

# SYLLABUS FOR CLASS XI (2019-2020)

Ch-10 Mechanical Properties of Fluids  
Pressure due to fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), Effect of gravity on fluid pressure.

Viscosity, Stokes' law, Terminal velocity, Streamline and turbulent, Critical velocity. Bernoulli's theorem and its applications.

Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, applications of surface tension ideas to drops, bubbles and capillary rise.

## November:-

Ch-11. Thermal properties of Matter

Heat, temperature, thermal expansion; Thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv-calorimetry; change of state-latent heat capacity.

Heat transfer - conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement law, Stefan's Law, Green house effect.

Ch-12 Thermodynamics

Thermal equilibrium and definition of temperature (zeroth law of thermodynamics), heat, work and internal energy. First law of thermodynamics, isothermal and adiabatic processes.

Second law of thermodynamics; reversible and irreversible processes, Heat engine and refrigerator. (Including Ch-5, 6 & 8 of Pre Mid Term and Mid Term)

## ANNUAL

## January:-

Ch-13 Kinetic theory of gases

Equation of state of a perfect gas, work done in compressing a gas.

Kinetic theory of gases-assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equal-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

Ch-14. Oscillations & Waves

Periodic motion-time period, frequency, displacement as a function of time, periodic functions.

Simple harmonic motion (S.H.M.) and its equation; phase; oscillations of a loaded spring-restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period. Free, forced and damped oscillations (qualitative ideas only), resonance.

## February:-

Ch-15 Waves

Wave motion: transverse and longitudinal waves, speed of travelling wave, displacement relation of a

progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes.

(Including whole syllabus)

## Chemistry

### PRE MID TERM

## April:-

Unit-I Some Basic Concept of Chemistry

General Introduction: Importance and scope of chemistry.

Nature of matter, laws of chemical combination, Dalton's atomic theory concept of element, atoms and molecules.

Atomic and molecular masses, mole concept and molar mass, percentage compositions, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.

## May:-

Unit II. Structure of Atom

Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules of filling electrons in orbitals. Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

### MID TERM

## July:-

Unit III. Classification of Elements and Periodicity in Properties.

Modern periodic law and the present form of periodic table, periodic trends in properties of elements, atomic radii, ionic radii, inert gas radii, ionization enthalpy, electron gain enthalpy, electronegativity, valency, Nomenclature of elements with atomic number greater than 100.

Unit-IV. Chemical Bonding and Molecular Structure

Valence electrons, ionic bond, covalent bond bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), hydrogen bond.

## August:-

Unit-V. States of Matter (Gases and Liquids)

Three states of matter, intermolecular interactions, types of bonding, melting and boiling points, role of gas laws in elucidating the concept of the molecule, Boyle's law, Charles law, Gay Lussac's law, Avogadro's law, ideal behaviour, empirical derivation of gas equation, Avogadro's number, ideal gas equation, Deviation from ideal behaviour, liquefaction of gases, critical temperature, kinetic energy and molecular speeds, (elementary idea), Liquid State-vapour

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pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations)

Unit-VI. Chemical Thermodynamics

Concepts of System and types of systems, surroundings, work heat, energy extensive and intensive properties, state functions.

First law of thermodynamics-internal energy and enthalpy, heat capacity and specific heat, measurement of  $\Delta U$  and  $\Delta H$  Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction). Introduction of entropy as a state function, Gibb's energy change for spontaneous and nonspontaneous processes, criteria for equilibrium.

Third law of thermodynamics (brief introduction)

Unit-VII. Chemical Equilibrium

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors, affecting equilibrium- Le Chatelier's principle.

(Including Pre mid term)

## POST MID TERM

**October:-**

Ionic Equilibrium:- Ionic equilibrium-ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, Henderson Equation, hydrolysis of salts (elementary idea), buffer solution, solubility product, common ion effect (with illustrative examples)

Unit-VIII. Redox Reaction

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.

Unit-IX. Hydrogen

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen, hydrides ionic covalent and interstitial; physical and chemical properties of water, heavy water, hydrogen peroxide preparation, reactions and structure and use; hydrogen as a fuel.

**November:-**

Unit-X. s-block Elements (Alkali and Alkaline Earth Metals)

**Group 1 and Group 2 Elements**

General introduction, electronic configuration, occurrence anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens, uses.

**Preparation and Properties of Some Important Compounds:**

Sodium Carbonate, Sodium Chloride, Sodium Hydroxide and Sodium Hydrogencarbonate, Biological importance of Sodium and Potassium.

Calcium Oxide and Calcium Carbonate and their

industrial uses, biological importance of Magnesium and Calcium.

Unit-XI Some p-Block Elements

General Introduction to p-Block Elements

**Group 13 Elements:** General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group, Boron-physical and chemical properties, some important compounds, Borax Boric acid, Boron Hydrides, Aluminium: reactions with acids and alkalies uses.

**Group 14 Elements:** General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first elements. Carbon-catenation, allotropic forms, physical and chemical properties; uses of some important compounds: oxides. Important compounds of Silicon and a few uses: Silicon Tetrachloride, Silicones, Silicates and Zeolites, their uses.

(Including Pre Mid Term)

## ANNUAL

**January:-**

Unit-XII. Organic Chemistry-Some basic Principles and Techniques

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

**January + February:-**

Unit-XIII. Hydrocarbons

Classification of Hydrocarbons

Aliphatic Hydrocarbons:

Alkanes-Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.

Alkenes-Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markownikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.

Alkynes-Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions, acidic character of alkynes, addition reaction of-hydrogen, halogens, hydrogen halides and water.

