences.
- Sentence Correction (not involving punctuation and spelling)
- Based on chapter 18-30 of Prescribed book

Section-B: Comprehension/Reading

- One passage from the prescribed book (Prose/Poetry)
 - One Unseen passage
- (variety of comprehension questions, including short answer questions & Vocabulary (word attack))

Section-C: Writing Skill/Composition

- Writing a story based on outlines provided (120 words)
- One unaided composition based on the topics in the Prescribed book (120 words)

Section-D: Literature

(Short answer questions on prescribed texts)

Prose

Comprehension of the prescribed text (Chapter 18-30)

Poetry

Poems To Be Studied :

1. Renn'est Beau-Ch. Peguy
2. Avecton 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

Philosophy

Examination Specifications

English Communicative

Code No. 305

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
		Part	Marks
		Theory	100

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-Logi, Ethics, Classical Indian Philosophy and Western Philosophy.

Theory

A. Indian Philosophy

1. Nature and Schools of Indian Philosophy : some basic issues
2. Philosophy of the Bhagwad Gita; Karma Yoga
3. Buddhism, Jainism
4. Nyaya, Vaishesika and Samkhya-Yoga
5. Advaita Vedanta

B. Western Philosophy

6. Knowledge and truth
7. The causal Principle
8. Nature of Reality
9. Realism and Idealism

C. Applied Philosophy

10. Environmental Ethics, Professional Ethics and Philosophy of Education

A. Indian Philosophy

- Unit 1:** Nature and Schools of Indian Philosophy ; some basic issues **24 Pds.**
Rta, Karm, 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.**
- Unit 4:** Nyaya, Vaisheshika and Samkhya-Yoga **24 Pds.**
- 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** **24 Pds.**
Proofs for the existence of God:
Ontological, Teleological and Cosmological arguments.
- Unit 9:** Realism and idealism **24 Pds.**
Mind Body Problem

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

Urdu (Core)
Examination Specifications
English Communicative
Code No. 306

One Paper

100 Marks

Part	Marks
Theory	100

Section-A**Periods : 210****1. Reading Skills :**

- (i) Comprehension of an unseen passage (factual) of about 150 words followed by five questions.

2. Writing Skills :

- (i) Essay
- (ii) Letter writing (personal, business and official connected with day life and application writing)
- (iii) Precis Writing
- (iv) Sentence making with the help of idiomatic phrases
- (v) Advertisements

Section-B**(A) Book 1****Jangal Ki Ek Rat**

- (i) One out of two extracts from the prescribed book followed by short answer type questions for comprehension.
- (ii) One essay type question (100 words) on content/theme of the prescribed book.
- (iii) Four short answer type questions on the prescribed book

(B) Book-II**Heroine Ki Talash**

- (i) One Essay type questions (100 words) on theme/content
- (ii) Four short answer type questions on characters/ events/evaluative nature

Prescribed Text Book :

1. Jangal Ki Ek Rat by Rehan Ahamed 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.

Public Administration
Examination Specifications
English Communicative
Code No. 307

One Paper	3 Hours	100 Marks
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Part	Marks
Theory	70
Practical	30

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.

Music (Hindustani Vocal)

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Examination Specifications

English Communicative

Code No. 308

One Theory Paper	3 Hours	Marks 100
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Part	Marks
Theory	70
Practical	30

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. Bhattachande).

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

Paper :

- One Drut Khayal in Bihag, Bhairav, Kedar and Bimpalasi with simple elaborations.
 - One Tarana, one Dhrupada, one Dhamar in any prescibed raga.
 - One Thumri or Dadra style Composition in Khamaj or a devotional song.
 - One Swarmalika in any Raga.
- The recitation of Thekas Kehrwa, Dadra, Jhaptaal, Rupak Tilwada and Dhamar with dugun, keeping Tala with hand beats.
- Ability to sing Aroha, Avaroha, Pakad and Simple Swar Vistar with Alap and Tana in the prescribed Ragas.
- Ability to recognise the prescibed from the passages of Swaras rendered by the Examiner.

Hindustani Music (Vocal) Practical

Guidelines to the Examiner for Evaluation of Practical

One Practical Paper

Time Duration : 20 to 30 Minutes per candidate :

General Instructions :

- Examiners are requested to ask the questions directly related to the syllabus.
- 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.	
2.	Choice Raga (Vilambit and Drut Khayal)	
3.	Examiners Choice Drut Khayal	
4.	One Dhrubad or one Dhamar	
5.	Composition in raga Khamaj	
6.	Identification fo Swaras & Ragas	
7.	Identification of Tala Played on Table	
8.	Reciting the Theka of a Tala with hand beats	

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 Panpura)
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 Tah (barabar) and Dugun with hand beats.

