

# AVB PUBLIC SCHOOL



## SYLLABUS (2024-2025) CLASS XII

**SYLLABUS**  
**CLASS XII (2024-2025)**

**English Core (301)**

**April-May**

**Flamingo:** The Last Lesson  
Lost Spring  
Deep Water  
**Poem:** My Mother at Sixty six  
**Vistas:** The Third Level  
**Writing:** Notice Writing  
Letter to the Editor

**July**

**Flamingo:** The Rattrap  
**Poem:** Keeping Quiet  
**Vistas:** The Tiger King  
Journey to the End of the Earth,  
**Writing:** Invitations and Replies, Report Writing  
**Reading:** Unseen Comprehension

**August – September**

**Flamingo:** Indigo  
Poets and Pancakes  
**Poem:** A Thing of Beauty  
**Vistas:** The Enemy  
**Writing:** Job application  
**Reading:** Unseen Comprehension

**October-November**

**Flamingo:** The Interview  
**Poem:** A Roadside Stand  
Aunt Jennifer's Tigers  
**Vistas:** Memories of Childhood  
**Writing:** Article Writing  
**Reading:** Unseen Passages

**December**

**Flamingo:** Going Places  
**Poem:** Aunt Jennifer's Tigers  
**Vistas:** Memories of Childhood  
**Writing:** Article Writing  
**Reading:** Unseen Passages

**Periodic Test 1(MAY)**

**Flamingo:** The last Lesson  
Lost Spring

**Poem:** My Mother at Sixty six  
**Vistas:** The Third Level  
**Writing:** Notice Writing  
Letter to the Editor

### **Periodic Test 2 (JULY)**

**Flamingo:** The Rattrap  
Deep Water  
**Poem:** Keeping Quiet  
**Vistas:** The Tiger King  
**Writing:** Report Writing, Invitations and Replies  
**Reading:** Unseen Comprehension

### **Mid Term Examination (SEPTEMBER)**

**Flamingo:** The Last Lesson  
Lost Spring,  
Deep Water,  
The Rattrap  
Indigo  
Poets and Pancakes  
**Poem:** My Mother at Sixty six  
Keeping Quiet  
A Thing of Beauty  
**Vistas:** The Tiger King  
Journey to the End of the Earth  
The Enemy  
The Third Level  
On the face of it  
**Writing:** Invitations and Replies  
Letter to the Editor  
Job application  
Article Writing  
Notices  
**Reading:** Unseen Comprehension

## **ASSESSMENT OF SPEAKING & LISTENING SKILLS**

### **Periodic Test 3**

**Flamingo:** The Interview  
**Poem:** A Roadside Stand  
**Vistas:** On the Face of it  
**Writing:** Article Writing, Invitations and Replies,

### **Preboard - I**

**Flamingo:** The Last Lesson  
Lost Spring

Deep Water  
 The Rattrap  
 Indigo  
 Poets And Pancakes The  
 Interview

**Poem:** My Mother at Sixty six  
 Keeping Quiet  
 A Thing of Beauty A  
 Roadside Stand

**Vistas:** The Third Level  
 The Tiger King  
 Journey to the End of the Earth

Enemy

**Writing:** On the face of it  
 Invitations and Replies  
 Letter to the Editor  
 Job application  
 Article Writing  
 Notices

**Reading:** Unseen Comprehension

**Pre-board examination I (NOVEMBER)**

Complete syllabus as per CBSE Guidelines

**Pre-board examination I (DECEMBER)**

Complete syllabus as per CBSE Guidelines

Assessment of Project Work

**CHEMISTRY(043)**

**Theory: 70 Marks**  
**Practical: 30 Marks**

**TIME ALLOWED: 3 Hours**

	UNITS	MARKS
<b>PART A</b>	<b>CHEMISTRY BOOK 1</b>	
Unit 1	Solutions	7
Unit 2	Electrochemistry	9
Unit 3	Chemical Kinetics	7
Unit 4	d- and -f Block Elements	7
Unit 5	Coordination Compounds	7
<b>PART B</b>	<b>CHEMISTRY BOOK 2</b>	
Unit 6	Haloalkanes and Haloarenes	6
Unit 7	Alcohols, Phenols and Ethers	6
Unit 8	Aldehydes, Ketones and Carboxylic acids	8
Unit 9	Amines	6
Unit 10	Biomolecules	7
	<b>Theory (Part A + Part B)</b>	<b>70</b>