Aromatic Hydrocarbons: introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of unctional group in monosubstituted benzene. Carcinogenicity and toxicity.

[Including complete syllabus of Pre Mid Term, Mid Term and Post Mid Term]

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## Biology PRE MID TERM

### **April:-**

1. The Living World  
Biodiversity, Need of classification, taxonomy and systematics; taxonomical hierarchy; binomial nomenclature, tools for taxonomy.

### **May:-**

2. Biological Classification  
Five Kingdom classification: Salient feature of each kingdom Lichens, Viruses & Viroids.

3. Plant Kingdom

Salient features of major groups. Algae, Bryophyta, Pteridophyta, Gymnosperms, and Angiosperms

### Practical:

- (1) Presentation of various groups of plants
- (2) Presentation of various groups of animals

## MID TERM

### **July:-**

4. Animal Kingdom

Non-chordates up to phyla level and chordates up to class level.

5. Morphology of Flowering Plants

Morphology of roots, stem, leaf, inflorescences, flower, fruit and seeds.

### **August:-**

6. Anatomy of Flowering Plants

Anatomy and functions of different tissues and tissue systems.

7. Structural Organization in Animals

Animal tissues, morphology anatomy and functions of different functions in an insect (Cockroaches)

8. Cell : The Unit of Life

Cell theory; Prokaryotic and eukaryotic cell; plant cell and animal cell, cell membrane and different all organelles (structure and functions)

### **September:-**

9. Biomolecules

Structure and functions of proteins carbohydrates, lipids, nucleic acids and enzymes.

(Including lesson 1, 2 and 3)

### Practical:

- (1) Study of distribution of stomata and their study
- (2) To study imbibition in resins
- (3) Study of Dicot stem by section cutting.

## POST MID TERM

### **October:-**

10. Cell Cycle and Cell-division

Cell cycle, mitosis and meiosis and their significance.

11. Transport in Plants

Movement of water, diffusion, osmosis imbibition, water potential long distance transport of water, upward conduction of water, transpiration, Translocation of food.

12. Mineral Nutrition

Essential elements, macro micro-elements, their roles, toxicity, hydroponics, Nitrogen metabolism  $N_2$  cycle.

### **November:-**

13. Photosynthesis in Higher Plants

Site, pigments of photosynthesis cyclic, Non-cyclic photophosphorylation Chemi-osmotic hypothesis, C<sub>3</sub>, C<sub>4</sub> path ways, photorespiration, Factors.

14. Respiration in Plants

Cellular respiration-glycolysis, fermentation, TCA cycle, ETS amphibolic pathway and RQ.

15. Plant Growth and Development

Seed germination, phases of growth, Growth regulators, Vernalisation and photoperiodism.

Including : Chapter 1 to 9

### Practical:

- (1) Study of osmosis.
- (2) Study of plasmolysis
- (3) Separation of plant pigments by paper chromatography.

## ANNUAL

### **December:-**

16. Digestion and Absorption

Alimentary canal, digestive glands, digestion, absorption and assimilation of nutrients, PEM indigestion constipation, vomiting, jaundice, diarrhoea.

17. Breathing and Exchange of Gases

Human Respiratory system, breathing, exchange of gases transport of gases, regulation and disorders, respiratory volumes.

### **January:-**

18. Body Fluids and Circulation

Composition of Blood, Blood group, clotting lymph, human heart, cardiac cycle, ECG, double circulation, regulation and disorders.

19. Excretory Products and their Elimination

Modes of excretion, human excretory system, Urine formation, Osmoregulation and disorders.

20. Locomotion and Movement

Types of movements, muscle contraction, skeletal system, joints and disorders of muscular skeletal system.

21. Neural Control and Co-ordination

Neurons and nerves, CNS, PNS, VNS, generation and conduction of nerve impulse, reflex action structure functions of human eye and ear.

### **February:-**

22. Chemical Co-ordination & Integration

Human endocrine system-endocrine glands, role and regulation, disorders related with hormones.

### Practical:

- (1) Study of Mitosis
- (2) Preparation of human blood stream
- (3) Human skeleton and types of joints.

# SYLLABUS FOR CLASS XI (2019-2020)

## Accountancy PRE MID TERM

### April:-

1. Introduction to Accounting :  
(Basic, Terms, Objectives)

### May:-

2. Accounting Equation
3. Journal

## MID TERM

### July:-

4. Ledger
5. Rectification of Trial Balance
6. Subsidiary Books (Purchase book, sales book, Purchase Return book, Sales Return book)
7. Cash Book (Single cash book, Double Column Cash Book, Petty Cash Book.)

### August:-

8. Bank Reconciliation Statement
9. Introduction to Accounting (II):  
(Advantages, Limitations, Users of Accounting)
10. Source Documents
11. Theory Base of Accounting  
Accounting Concepts, Conventions & Principles

### September:-

12. Depreciation (Straight line method & Diminishing balance method)  
(Including Pre mid term course)

### Project Work:

Prepare Journal, Ledger & Trial Balance Source Documents.

## POST MID TERM

13. Bills of Exchange (Simple case, Discounting of bill, endorsement, bill sent for collection, Dishonour of bill, Renewal of bill)
14. Financial Statements-without adjustment  
(Including Mid term whole course and One Chapter-Journal of Pre Mid Term course)
15. Final A/c (with adjustment)

## ANNUAL

### January:-

16. Rectification of Errors (including Suspense A/c)

### February:-

17. Single Entry System (Statement of Affairs & Conversion method)
18. Computers in Accounting  
(Including whole course)

### Project Work:

Preparation of Balance Sheet, Trading & P/c A/c

## Business Studies PRE MID TERM

### April:-

1. Nature and Purpose of Business  
Business-concept, history of commerce, objectives, Role of Profit, Classification of Business Activities, Industry Commerce and Business Risk.