Hindustani (Instrumental Melodic)

One Theory Paper

3 Hours

72 Periods

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 Ratanakar.
- (b) Brief history of medieval and Modern period of Hindustani Music with special reference to Sangeet Parijata and works of Pt. V.N. Bhtkhande.
- (c) Description of the Ragas Prescribed for Class-XII Practical.

3. Description and construction of instruments opted, along with the basic techniques 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	-	अलाउद्दीन खाँ ।
(e) Alladiya Khan	-	अल्लादिया खाँ ।

One Practical Paper
168 Periods

B. Practical Paper

1. (a) One Razakhani gat in Bhairav, Bihag, Kedar and bhimpalasi with eleaborations (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 tow 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

One Practical paper

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 :

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

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 (Reg Pehchan)
8. **Identification of Tala** : The student may be asked to identify the Tala played on Tabla. The Examiner can ask the student to indentify more than one Tala.
9. **Reciting of Theka** : The examiner may ask the student to recite the Teka (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.

Hindustani (Instrumental Percussion)

(Tabla or Pakhawaj)

One Theory Paper

3 Hours

72 Periods

A. Theory

1. (a) Definition of the following terms.
Verna, Aankar, (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
- (c) Chautal Ektal
- (d) 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.

One Practical Paper

168 Periods**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 Qayads, 2 Tukras and a few gats in Tentel, Ektal and Jhaptal or chaugun, with Mukhda and Tihai.
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 Practical

One Practical Paper**Time Duration : 20 to 30 minutes each candidate****General Instruction :**

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

Distribution of Marks :

S. No.	Value Points
1.	Tuning of Instrument and questions regarding instrument
2.	Choice Tala
3.	Tala of Examiner's Choice
4.	Tala in Dugun, Chaugun with Mukhda & Tihai
5.	Reciting of Tala with hand beats

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 Dara 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 & 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.

Dance

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Examination Specifications

English Communicative

Code No. 309

One Theory Paper

3 Hours

Marks : 100

Part	Marks
Theory	70
Practical	30

1. A brief history and acquaintance with the classical styles or folk forms prevalent in the region, other than one offered for study.
2. Acquaintance with the history of the chief exponents past and present of 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, Bharamari, Utplavana.
 - (iv) Abhinaya (Angika, Vachika, Stavika, Acharya) with special reference to Hasta-Abhinaya, Mukhaja abhinaya 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) Thaata
 - (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 along with its basic Tala.
6. Acquaintance with the traditional costumes make up of the dance type offered.

One Practical Paper

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
 - (ii) Ganesh Paran
 - (iii) Tthaat
 - (iv) Aamad
 - (v) Fast Aamad
 - (vi) Pramalu
 - (vii) Tihayee
 - (ix) Gatbav
 - (x) Parhant of Tukra/Toda, Paran Learnt with Tala

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

One Theory Paper

3 Hours

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) Nritya, 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, Sacharibhava.

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 Adavu syllable.

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

One Practical Paper

1. Revision of all the adavus in class XI
2. Jatiswaram
3. Sabdam
4. Padam or Kitanam
5. Tillana
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 Adi 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.

Fine Arts

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Examination Specifications

English Communicative

Code No. 310

One Paper

Unitwise Allocation

Unit	Areas of	3 Hours	100 Marks
	Part	Marks	
	Theory	70	
	Practical	30	

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. Sulpture : Relief and round sculpture, modelling with clay, terra-cotta, carving in wood and stone bronze casting.
6. Graphics : Linocut, relief printing, etching, Lithograhly, 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 exercise : 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 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

Unitwise Weightage :

History of Indian Art

1. The Rajasthani and Pahari Schools of Miniature Painting.
2. The Mughal and Deccan Schools of Miniature Painting.
3. The Bengal School of Painting and the Modern Trends in Indian Art

Unit 1 : The Rajasthani and Pahari Schools of Miniature Painting (16th Century A.D. To 19th Century A.D) **24 Periods**

Introduction to Indian Miniature Schools : Western-Indian, Pala, Rajasthani, Mughal, Central India, Deccan and Pahari.

(A) The Rajastan ; 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 19th Century A.D.)