<b>PART C</b>	<b>Practical Work</b>	30
	<b>Total</b>	100

<b>PRACTICAL EVALUATION SCHEME</b>	<b>MARKS</b>
Volumetric Analysis	08
Salt analysis	08
Content based experiment	06
Project work	04
Class record and viva	04
<b>Total marks</b>	30

### APRIL - MAY

- Unit 1: Solutions** - 1. Solutions, Types of solutions, Concentration terms, Solubility of gases in liquids (Henry's law),
2. Raoult's law
  3. Colligative properties- Relative lowering of vapour pressure , Elevation in boiling point, Depression in freezing point, Osmotic pressure. Determination of molecular masses using colligative properties.
  4. van't hoff factor

**Unit 2: Electrochemistry**- 1. Redox reactions, EMF of a cell, standard electrode potential

2. Nernst equation and its application to chemical cells
3. Relation between Gibbs energy change and EMF of a cell
4. Conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration
5. Kohlrausch's Law
6. Electrolysis and law of electrolysis(elementary idea)
7. Dry cell-electrolytic cells and Galvanic cells
8. Lead accumulator
9. fuel cells
10. Corrosion

### JULY

**Unit 3: Chemical kinetics**- 1. Rate of a reaction(Average and instantaneous)

2. Factors affecting rate of reaction: concentration, temperature, catalyst;

3. Order and molecularity of a reaction
4. Rate law and specific rate constant
5. Integrated rate equations and half life (zero order and first order)
6. Concept of collision theory
7. Activation energy
8. Arrhenius equation.

Unit 4: d- and f Block elements- 1.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, color, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of  $K_2Cr_2O_7$  and  $KMnO_4$ .

Lathanoids – electronic configuration, oxidation states, Chemical reactivity and lanthanoid contraction and its consequences.

Actinoids –Electronic configuration, oxidation states and comparison with lanthanoids

### **AUGUST- SEPTEMBER**

**Unit 5: Coordination Compounds** – 1.Introduction of coordination compounds, ligands, coordination number, color, magnetic properties and shapes.

2. IUPAC nomenclature of mononuclear coordination compounds.
3. Bonding
4. Werner's theory, VBT and CFT; structure and stereoisomerism
5. The importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).

**Unit 6: Haloalkanes and Haloarenes** – 1. Haloalkanes : Nomenclature, nature of C-X bond, physical and chemical properties, optical rotation mechanism of substitution reactions.

2. Haloarenes : Nature of C-X bond, substitution reactions, Uses and environmental effects of – dichloromethane, Trichloro methane, tetrachloromethane, iodoform, freons, DDT.

**Unit 7: Alcohols, Phenols, Ethers-** 1. Alcohols: Nomenclature, methods of preparation, physical and chemical properties ( of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol.

2. Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reaction

### **OCTOBER- NOVEMBER**

**Unit 8: Aldehydes, ketones and carboxylic Acids-** 1. Aldehydes and Ketones: Nomenclature, Nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses.

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

**Unit 9: Amines-** 1. Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, use, identification of primary, secondary and tertiary amine.

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

**Unit 10: Biomolecules-** 1. Carbohydrates: Classification (aldoses and ketoses) monosaccharides (Glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen) Importance of carbohydrates.

2. Proteins-Elementary idea of : amino acids, peptide bond, polypeptide, proteins, structure of proteins-primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones – Elementary idea excluding structure.

3. Vitamins: Classification and function

4. Nucleic acid: DNA and RNA.

## DECEMBER

### Completion of practical work and Revision for term 2

#### PRACTICAL

PRACTICAL	MONTHS
1. PREPARATION OF STANDARD SOLUTION OF OXALIC ACID	APRIL
2. TITRATION OF $KMnO_4$ VS OXALIC ACID	APRIL
3. PREPARATION OF STANDARD SOLUTION OF MOHR'S SALT	APRIL
4. TITRATION OF $KMnO_4$ VS MOHR'S SALT	APRIL
5. SALT ANALYSIS	MAY
6. SALT ANALYSIS	MAY
7. SALT ANALYSIS	JULY
8. SALT ANALYSIS	JULY
9. DETECTION OF FUNCTIONAL GROUPS	AUGUST
10. PREPARATION OF INORGANIC COMPOUNDS (ALUM)	SEPTEMBER
11. REVISION OF ALL PRACTICALS	SEPTEMBER- OCTOBER
12. MOCK PRACTICALS + DOUBTS	NOVEMBER- DECEMBER