### May:-

2. Forms of Business Organisation :  
(a) Sole Trade

(Meaning, Advantages and disadvantages of sole trade)

- (b) Partnership  
(Meaning, Advantages and dis-advantages, types, registration of partnership firm and Partnership deed.)
- (c) Joint Hindu Family Business  
(Concept)

### Project:

Visit to a Departmental store or Industry or Mall or Bnk or MNC. Prepare project Report.

## MID TERM

### July:-

- (d) Co-operative Societies  
(concept, merits and limitations)
- (e) Joint stock company  
(concept, merits and limitations, types, formation, documents to be used in formation and choice of forms of business org.)

### August:-

3. Public, Private & Global Enterprises.  
(Public sector and private sector enterprises-concept, forms of public sector, Departmental undertaking, statutory corp., Govt. company-MNC's features, Joint Venture & PPP)
4. Business Services:
  - (a) Types of Bank A/c, Banking Services, E-Banking-Types of digital payment.
  - (b) Insurance  
(Principles, types of Insurance)
  - (c) Postal Services  
(Including Pre Mid Term course)

### September:-

5. Emerging Modes of Business  
E-business, concept, scope and benefits. BPO concept need and scope.

## POST MID TERM

### October:-

6. Social Responsibility of Business & Business Ethics  
(Concept and case, responsibility towards owners, investors, consumers, employees, government and community, role of business in environmental protection business ethics concept and elements)

### November:-

7. Source of Business Finance Concept, Owner's Fund- (equity and preference shares, retained earnings, GDR, ADR and IDR, Borrowed fund: Debentures, Loan from commercial bank, Public Deposit, trade credit and ICD)
8. Small Business and Enterprises:  
(Entrepreneurship development (ED), Small business-concept, role of Small business and govt. schemes.

## ANNUAL

### January:-

9. Internal Trade  
(meaning and type, type of retail trade-services)

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rendered by wholesaler and a retailer and small scale fixed shops retailers . Departmental stores chains stores concept. GST-concept and key features.)

## February:-

10. International Trade  
Concept and benefit  
Export Trade-Meaning and Procedure  
Import Trade-Meaning and Procedure  
Documents involved in international trade.  
indent, letter of credit, shipping order, shipping bills and mate's receipt WTO-Meaning and objectives.

Project Work:- (Including whole course)

## Economics PRE MID TERM

Micro Economics:

### April:-

- Ch-1 Economics & Economy  
(i) Concept of Micro & macro  
(ii) Positive & Normative  
(iii) Nature, level of Economy

Statistics :

### May:-

- Ch-9 Measures of Central Tendency  
(i) Arithmetic Mean

## MID TERM

Micro Economics:

### July-

- Ch-2 Central Problems of an Economy  
(i) Solution of Central Problems in different economies  
(ii) Production Possibility curve and central problems
- Ch-3 Consumer's Equilibrium Utility Analysis.  
(i) Concept of Utility  
(ii) Total and Marginal utility  
(iii) Law of DMU; concept of consumer equilibrium

### August:-

- Ch-4 Indifference Curve Analysis  
(i) Assumption of ICs  
(ii) Properties of ICs
- Ch-5 Theory of demand  
(i) Concept of demand  
(ii) Law of demand  
(iii) Determinants of demand  
(iv) Movement & shift of demand curve
- Ch-6 Price Elasticity of demand
- Ch-7 Production function and return to a factor  
(i) Concept of TP MP & AP  
(ii) Law of Variable factor

Statistics:

### September:-

- Ch-1 Concept & Importance of Statistics in Economics

- Ch-2 Collection of Data  
(i) Primary & Secondary Data
- Ch-3 Census and Sample methods of Collection of Data
- Ch-4 Organisation of Data
- Ch-5 Presentation of Data
- Ch-10 Measures of Central tendency Median and Mode  
(Including Pre-Mid Term)

## POST MID TERM

Micro Economics:

### October:-

- Ch-8 Concept of Cost  
(i) Short run costs  
(ii) Relationship among short run costs
- Ch-9 Concept of Revenue  
(i) Concept of revenue  
(ii) Revenue curves in different markets
- Ch-10 Producer's Equilibrium  
(i) Meaning & approaches of MR-MC

Statistics:

### November & December:-

- Ch-6 Diagrammatic Presentation of data
- Ch-7 Bar diagrams and pie-diagrams  
Frequency Diagrams- histogramy, Polygon and Ogive.
- Ch-8 Arithmetic Line graphs or Time series Graphs  
(+Pre-Mid Term + Mid term)

## ANNUAL

Micro Economics:

### January:-

- Ch-11 Theory of Supply  
(i) Concept of Supply  
(ii) Law of Supply  
(iii) Movement and shift in supply curve  
(iv) Price Elasticity of Supply  
(v) Factors affecting Elasticity of Supply
- Ch-12 Forms of Market  
(i) Concept of market  
(ii) Basis of classification of market  
(iii) Various forms of market

Statistics :

- Ch-12 Correlation
- Ch-13 Index Numbers  
+ Pre mid term + Mid term + Post Mid term.

## Engineering Graphics (046)

## PRE MID TERM

### April:-

Plane Geometry:- Lines, angles and rectilinear figures:  
Construction of lines, angles and their divisions. Simple questions based on triangles, square, rhombus, trapeziums, regular polygons-pentagon, hexagon and

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octagon.