(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 Daccan 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 Periods**

- (A)** (1) New Era in Indian art-an introduction
 (2) Study of the following painting.
 (i) Rama Vanquishin the pride of the ocean-Raja Ravi Verma
 (ii) Evolution of the Indian National Flag (First - 1906, Middle-1921 and Final 1947 Stages) : Study of the form and the choler scheme.
- (B)** (1) Introduction to the Bengal School of painting
 (2) contribution the 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-Nandalala Bose
 (iii) Radhika - M.A.R. Chughtai

(C) The Modern Trends in Indian Art**INTRODUCTION****(1) Study of the following Paintings :**

- (i) Mugician-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 Vajj

(3) Study of the following work of contemporary Indian Art**Paintings**

- (i) Mother Teresa-MF. Hussain.
- (ii) Birth of Poetry-K.K. Bebbar
- (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 Gound

(5) Sculptures

- (i) Standing Woman-Dhanraj Bhagat
- (ii) Cries Un-heard-Amar Nath Sehgal
- (iii) Ganesha-P.V. Jankiram
- (iv) Figures-Sankho Chaudhuri
- (v) Chatturmukhi 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.

One Paper**PAINTING PRACTICAL****UNITWISE WEIGHTAGE**

1. Natures, and Object study
2. Painting Composition
3. Sessional work

Unit 1: Nature and Object study**60 Periods**

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 Periods**

Imaginative painting based on subjects from Life and or Nature in water and poster colours with colour values.

Unit 3 : Sessional Work**48 Periods**

- (a) Five selected Nature and object Study exercise in any media done during the session, including minimum of two still life exercises.
- (b) Two selected works of painting done by the candidate during the year

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 -1 Nature and Object Study

- (i) Drawing (composition)
- (ii) Treatment of media/colours
- (iii) Overall impression

Part-II : Painting (Composition)

- (i) compositional arrangement including emphasis on the subject
- (ii) Treatment of media colour
- (iii) Originality and overall impression

Part-III : Sessional work

- (i) Five Selected Nature and object study exercises in any media including minimum of two still lives.
- (ii) Two selected painting compositions Prepared on the basis of life and nature

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 (give 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. Weight age 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 be mentioned here strictly just before the start of the examination for part II.

(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 or larger (suitable) size.
3. An object relation 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 purchase/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 colour 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 friends and daily life.
- (iii) Games and sports activities.
- (iv) Nature
- (v) Fantasy
- (vi) National, religious, cultural, historical and social events and celebrations.

(C) 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 Leacon Frank (Walter T. Foster Publication).
5. "More Trees" by Fredrick Gardner (Walter 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).

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 an 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) Practical

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 methods 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 exercise to inculcate respect for the tools and apparatus - used in the various processes including their maintenance and proper handling.

THEORY**One Theory Paper****Unitwise Weightage****(History of Indian Art)**

1. The Rajasthan, Pahari School of Miniatures Painting
2. The Mughal Deccan School of Miniature Painting
3. The Bengal School of Painting and the Modern Trends in Indian Art.

Note :- The syllabus of Graphics (Theory) is the same as that of painting (Theory) given earlier.

PRACTICAL**One Paper****Unitwise Weightage**

1. Making of graphic-print through Serigraphy/Lithography/ Etching and Engraving (Intaglio Process) techniques.
2. Sessional Work.

Unit 1 : The student in the class are expected to opt for anyone of the following media depending upon the facilities available in their schools 120 Pds.

(a) Serigraphy

1. The history of stencils and silk screen.
2. Methods and materials.
3. The use 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

(b) Lithography**120 Periods**

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 Periods**

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 various acids.
6. Finishing and mounting the prints.

Unit 2 : Sessional Work**48 Periods**

Three selected prints prepared during the course by the candidate and certified by the school authorities as work 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
- (ii) Handling on the material and technique of Print-making
- (iii) composition and quality of Print

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 1 : 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 five subjects given below according to the possibility and suitability of the medium.

(Note : Any five suitable subjects for "Graphic-Composition (Printmaking)" 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 30 cm x 20 cm

3. Instructions to Decide the subjects for Graphic composition (Print-making) :

1. The external and internal examiners, only 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, if 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 deigned by the external and internal examiners.

Some Reference books suggested for Teachers

1. "The Techniques of Graphic Art", by H. Van Kruithingen.
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 Yourk.
6. "Introducing Screen Printing", Anthony Kinsey Walson Guplill, New Youk.
7. "The Art and Craft of Screen Process Printing", Kosloff, All the Bruce Publishing 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 Studion Vista, London.
13. "Relief Printing", Michael Rothenstein Studion Vista London.
14. "Etchin, Engraving and Intaglio Printing". Anthony Grossl Oxford University Press.
15. "The Art of Etching", E.S. Sumaden Gouslable, London.