#### ASSESSMENTS

#### PERIODIC TEST 1 (MAY)

UNIT 1: SOLUTIONS

UNIT 2: ELECTROCHEMISTRY (HALF)

### **PERIODIC TEST 2 (JULY)**

UNIT3: CHEMICAL KINETICS  
UNIT 4: d AND f BLOCK ELEMENTS

### **MID TERM EXAMINATION ( SEPTEMBER)**

UNIT1: SOLUTIONS  
UNIT 2: ELECTROCHEMISTRY  
UNIT 3: CHEMICAL KINETICS  
UNIT 4: d and f BLOCK

ELEMENTS

UNIT 5: COORDINATION COMPOUNDS  
UNIT 6: HALOALKANES AND  
HALOARENES.

#### **PRACTICAL ASSESSMENT:**

Titration + salt analysis

### **PREBOARD 1 ( NOVEMBER)**

UNIT1: SOLUTIONS  
UNIT 2: ELECTROCHEMISTRY  
UNIT 3: CHEMICAL KINETICS  
UNIT 4: d and f BLOCK  
ELEMENTS  
UNIT 5: COORDINATION COMPOUNDS  
UNIT 6: HALOALKANES AND  
HALOARENES.  
UNIT 7: ALCOHOLS, PHENOLS AND ETHERS  
UNIT 8: ALDEHYDES KETONES AND CARBOXYLIC ACID  
UNIT 9: AMINES  
UNIT 10: BIOMOLECULES.

#### **PRACTICAL ASSESSMENT:**

Titration + Salt analysis\_+ functional group detection

### **PREBOARD 2( DECEMBER)**

**COMPLETE SYLLABUS AS PER CBSE**

#### **GUIDELINES PRACTICAL ASSESSMENT**

Titration + Salt analysis + functional group detection

### **Physics (042)**

Unit	Unit's detail (name of chapter)	Marks
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<b>Unit-I</b>	<b>Electrostatics</b>	16
	Chapter-1: Electric Charges and Fields	
	Chapter-2: Electrostatic Potential and Capacitance	
<b>Unit-II</b>	<b>Current Electricity</b>	17
	Chapter-3: Current Electricity	
<b>Unit-III</b>	<b>Magnetic Effects of Current and Magnetism</b>	17
	Chapter-4: Moving Charges and Magnetism	
	Chapter-5: Magnetism and Matter	
<b>Unit-IV</b>	<b>Electromagnetic Induction and Alternating Currents</b>	18
	Chapter-6: Electromagnetic Induction	
	Chapter-7: Alternating Current	
<b>Unit-V</b>	<b>Electromagnetic Waves</b>	18
	Chapter-8: Electromagnetic Waves	
<b>Unit-VI</b>	<b>Optics</b>	12
	Chapter-9: Ray Optics and Optical Instruments	
	Chapter-10: Wave Optics	
<b>Unit-VII</b>	<b>Dual Nature of Radiation and Matter</b>	12
	Chapter-11: Dual Nature of Radiation and Matter	
<b>Unit-VIII</b>	<b>Atoms and Nuclei</b>	7
	Chapter-12: Atoms	
	Chapter-13: Nuclei	
<b>Unit-IX</b>	<b>Electronic Devices</b>	7
	Chapter-14: Semiconductor Electronics: Materials, Devices and Simple Circuits	
<b>Total</b>		<b>70</b>

### APRIL & MAY

#### UNIT : 1

#### Chapter-1: Electric Charges and Fields Electric charges.

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

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

## **Chapter-2: Electrostatic Potential and Capacitance**

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor (no derivation, formulae only)

### **JULY**

## **Unit II: Current Electricity**

### **Chapter-3: Current Electricity**

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge.

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

### **Chapter-4: Moving Charges and Magnetism**

Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight solenoid (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields. Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere, torque experienced by a current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer its current sensitivity and conversion to ammeter and voltmeter.

### **AUGUST & SEPTEMBER**

## **Chapter-5: Magnetism and Matter**

Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines. Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.