## May:-

Circles & Tangents:-Construction of Circles, external and internal tangents of circles, inscribing & circumscribing of circles in equilateral triangle, square, rhombus, regular polygons-pentagon, hexagon and octagon.

Practical:- Based on above topics

### MID TERM

## July:-

Engineering Curves:-Ellipse by concentric circles, intersecting arcs and intersecting lines method.

(i) Parabola-Intersecting Lines & intersecting arcs method.

(ii) Involute of Circle; Cycloid; Helix; Sine Curve

## August:-

Solid Geometry:-Orthographic Projection of Points & Lines using SP:46-2003 convention Orthographic Projection of Plane figures-Triangle, Square, pentagon, hexagon Circle & Semi-Circle.

Practical:- Based on above topics.

### POST MID TERM

## October:-

Solid Geometry:- Orthographic projections of right regular solids such as cubes, prisms and pyramid, cone, cylinders, spheres, hemispheres & Frustums.

## November:-

Section of Solids:-Section of cubes, prisms, pyramids, cones, cylinders and spheres using horizontal, vertical and inclined cutting planes.

Machine Drawing:-Orthographic Projection of Simple machine blocks.

## November & December

Practical- Based on above topics.

### ANNUAL

## January:-

Isometric Projection-Construction of Isometric Scale. Isometric Projection of planes-Triangles, square, pentagon, hexagon, circle, semicircles.

Development of Solids-Development of Triangle, square, pentagonal, hexagonal prisms and pyramids, cone & cylinder.

Practical:-Based on above topics.

### HUMANITIES (Home Science)

#### PRE MID TERM

## April:-

Ch-1. Introduction: Evolutions of the Discipline and its relevance to quality of life.

Unit I. Understanding Onself: Adolescence

Ch-2 Sense of Self-

(A) Understanding "Who am I"? (Continued)

Practicals:-

(1) Study of physical self with reference to:(a) Age, height, weight, hip size, round chest/bust, round waist b) Age at menarche: girls (c) Growth of beard, change in voice: boys (d) Colour of hair and eyes.

(2) Understanding oneself with reference to: (a) Developmental norms (b) Peers, both male and female (c) Health status (d) Garment sizing.

(3) (a) Record own diet for a day (b) Evaluate qualitatively for adequacy.

May:-

(B) Characteristics and needs

(C) Influences on identity formation-Biological and physical changes-Socio-cultural contexts-Emotional changes-Cognitive changes

Ch-3 Food, Nutrition, Health & Fitness

Ch-4 Management of Resources-time, money, energy and space

Practicals:-

(4) (a) Record the fabrics and apparel used in a day (b) Categorize them according to functionality.

(5) (a) Record one day's activities relating to time use and work (b) Prepare a time plan for oneself.

### MID TERM

Practicals:- (**June Holiday Homework**)

(6) List and discuss five messages from print and electronic media which have influenced own self.

(7) Collection of information from different regions in India and critical discussion on: (a) Food practices including food taboos, fasting and festivity preparations (b) Clothing practices related to rites, rituals and occupation (c) Childcare practices in early years-gender similarities and differences (d) Traditional forms of communication including festive and special occasions.

(8) List and discuss 4-5 areas of agreement and disagreement with: (a) Mother (b) Father (c) Siblings (d) Friends (e) Teacher, How would you resolve the disagreements to reach a state of harmony and mutual acceptance?

(9) Documentation of a traditional textile art/craft of neighbouring area.

July:-

Ch-5 Fabrics Around us

Ch-6 Media & Communication Technology

Practical:-

(10) Visit to any one programme/institution (Govt./NGO) for children; observation of activities in the programme and report writing. Or Observation of any two children of different ages in the neighbourhood and reporting on

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their activities and behaviour.

(11) Construction of Quality Of Life (QOL) and Human Development Index (HDI)

## August:-

- Ch-7 Effective Communication skills  
Ch-8 Living and working in a global society  
Unit II. Understanding Family, Community and Society  
Ch-9 Relationships and Interactions with 'Significant Others'

- (A) Family  
(B) School: Peers and Educators:  
(C) Community-Society

## September:-

- Ch-10 Concerns and Needs in Diverse Contexts Family, school, community and society Key areas:  
(A) Health, nutrition and hygiene  
(B) Work, worker and environment  
(C) Resource availability and management  
(D) Learning, education and extension  
(E) Textile Traditions of India

Including all syllabus of Pre Mid Term)

Practical:-

(12) Relationship of fibre properties to their usage: (a) Thermal property and flammability (b) Moisture absorbency and comfort.

(13) Study one female adult and one male adult in the age range of 35 to 60 years with reference to: (a) Health and illness (b) Physical activity and time management (c) Diet behaviour (d) Coping with challenges (e) Media availability and preferences.

## POST MID TERM

## October:-

- Unit III. Childhood  
Ch-11 Survival, Growth and Development  
Ch-12 Nutrition Health and Well-being

Practical:-

(14) Study of labels on: (a) Food (b) Drugs and cosmetics (c) Fabrics and apparel (d) Consumer durables.

(15) Analysis of own communication styles and skills.

## November:-

- Ch-13 Care and Education  
Ch-14 Clothes and apparel

Practical:-

(16) Preparation of different healthy snacks for an adolescent suitable in her/his context.