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 assignment 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

One theory Paper

Unitwise Weight age

History of Indian Art

1. The Rajasthan Pahari School of Miniature Painting.
2. The Mughal Deccan School of Miniature Painting.
3. The Bengal School of Painting and the Modern Trends in Indian Art.

Practical

One Paper

Unitwise Weight age

1. Modeling in Relief (Clay and Plaster of Paris)
2. Modeling in Round (Clay and Plaster of Paris)
3. Sessional Work

Unit 1 : Modeling in Relief* **60 Periods**

Unit 2 : Modeling in Round* **60 Periods**

Unit 3 : Sessional work **48 Periods**

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 the examiners for assessment.

Use of clay Composition in hollow for baking.

* Modeling 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 :

Part I : Modeling in Relief

- (i) Composition including emphasis on the subject
- (ii) Handling of media
- (iii) Creative approach & overall impression

Part II : Modeling in Round

- (i) Composition including emphasis on the subject
- (ii) Handling of media
- (iii) Creative approach & overall impression

Part III : Sessional Work

Four works of Sculpture consisting of :

- (a) (i) One Sculpture in Relief (High Relief)
- (ii) One Sculpture in Relief (Low Relief)
- (b) Two Sculpture in round

Note : Sessional work will also be evaluated on the same pattern.

2. Format of the questions :

Part I : Modeling 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 "Modeling in Relief" are to be decided by the external and internal examiners jointly in accordance with the instructions and are to be mentioned here.

Part II : Modeling 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 "Modeling 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 modeling in Relief and Round :

- (1) The examines are to select/decide five subjects suitable for Modeling in Relief and five subjects for "Modeling in Round" are to be conveyed to the candidates strictly just before the start of the examination for Part II.
- (2) Each subject be so designed that the candidate may get a clear-cut idea of teh 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 fo class XII and environment of the school/candidates. Some identified areas of the subjects for modeling in Relief are given below on 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 Part 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", Jhon W. Mills, P.T. Patsford Ltd., London.
4. "A History Sculpture for the world", Sgelden Cneey, Thame and Hudson, London.
5. "From and Space", Edward Their, Thomes and Hudson; London.
6. "Sculpture and Ideas", Jean Selz, Heinemann, London.
7. "Modern Sculpture", Jean Selz, Heinemann, London.
8. "Creative Carving", (Material techniques appreciation), Dons Z. Meilach, Pritam Publishing.

Applied Art-Commercial Arts

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) Practical

The purpose of introducing practical exercises in Applied art (Commercial Art) is to help and able and 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

One Theory Paper**Unitwise Weightage****History of Indian Art**

1. The Rajasthan Pahari School of Miniature Painting.
2. The Mughal Deccan School of Miniature Painting.
3. The Bengal School of Painting and the Modern Trends in Indian Art

Note : The Syllabus of Applied At-Commercial Art (Theory) is the same as that of Painting (Theory) given earlier.

Practical

One Paper**Unitwise Weightage**

1. Illustration
2. Poster
3. Sessional Work

Unit 1 : Illustration**60 Periods**

Study of techniques of Illustration on given subjects and simple situations supported by Drawing from life and outdoor sketching in different media for printing.

Unit 2 : Poster**60 Periods**

Making a poster with specified data and slogan on a given subject in two or four colours.

Unit 3 : Sessional Work**48 Periods****Submission of portfolio consisting of :**

- (i) Five selected drawings in any media done during the year including minimum of two illustrations
- (ii) Two selected posters in chosen subject

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 :

Part I : Illustrations

- (i) Composition including quality of drawing
- (ii) Emphasis on the subject with a specific situation
- (iii) Reproducing quality and overall impression

Part II : Poster

- (i) Layout and Lettering
- (ii) Emphasis on the subject
- (iii) Proper colour scheme and overall impression

Part III : Sessional Work

- (i) Five selected drawings in any media including minimum of two illustrations
- (ii) Two selected posters in chosen subjects

Note : Sessional work will also be evaluated on the same pattern.

2. Format of the questions :

Part I : Illustration

Make an illustration in black and white in any colour media on any one of the following five subjects with a specific situation.

Size of the illustration : 30 cm x 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 any one of the following five subjects. The designing of the poster should have balanced use of typography and illustration.

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.

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.



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