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

### **Chapter-6: Electromagnetic Induction**

Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction.

### **Chapter-7: Alternating Current**

Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit (phasors only), resonance, power in AC circuits, power factor, wattless current. AC generator, Transformer.

## **Unit V: Electromagnetic waves**

### **Chapter-8: Electromagnetic Waves**

Basic idea of displacement current, Electromagnetic waves, their characteristics, their Transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

## **Unit VI: Optics**

### **Chapter-9: Ray Optics and Optical Instruments**

Ray Optics: Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism.

Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

### **Chapter-10: Wave Optics**

Wave optics: Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width (No derivation final expression only), coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima (qualitative treatment only)

## **OCTOBER & NOVEMBER**

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

### **Chapter-11: Dual Nature of Radiation and Matter**

Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light. Experimental study of photoelectric effect  
Matter waves-wave nature of particles, de-Broglie relation.

## **Unit VIII: Atoms and Nuclei**

### **Chapter-12: Atoms**

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in his orbit, of hydrogen line spectra (qualitative treatment only).

### **Chapter-13: Nuclei**

Composition and size of nucleus, nuclear force, Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.

## **Unit IX: Electronic Devices**

### **Chapter-14: Semiconductor Electronics: Materials, Devices and Simple Circuits**

Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Intrinsic and extrinsic semiconductors- p and n type, p-n junction Semiconductor diode - I-V characteristics in forward and reverse bias, application of junction diode - diode as a rectifier.

## **ASSESSMENT:**

### **Periodic Test -1 (May)**

#### **Unit I: Electric Charges and Fields**

Electrostatic Potential and Capacitance

### **Periodic Test- 2 (July)**

#### **Unit V: Electromagnetic Waves**

## **Unit VI: Ray Optics, Wave Optics and Optical Instruments**

### **Mid Term Examination (September) –**

#### **Unit I: Electric Charges and Fields**

##### **Electrostatic Potential and Capacitance**

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

#### **Unit III: Magnetic Effects of current and Magnetism**

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

#### **Unit V: Electromagnetic Waves**

#### **Unit VI: Optics (Ray Optics and Wave Optics)**

### **Pre Board Examination-1(November)**

#### **Unit I: Electric Charges and Fields**

##### **Electrostatic Potential and Capacitance**

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

#### **Unit III: Magnetic Effects of current and Magnetism**

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

#### **Unit V: Electromagnetic Waves**

#### **Unit VI: Optics (Ray Optics and Wave Optics)**

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

#### **Unit VIII: Atoms and Nuclei**

### **Pre Board Examination-2 (December)**

**Complete syllabus including NCERT exemplar problems**

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#### **List of Practical**

#### **General Instructions:**

\*Every one has to perform 8 practical from the both sections A and B(with minimum of 4 from one section )

\*A record of at least 6 activities to be prepared by all the students. (Activities will be demonstrated in extra classes)

\* Report of one investigatory project to be completed by every individual during the academic session.

#### **PRACTICAL SECTION –A**

1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current.
2. To find resistance of a given wire / standard resistor using metre bridge.
3. To verify the laws of combination (series) of resistances using a metre bridge.

**OR**

To verify the laws of combination (parallel) of resistances using a metre bridge.

4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

### **PRACTICAL SECTION –B**

1. To find the focal length of a convex mirror, using a convex lens.
2. To find the focal length of a concave lens, using a convex lens.
3. To find the focal length of convex lens by plotting graph between  $u$  and  $v$  or  $1/u$  and  $1/v$ .
4. To determine angle of minimum deviation for a given prism by plotting graph between the angle of incidence and angle of deviation.

### **Activities (SECTION–A & B)**

1. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
2. To assemble the components of a given electrical circuit.
3. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
4. To study effect of intensity of light (by varying distance of the source) on an LDR.
5. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
6. To study the nature and size of the image formed by a (i) convex lens, or (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).