## December:-

- Unit-IV Adulthood  
Ch-15 Health and wellness

Including Unit I (Ch. 3, 4, 5, 6, 7, 8)

## ANNUAL

### January:-

- Ch-16 Financial Management and Planning  
Ch-17 Care and Maintenance of Fabrics and apparel  
Ch-18 Perspectives in Communiation  
Ch-19 Individual Responsibilities and Rights  
Including Pre Mid Term, Mid Term and Post Mid Term

Practical:-

(17) Plan a budget for self for a given situation.

## HUMANITIES (Political Science)

### PRE MID TERM

Book 1 Indian Constitution at Work

### April:-

- Ch-1 Constitution: Why and How? Philosophy of the Constitution Constitution As a Living Document

(22 April-30 April)

- (i) The making of Constitution  
(ii) The Constituent Asembly  
(iii) Procedural achievements  
(iv) Procedure to amend the Constitution

(1st May-2 May)

- (v) Basic structure and Evolution of the Constitution.

Book 2: Political Theory

### May:- (3 May-10 May)

- Ch-1. Political Theory: An Introduction  
(i) What is Politics?  
(ii) Why should we study Political Theory?

(13th May-18th May)

Ch-2 Freedom

- (i) The Ideal of Freedom  
(ii) What is Freedom?  
(iii) Harm Principle.  
(iv) Negative and Positive Liberty

Project:

A field survey will be conducted by the students on 'Federalism'

Note:

Reading explanation discussion, Long & short Q. Ans. Map Work (Common to all chapters)

## MID TERM

Book 1: Indian Constitution At Work

### July:- (1st July-6th July)

- Ch-2 Rights and Duties In The Indian Constitution.  
(i) The Importance of Rights  
(ii) Fundamental Rights  
(iii) Directive Principles of State Policy

(8th July-12th July)

Ch-3 Election And Representation

- (i) Election and Democracy

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(ii) Election System In India  
(iii) Free and Fair Elections  
(15th July - 19th July)  
Ch-4 Legislature  
(i) Why do we need a Parliament?  
(ii) Two Houses of Parliament  
(iii) Functions and Power of the Parliament  
Book-2 Political Theory  
(20th July-24th July)  
Ch-3 Equality  
(i) Significance of Equality  
(ii) What is Equality  
(iii) How can we promote equality  
**August:-** (1 August-6 August)  
Ch-4 Justice With Special Reference To Social Justice  
(i) What is Justice?  
(ii) Just Distribution, Justice as fairness  
(7 August-9 August)  
Ch-5 Rights  
(i) What are Rights?  
(ii) Where do Rights come from?  
(13 August-17 August)  
(iii) Rights and Responsibilities  
Ch-6 Citizenship  
(i) What is citizenship?  
(ii) Citizen and Nation  
(iii) Universal Citizenship  
(iv) Global Citizenship  
Note: Including Pre Mid Course,  
Revision to be done  
**POST MID TERM**  
Book 1 Indian Constitution At Work  
**October:-** (1 October-9 October)  
Ch-5 Executive  
(i) What is an Executive?  
(ii) Different Types of Executive  
(iii) Parliamentary Executive  
(10 October-15 October)  
(iv) Prime Minister and Council of Ministers  
(16 October-24 October)  
Ch-6 Judiciary  
(i) Why do we need an Independent Judiciary?  
(ii) Structure of Judiciary  
(iii) Judiciary and Parliament  
Book: 2 Political Theory  
**November:-** (1 November-11 November)  
Ch-7 Nationalism  
(i) Nations and Nationalism  
(ii) National self determination

(iii) Nationalism and Pluralism  
(13 November to 24 November)  
Ch-8 Secularism  
(i) What is secularism?  
(ii) What is secular state?  
(iii) The Western and Indian approaches to secularism.  
Note:  
(Ch-1 & 4 of book 1 Indian Constitution At Work, Ch-2 & 5 of Book 2. Political Theory will be included)  
Revision to be done (December)  
**ANNUAL**  
Book - 1 Indian Constitution At Work  
**January:-** (9 January-18 January)  
Ch-7 Federalism  
(i) What is Federalism?  
(ii) Federalism in the Indian Constitution  
(iii) Conflicts in India's Federal System.  
(20 January to 25 January)  
Ch-8 Local Governments  
(i) Why do we need Local Governments?  
(ii) Growth of Local Government in India.  
(iii) 73rd and 74th Amendments  
Book-2 Political Theory  
(27 January - 31 January)  
Ch-9 Peace  
(i) What is peace?  
(ii) Can violence ever promote peace?  
(iii) Contemporary challenges to peace  
**February:-** (1 February- 7 February)  
Ch-10 Development  
(i) What is development?  
(ii) Dominant development Model and alternative conceptions of development.  
Note:  
Pre Mid, Mid & Post Mid Term course will be included.  
Viva:-To be conducted on the basis of field survey conducted by the students on Federalism.  
**HUMANITIES (History)**  
**PRE MID TERM**  
**April:-**  
Introduction to World History  
Early Society:-  
Introduction:  
Ch-1 From the beginning of time  
Focus: Africa till 15000 BCE  
Views on the origin of Human beings.  
**May:-**  
Ch-2 Writing and City life:  
Focus: Iraq, 3rd millennium BCE  
(i) Growth of towns



# SYLLABUS FOR CLASS XI (2019-2020)

- (ii) Nature of early urban societies
- (iii) Historians' Debate on uses of writing.

Map: Based on the themes.

Project Work:

Based on the themes provided by CBSE (To be given before summer vacation)

## MID TERM

**July:-**

Ch-3 An empire across three continents

Focus: Roman Empire, 27 BCE to 600CE

- Political evolution
- Economic expansion
- Religion-Culture foundation  
Late Antiquity
- Historians' views on the institution of Slavery.