**Biology (044)**

<b>PERIODIC TEST-I (MAY 2024)</b>	Chapter-1: Sexual Reproduction in Flowering Plants Chapter-2: Human Reproduction
<b>PERIODIC TEST-II (JULY 2024)</b>	Chapter-3: Reproductive Health Chapter-4: Principles of Inheritance and Variation Chapter-5: Molecular basis of Inheritance
<b>MID TERM EXAMINATION (SEPTEMBER - 2024)</b>	Chapter-1: Sexual Reproduction in Flowering Plants Chapter-2: Human Reproduction Chapter-3: Reproductive Health Chapter-4: Principles of Inheritance and Variation Chapter-5: Molecular basis of Inheritance Chapter-6: Evolution Chapter-7: Human Health and Diseases
<b>PREBOARD -I (NOVEMBER- 2024)</b>	Chapter-1: Sexual Reproduction in Flowering Plants Chapter-2: Human Reproduction Chapter-3: Reproductive Health Chapter-4: Principles of Inheritance and Variation Chapter-5: Molecular basis of Inheritance Chapter-6: Evolution Chapter-7: Human Health and Diseases Chapter-8: Microbes in Human welfare Chapter-9: Biotechnology: Principles and Processes Chapter-10: Biotechnology and its Applications
<b>PREBOARD-II (DECEMBER- 2024)</b>	Chapter-1: Sexual Reproduction in Flowering Plants Chapter-2: Human Reproduction Chapter-3: Reproductive Health Chapter-4: Principles of Inheritance and Variation Chapter-5: Molecular basis of Inheritance Chapter-6: Evolution Chapter-7: Human Health and Diseases Chapter-8: Microbes in Human welfare Chapter-9: Biotechnology: Principles and Processes Chapter-10: Biotechnology and its Applications Chapter-11: Organisms and Populations Chapter-12: Ecosystem Chapter-13: Biodiversity and Conservation

## **PRACTICAL:**

### **A. List of Experiments**

1. Prepare a temporary mount to observe pollen germination.
2. Study the plant population density by quadrat method.
3. Study the plant population frequency by quadrat method.
4. Prepare a temporary mount of onion root tip to study mitosis.
5. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.

### **B. Study and observe the following (Spotting):**

1. Flowers adapted to pollination by different agencies (wind, insects, birds).
2. Pollen germination on stigma through a permanent slide or scanning electron micrograph.
3. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
4. Meiosis in onion bud cell or grasshopper testis through permanent slides.
5. T.S. of blastula through permanent slides (Mammalian).
6. Mendelian inheritance using seeds of different colour/sizes of any plant.
7. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.
8. Controlled pollination - emasculation, tagging and bagging.
9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause.
10. Models specimen showing symbiotic association in root nodules of leguminous plants, Cuscuta on host, lichens.
11. Flash cards models showing examples of homologous and analogous organs.

## **Business Studies (054)**

**Theory: 80 Marks**

**Hours**

**Project: 20 Marks**

**TIME ALLOWED: 3**

	<b>Units</b>	<b>Marks</b>
<b>Part A</b>	<b>Principles and Functions of Management</b>	
1	Nature and Significance of Management	16
2	Principles of Management	
3	Business Environment	
4	Planning	14
5	Organizing	
6	Staffing	20
7	Directing	

8	Controlling	
<b>Part B</b>	<b>Business Finance and Marketing</b>	
9	Financial Management	15
10	Financial Markets	
11	Marketing Management	15
12	Consumer Protection	
	<b>Theory (Part A + Part B)</b>	<b>80</b>
<b>Part C</b>	<b>Project Work (ONE)</b>	<b>20</b>
	<b>Total</b>	<b>100</b>

### APRIL - MAY

#### **Part A: Principles and Functions of Management**

##### **Unit I: Nature and Significance of Management**

Management - concept, objectives and importance meaning of 'Effectiveness and Efficiency Management as Science, Art and Profession Levels of Management Management functions-planning, organizing, staffing, directing and controlling Coordination- concept and importance

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

Principles of Management- concept and significance Fayol's principles of management Taylor's Scientific Management

##### **Unit 3: Management and Business Environment**

Concept and importance  
Dimensions of Business  
Environment  
Demonetization

##### **Unit 4: Planning**

Concept, importance and limitations,  
Planning process  
Single use and standing plans. Objectives, Strategy, Policy, Procedure, method Rule, budget and Programme

**# PROJECT WORK AS PER CBSE GUIDELINES.**

### JULY

##### **Unit 5: Organising**

Organising: Concept and importance Organising Process  
Structure of organisation- functional and divisional. Formal and informal organisation Delegation: concept, elements and importance  
Decentralization: concept and importance

##### **Unit 6: Staffing**

Concept and importance of staffing Recruitment process  
Staffing process  
Training and Development-Concept and importance, Methods of training - on the job and off the job - vestibule training, apprenticeship training and internship training



### **Unit 7: Directing**

Directing: Concept and importance  
Elements of Directing

Motivation - concept, Maslow's hierarchy of needs, Financial and non-financial incentives  
Leadership - concept, styles - authoritative, democratic and laissez faire

Communication - concept, formal and informal; barriers to effective communication, how to overcome the barriers

## **AUGUST- SEPTEMBER**

### **Unit 8: Controlling**

Concept, Nature, process and importance  
Relationship between planning and controlling

## **Part B: Business Finance and Marketing**

### **Unit 9: Financial Management**

Financial Management: Concept, role and objectives  
Financial decisions: investment, financing and dividend- Meaning and factors affecting  
Financial Planning - concept and importance  
Capital Structure – concept and factors affecting capital structure  
Fixed and Working Capital - Concept and factors affecting their requirements

### **Unit 10: Financial Markets**

Financial Markets: Concept, Functions and types  
Money market and its instruments

Capital market: Concept, types (primary and secondary), methods of floatation in the primary market  
Distinguish between primary and secondary markets.

Stock Exchange – Meaning, Functions and trading procedure

Securities and Exchange Board of India (SEBI) - objectives and functions

## **# REVISION TERM 1**

## **OCTOBER- NOVEMBER**

### **Unit 11: Marketing Management**

Marketing - concept and functions.

Marketing management philosophies.

Marketing Mix – concept and elements  
Product - concept, branding, labeling and packaging.  
Price- concept ,factors determining price

Physical distribution concept, components and channels of distribution  
Promotion - advertising, personal selling , sales promotion, public relations

### **Unit 12: Consumer Protection**

Consumer Protection Act 2019

Meaning of consumer Rights and responsibilities of consumers Who can file a complaint?

Redressal machinery

Remedies available

**Completion of project work and Revision**

**ASSESSMENTS**

**PERIODIC TEST 1 (MAY)**

Unit 1: Nature and Significance of Management

Unit 2: Principles of Management

Unit 3: Management and Business Environment

**PERIODIC TEST 2I (JULY)**

Unit 4: Planning

Unit 5: Organising

Unit 6: Staffing

**MID TERM EXAMINATION (SEPTEMBER)**

Unit 1: Nature and Significance of Management

Unit 2: Principles of Management

Unit 3: Management and Business Environment

Unit 4: Planning

Unit 5: Organising

Unit 6: Staffing

Unit 7 : Directing

Unit 8: Controlling

**PREBOARD 1 (NOVEMBER)**

Unit 1: Nature and Significance of Management

Unit 2: Principles of Management

Unit 3: Management and Business Environment

Unit 4: Planning

Unit 5: Organising

Unit 6: Staffing

Unit 7 : Directing

Unit 8: Controlling

Unit 9: Financial Management

Unit 10: Financial Markets

**PREBOARD 2 (DECEMBER)**

**WHOLE SYLLABER AS PER CBSE GUIDELINES**

**.\*PROJECT ASSESSEMENT**

**PROJECT WORK TOTAL 20 MARKS (ONLY ONE PROJECT)**

<b>ASSESSMENT RUBRICS</b>	<b>MARKS</b>
Initiative, cooperativeness and participation	2
Creativity in presentation	2
Content, observation and research work	4
Analysis of situations	4
Viva based on the project	8
<b>TOTAL</b>	<b>20</b>

**Accountancy (055)**

**Theory : 80 MARKS**

**Duration :3Hrs**

<b>UNITS</b>		<b>MARKS</b>
	<b><u>ACCOUNTING FOR-PARTNERSHIP FIRMS :</u></b>	
<b>Part A</b>	<b><u>Accounting for partnership firms and companies</u></b>	
	Unit : 1 Accounting for Partnership Firms	36
	Unit : 2 Accounting for Companies	24
	<b>TOTAL</b>	<b>60</b>
<b>Part B</b>	<b><u>Financial statements analysis</u></b>	
	Unit : 3 Analysis of Financial Statements	12
	Unit : 4 Cash Flow Statement	8
	<b>TOTAL</b>	<b>20</b>
<b>Part C</b>	<b>Practical Work</b>	
	Practical File 12 Marks	12
	Viva 8 Marks	8
	<b>TOTAL (A+B+C)</b>	<b>100</b>