Ch-4 Central Islamic Lands:

Focus: 7th to 12th Centuries Polity/ Economy/Culture  
Historians Views

Ch-6 Three orders:

Focus: Western Europe, 13th-16th century Feudal  
Society and Economy

- Formation of States
- Church and Society
- Historians' Views on decline of feudalism.

**August-September:-**

Ch-5 Nomadic Empires:

Focus: The Mongols, 13th-14th Century.

- The nature of nomadism
- Formation of Empires
- Conquests and relations with other states.
- Historians' Views

Map:

Based on the themes (Including Pre Mid Term Course)

## POST MID TERM

**October:-**

Ch-7 Changing cultural traditions

Focus: Europe, 14th-17th century.

- New ideas & Trends in literature and Arts
- Relationship with earlier ideas
- The contribution of West Asia/Historians' views

Ch-8 Confrontation of Cultures

Focus-America 15th to 18th century.

- European Voyages of exploration
- Search for gold, enslavement, raids, extermination.
- Indigenous people and cultures
- The history of displacement
- Historians views

**November:-**

Ch-9 The Industrial Revolution:

Focus-England, 18th-19th century

- Innovations and technologies
- Patterns of Growth
- Emergence of a working class
- Historians views

(Including Pre Mid Term)

## ANNUAL

**January:-**

Ch-10 Displacing Indigenous People.

Focus: North America and Australia, 18th/19th cen.

- European colonist in North America/Australia
- Settler Societies/Displacement/Repression

**February:-**

Ch-11 Paths To Modernization

Focus: East Asia-19th/20th Century

- Militarization & economic growth in Japan
- China and the communist alternative
- Historians' Debates.

Map:-Based on the themes,

Including Pre Mid Term & Post Mid Term)

## HUMANITIES (Psychology)

### PRE MID TERM

**April:-** (22nd April-2nd May)

Ch-1. What is Psychology?

1. Introduction
2. What is Psychology?
  - (a) Psychology as a Discipline
  - (b) Psychology as a Natural Science
  - (c) Psychology as a Social Science
3. Understanding Mind and Behaviour
4. Popular Notions about the Discipline of Psychology
5. Evolution of Psychology
6. Development of Psychology in India
7. Branches of Psychology
8. Themes of Research and Applications
9. Psychology and Other Disciplines
10. Psychologists at Work
11. Psychology in Everyday Life

**May:-** (3rd May to 14th May)

Ch-2. Methods of Enquiry in Psychology

The topics in the unit are:

1. Introduction
2. Goals of Psychological Enquiry
  - (a) Steps in Conducting Scientific Research
  - (b) Alternative Paradigms of Research
3. Nature of Psychological Data
4. Some Important Methods in Psychology
  - (a) Observational Method
  - (b) Experimental Method
  - (c) Correlational Research
  - (d) Survey Research
  - (e) Psychological Testing

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- (f) Case Study
- 5. Analysis of Data:
  - (a) Quantitative method
  - (b) Qualitative Method
- 6. Limitations of Psychological Enquiry
- 7. Ethical issues

Practical:-

Problem-To measures the extent of Muller Lyer Illusion.

## **MID TERM**

Ch-3, 4, 5 and ½ half part of Ch-6

**July:-**(1st July to 14th August)

Ch-3. The Bases of Human Behaviour

The topic in this unit are:

- 1. Introduction
- 2. Evolutionary Perspective
- 3. Biological and Cultural Roots
- 4. Biological Basis of Behaviour
  - (a) Neurons
- 5. Structure and Functions of Nervous System and Endocrine System and their Relationship with Behaviour and Experience
  - (a) The Nervous System
  - (b) The Endocrine System
- 6. Heredity: Genes and Behaviour
- 7. Cultural Basis: Socio-Cultural Shaping of Behaviour
  - (a) Concept of Culture
- 8. Enculturation
- 9. Socialisation
- 10. Acculturation

Ch-4 Human Development:

The topics in the unit are: (16 July-30th July)

- 1. Introduction
- 2. Meaning of Development
  - (a) Life-Span Perspective on Development
- 3. Factors Influencing Development
- 4. Context of development
- 5. Overview of Developmental Stages
  - (a) Prenatal Stage
- 6. Infancy
- 7. Childhood
- 8. Challenges of Adolescence
- 9. Adulthood and Old Age

**August:**

Ch-5 Sensory, Attentional, and Perceptual Processes

The topic in this unit are: (1st August–20th August)

- 1. Introduction
- 2. Knowing the world
- 3. Nature and Varieties of Stimulus

- 4. Sense Modalities
    - (a) Visual Sensation
    - (b) Auditory Sensation
  - 5. Attentional Processes
    - (a) Selective Attention
    - (b) Sustained Attention
  - 6. Perceptual Processes
    - (a) Processing Approaches in Perception
  - 7. The Perceiver
  - 8. Principles of Perceptual Organisation
  - 9. Perception of Space, Depth, and Distance
    - (a) Monocular Cues and Binocular Cues
  - 10. Perceptual Constancies
  - 11. Illusions
  - 12. Socio-Cultural Influences on Perception
- Ch-6 Learning
- The topic in this unit are: (21st August to 2nd Sept.)
- 1. Introduction
  - 2. Nature of Learning
  - 3. Paradigms of Learning
  - 4. Classical Conditioning
    - (a) Determinants of Classical Conditioning
  - 5. Operant/Instrumental Conditioning
    - (a) Determinants of Operant Conditioning
    - (b) Key Learning Processes

Note: Including Chapter 1 & 2

## **POST MID TERM**

October:- (7th October to December 10)

Ch-6 Learning (remaining part),

Ch-7 & 8 1st half part

Ch-6 Learning

- 6. Observational Learning
- 7. Cognitive Learning
- 8. Verbal Learning
- 9. Concept Learning
- 10. Skill Learning
- 11. Transfer of Learning
- 12. Factors Facilitating Learning
- 13. The Learner: Learning Styles
- 14. Learning Disabilities
- 15. Applications of Learning Principles

Ch-7 Human Memory

The topics in this unit are:

- 1. Introduction
- 2. Nature of memory
- 3. Information processing Approach: The Stage Model
- 4. Memory Systems: Sensory, Short-term and Long-term Memories
- 5. Levels of Processing
- 6. Types of Long-term Memory
  - (a) Declarative and Procedural;

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Episodic and Semantic

7. Knowledge Representation and Organisation in Memory
8. Memory as a constructive Process
9. Nature and Causes of Forgetting
  - (a) Forgetting due to Trace Decay, Interference and Retrieval Failure
10. Enhancing Memory
  - (a) Mnemonics using images and Organisation

Ch-8. Thinking (1st half of the chapter)

The topics in this unit are:

1. Introduction
2. Nature of Thinking
  - (a) Building Blocks of Thought
3. The Processes of Thinking
4. Problem Solving
5. Reasoning
6. Decision-making

Practical:-

To measure the meaningfulness of studying material on learning

Note: Including chapters 1 to 6

## ANNUAL

January:- (1st January 2020 to 6th February)

Ch-8 Thinking (remaining half of the chapter 9)

7. Nature and Process of Creative Thinking
  - (a) Nature of Creative Thinking
  - (b) Process of Creative Thinking
8. Developing Creative Thinking
  - (a) Barriers to Creative Thinking
  - (b) Strategies for Creative Thinking
9. Thought and Language
10. Development of Language and Language Use

Ch-9 Motivation & Emotions

The topics in this unit are:

1. Introduction
2. Nature of Motivation
3. Types of Motives
  - (a) Biological Motives
  - (b) Psychosocial Motives
4. Maslow's Hierarchy of Needs
5. Nature of Emotions
6. Physiological Bases of Emotions
7. Cognitive Bases of Emotions
8. Cultural Bases of Emotions
9. Expression of Emotions
  - (a) Culture and Emotional Expression
  - (b) Culture and Emotional Labelling
10. Managing Negative Emotions
11. Enhancing Positive Emotion

Practical: Span of Attention

Note: Including Pre Mid Term, Mid Term and Post Term chapters)

## Computer Science

### PRE MID TERM

1. Computer System Organization (4th week of April)
  - Basis Components of a Computer System
  - Secondary Memory
- (1st week of May)
  - Communication Bus
  - Mobile System
  - Software Concepts

(2nd week of May)

- Concepts of OS
- Libraries
- Cloud Computing
- Parallel Computing

(3rd week of May)

2. Getting Started with Python

Practicals:- Introduction to shell

### MID TERM

1. Python Programming Fundamentals:

(1st, 2nd week of July)

- Variables
- Keywords
- Expressions
- Operators
- User Input

(3rd, 4th week of July & August)

- User defined functions
- Tokens, Indentations
- Comments

(2nd, 3rd week of August)

2. Conditional & Looping Constructs if Statements for loop, while loop jump statements.

(4th week of August & 1st week of September)

3. Strings in Python. Creation & Operations
4. Data Representation & Boolean Logic

Practicals:-

Simple programs, based on simple input, conditions & loops. String handling Programs.

### POST MID TERM

1. Lists in Python:

(1st-4th week of October)

- Creations
- Operations
- Built-in functions
- Deletion
- Sorting

2. Tuples & Dictionary

(1st & 2nd week of November)

- Creation
- Operations
- Creation of Dictionary

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(3rd & 4th week of November)

– Operations on Dictionary

(1st week of December)

3. Errors of Exception in Python.

Practicals:

Programs related to lists and types and dictionary

## Annual

(3rd week of January)

1. Database concepts need

– DAMS Models

– Detational Algebra

(4th week of January)

SQL

2. Including whole syllabus

Practical:-

SQL Commands

## ENTREPRENEURSHIP PRE MID TERM

**April:-**

Unit-1. Entrepreneurship : Concept and functions

- Meaning
- Functions of entrepreneur
- Needs for entrepreneurship
- Myths of entrepreneurship
- Process of entrepreneurship

**May:-**

Unit-2. An Entrepreneur

- Why to be an entrepreneur?
- Types of entrepreneurs
- Competencies
- Values, attitudes and motivation
- Employee and entrepreneur
- Meaning and intropreneur

Project: Market Survey

Conduct a market survey with the objective of estimating demand for any existing product in the market.

## MID TERM

**July:-**

Unit-3. Entrepreneur Journey :

- Self assessment of Qualities, skills, resources and dreams
- Generation of ideas
- Business Opportunities
- Opportunities assessment factors
  - Micro environment
  - Macro environment
- Feasibility study
- Business plan.