**APRIL - MAY**

**PART -A: Accounting for Partnership Firms**

**UNIT 1: INTRODUCTION TO PARTNERSHIP: FUNDAMENTALS**

Partnership features, Partnership deed

Provisions of the Indian Partnership Act 1932

Preparation of Profit and Loss Appropriation Account

Past adjustments, Guarantee to a partner

## **UNIT 2: METHODS OF GOODWILL VALUATION**

Methods of valuation of goodwill: Average Profit Method, Super Profit, Capitalization

## **UNIT 3: CHANGE IN EXISTING PSR**

Change in profit sharing ratio among the existing partners

Accounting for revaluation of assets and liabilities and treatment of accumulated reserves and profits.

## **UNIT 4 : ADMISSION OF A PARTNER**

Admission of a Partner: Effects of admission of a partner

Sacrificing and Gaining ratio

Accounting for revaluation of assets and liabilities Preparation of Revaluation Account and Balance sheet

# SPECIFIC PROJECT AS PER CBSE GUIDELINES.

## **JULY**

## **UNIT 5 & 6: RETIREMENT AND DEATH OF A PARTNER**

Treatment of Goodwill and Revaluation of assets and liabilities

Preparation of Revaluation, Partner's Capital account and balance sheet Dissolution of a Partnership firm

Preparation of Executor's A/c

## **UNIT 7: DISSOLUTION OF A PARTNERSHIP FIRM**

Meaning of dissolution of partnership and partnership firm Preparation of

Realisation, Partner's capital account and Cash/Bank A/c

## **AUGUST - SEPTEMBER**

### **Part B: Analysis of Financial Statements**

## **UNIT 1 & 2 : FINANCIAL STATEMENTS: ANALYSIS & TOOLS**

Meaning, objective, Significance and Limitations

Format of Balance Sheet

Comparative statements, common-size statements, ratio analysis, cash flow statement

### **PART A: Accounting for Companies**

## **UNIT 7: Accounting for Share Capital**

Share and share capital: Nature and Types

Allotment of share capital: Issue and allotment of equity and Preference shares Concept of

Private Placement and Employees stock option

Accounting treatment of forfeiture and reissue of shares Disclosure of share capital in the Balance sheet of a company

## **UNIT 8: ACCOUNTING FOR DEBENTURES**

Accounting for Debentures

Issue of debentures at Par, at premium or at discount

Issue of debentures other than cash

Writing off discount / loss on issue of debenture account

## **OCTOBER - NOVEMBER**

## **Part B: Analysis of Financial Statements**

### **UNIT 3: ACCOUNTING RATIOS**

Meaning and accounting of Ratio

Objective and advantages of ratio analysis, Limitations of ratio

Classification of Ratio: Activity Ratio, Liquidity ratio, Solvency ratio, Profitability ratio

### **UNIT 4: CASH FLOW STATEMENT**

Meaning, Objectives Cash and Cash equivalents, Classification of Activities and Preparation of Cash flow Statement.

### **December: Revision of Whole Syllabus**

#### **ASSESSMENT**

##### **Periodic Test 1 (MAY)**

- \* Fundamentals of Partnership
- \* Methods of valuation of goodwill
- \* Admission of a partnership

##### **Periodic Test 2 (JULY)**

- \* Retirement and Death of a Partner
- \* Dissolution of a firm
- \* Financial Statement: Analysis & Tools

##### **Mid Term Examination (SEPTEMBER)**

- \* Fundamentals of Partnership
- \* Methods of valuation of Goodwill
- \* Admission of a Partner
- \* Retirement and Death of a Partner
- \* Dissolution of Partnership
- \* Issue of Shares
- \* Financial statements: analysis & tools

##### **PREBOARD -1 (NOVEMBER)**

- \* Fundamentals of Partnership
- \* Goodwill Valuation
- \* Admission of a Partner
- \* Retirement and Death of a Partner

- \* Dissolution of Partnership
- \* Accounting for companies
- \* Issue of shares
- \* Issue of Debentures
- \* Financial Statement Analysis
- \* Accounting Ratio