**August:-**

Unit-4 Entrepreneurship as Innovation and Problem Solving

- Entrepreneur-Problem Solver
- Role of technology
- Social entrepreneurship

- Risk taking

Unit-5. Understanding the Market

- Business ideas and concept
- Types of business
  - Manufacturing
  - Trading
  - Services

(Including Unit 1 and Unit 2)

## POST MID TERM

**October:-**

Unit-5 Understanding the market

- Market research
- Pricing
- Market survey
- Commerce-Trade and Aids to trade
- Unit of sole, Unit price, Unit cost

**November:-**

Unit-6. Business finance and arithmetic :

- Cash flow statement
- Cash flow projection
- Break even analysis
- taxes

Note: Including Unit-2, Unit 4 and Unit 5 (earlier)

## ANNUAL

**January:-**

Unit-7. Resource mobilization :

- Types of resources
- Mentor-Role and importance
- Financial resources requirement
  - Fixed capital-Factors
  - Working capital-Factors
- Debt vs Equity

Note: Including Unit1, 2, 3, 4, 5 and 6

Viva: To be conducted on the basis of the market survey submitted earlier.

## Fine Arts

### PRE MID TERM

**April:-** Theory:-

Ch-1 Art and Introduction

- Elements of art
- Form and shape
- Space
- Colours
- Texture

Practical:

- Study of lines
- Colour wheel

**May:-** Theory:-

Ch-2 Pre- Historic Rock Paintings

- Introduction
- Bhimbetka caves
- Study of pre-historic paintings

Ch-3 Indus valley civilization

- Introduction etc

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- Study of sculptures

Practical:

- Colours study
- Land-landscape

## MID TERM

**July:-** Theory :-

Ch-4 Ajanta caves

Ch-5 Buddhist, Jain and Hindu art

- Study of sculptures

Practical:-

- Land-landscape

**August:-**

Ch-5 Temple-sculptures

- Introduction
- Study of temple sculptures

Ch-6 South Indian Bronzes

- Study of South Indian Bronzes

Practical:-

- Object Study

**September:-** Theory:-

Ch-7 Artistic aspects of Indo-Islamic Architecture

- Study of Architecture

Practical:- Object Study

(Including Pre Mid Term syllabus)

## POST MID TERM

**November:-** Theory:-

Ch-8 Rajasthani School of Miniature Paintings

- Origin and development
- Main features
- Study of Rajasthani miniature paintings

Practical:- Composition

December:- Theory:-

- Remaining part of Rajasthani miniature paintings

Practical:- Composition

(Including only one word questions of Pre Mid and Mid term)

## ANNUAL

**January:-** Theory:-

Ch-9 Mughal School of Miniature Paintings

- Origin and development
- Main features

Practical:- 1. Land-landscape 2. Composition

**February:-** Theory:-

- Study of Mughal miniature paintings

- Revision

(Including whole course)

## English Language Lab.

**April:-** Introduction, Formal, Informal (on mike)

**May:-** Phonetics, Consonant Phonemes, sounds of different consonants

**July:-** Dialogues on the given situation  
(at bank, restaurants, market)

**August:-** Extempore (speaking instantly on given topics)

**October:-** Movie-Canterville Ghost

**November:-** Speech, debate (speaking on mike)

**December:-** Listening skills improvement (playing audio and displaying the questions on board)

**January:-** Group Discussion

**February:-** Episodes of mind your language (A series of comedy)

## Physical Education

### PRE MID TERM

**April to May:-**

1. Changing Trends & Career in Physical Education
2. Olympic Value Education
3. Physical Fitness, Wellness and Lifestyle

### MID TERM

**July to August:-**

4. Physical Education & sports for CWSN.
5. Yoga
6. Physical Activity and Leadership Training.

Note: Plus 3 units of Pre Mid Term.

Practical: Physical Fitness Test.

### POST MID TERM

**October-November:-**

7. Test, Measurement and Evaluation.
8. Fundamentals of Anatomy & Physiology and Kinesiology in Sports.

Note: Plus 4 to 6 units.

### ANNUAL

**January-February:-**

9. Psychology and sports
10. Training and Doping in Sports.

Note: All 10 Units.

Practical:-

- (i) Physical Fitness Test
- (ii) Proficiency in Games & Sports
- (iii) Yogic Practices
- (iv) Record File, Viva Voce,

## LEGAL STUDIES

### PRE MID TERM

**April:-**

Unit-1. Theory And Nature of Political Institutions

- Concept of State/Nation
- Organs of Government-Legislative, Executive and Judiciary

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## May:-

- Separation of Powers-Parliamentary Sovereignty and Independence
- Basic features of Consitution of India

### MID TERM

## July:-

### Unit-2. Nature & Sources of Law

- Nature, meaning and School of law
- Classification of Law-International and municipal law

## August:-

- Sources of law – Custom, legislation and precedent Law Reform

## September:-

### Unit-3. Historical Evolution of Indian Legal System

- Ancient Indian Law Administration of Justice in British India Making of the Indian Constitution

(Including Unit-1 & Unit-2)

### POST MID TERM

## October:-

### Unit-4. Civil And Criminal Courts And Process:

- Constitution: Roles and Impartiality

## November:-

- Hierarchy of Courts The Civil Court Structure
- Structure and functioning of Criminal Courts in India Other Courts in India.

## ANNUAL

## December:-

### Unit-5 Family Justice System

- Introduction to family laws

### January:-

- Marriage and Divorce Children Domestic Violence Property, Succession & Inheritance b

### February:-

- Revision of whole course
- The Whole course comprising: Units  
Unit-1 + Unit-2 + Unit-3 + Unit-4 + Unit-5

### Project:

#### Unit-2

- In Class XI, differentiate between ratio decidendi and obiter dicta of any 5 case laws related to the curriculum.
- The project should speak of the facts, issue, and the decision of the case clearly differentiating between the obiter and ratio.

A viva along with file will be assessed in the following formate:

- Presentation-5 marks
- Research-5 marks
- Application of the understanding of legal context-5 marks
- Viva-5 marks