**PREBOARD 2 (DECEMBER)**

**COMPLETE SYLLABUS AS PER CBSE GUIDELINES.**

**PROJECT WORK**

<b><u>PARTICULARS</u></b>	<b><u>MAXIMUM MARKS</u></b>
<b>Practical file (Specific Projects)</b>	<b>12</b>
<b>Viva (Cash Flow Statement and Ratio Analysis)</b>	<b>8</b>

**E**

**Economics (030)**

<b>Units</b>		<b>Marks</b>
<b>Part A</b>	<b>Introductory Macroeconomics</b>	
1	National Income and Related Aggregates	10
2	Money and Banking	06
3	Determination of Income and Employment	12
4	Government Budget and the Economy	06
5	Balance of Payments	06
	<b>Total</b>	<b>40</b>
<b>Part B</b>	<b>Indian Economic Development</b>	
6	Development Experience(1947-1990) and Economic Reforms since 1991	12
7	Current Challenges Facing Indian Economy	20
8	Development Experience of India-A Comparison with Neighbours	08
	<b>Total</b>	<b>40</b>
<b>Part C</b>	<b>Project Work</b>	<b>20</b>
<b>Grand Total</b>	<b>A+B+C</b> Theory =80Marks Project =20 Marks	<b>100</b>

**APRIL-MAY**

## **UNIT -2 Money and Banking**

Money – meaning and functions, supply of money- Currency held by the public and net demand deposits held by commercial banks. Money creation by the commercial banking system. Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

## **UNIT-4 Government Budget and the Economy**

Government budget-meaning ,objectives and components. Classification of receipts

- revenue receipts and capital receipts; Classification of expenditure– revenue expenditure and capital expenditure. Balanced, Surplus and Deficit Budget –measures of government deficit.

## **UNIT-1 National Income and Related Aggregates**

What is Macroeconomics? Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation. Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method. Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP. GDP and Welfare

### **□ Indian Economy**

## **UNIT-6 Development Experience(1947-90)**

A brief introduction of the state of Indian economy on the eve of independence. Indian economic system and common goals of Five-Year Plan.

## **#Projectwork**

## JULY

### **Macro Economics**

#### **UNIT-5 Balance of Payments**

Balance of payments account- meaning and components; Balance of payments– Surplus and Deficit.

### **Indian Economy**

#### **UNIT-6 Development Experience (1947-90) and Economic Reforms since 1991**

Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI–role & importance and foreign trade.

**Economic Reforms since 1991** Features and appraisals of liberalization, globalization and privatization (LPG policy); Concepts of demonetization and GST

## AUGUST AND SEPTEMBER

### **Macro Economics**

#### **UNIT-5 Balance of Payments**

Foreign exchange rate - meaning of fixed and flexible rates and managed floating. Determination of exchange rate in a free market, Merits and demerits of flexible and fixed exchange rate. Managed Floating exchange rate system.

### **Indian Economy**

#### **UNIT-7 Current Challenges facing Indian Economy**

**Human Capital Formation:** How people become resource; Role of human capital in economic development; Growth of Education Sector in India.

**Rural development:** Key issues- credit and marketing – role of cooperatives; agricultural diversification; alternative farming - organic farming.

**Employment:** Growth and changes in work force participation rate in formal and informal sectors; problems and policies.

## OCTOBER - NOVEMBER

### **Macro Economics**

#### **UNIT-3 Determination of Income and Employment**

Aggregate demand and its components. Propensity to consume and propensity to save (average and marginal). Short-run equilibrium output; investment multiplier and its mechanism. Meaning of full employment and involuntary unemployment. Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply

### **Indian Economy**

#### **UNIT-7 Current Challenges facing Indian Economy**

**Sustainable Economic Development:** Meaning, Effects of Economic Development on Resources and Environment, including global warming.



- **Indian Economy**

### **UNIT-8 Development Experience of India–A Comparison with Neighbours**

A comparison with neighbours India and Pakistan ,India and China .**Issues:** economic growth, population, sectorial development and other Human Development Indicators.

### **DECEMBER - JANUARY**

#### **Revision**

#### **PeriodicTest1(May)**

- Macro Economics
- Money and Banking
- Government Budget and the Economy
- Indian Economy
- Indian Economy on the eve of Independence
- Five years Plan in India

#### **PeriodicTest2 (July)**

- Macro Economics
- Determination of Income and Employment
- Indian Economy
- Sustainable Economic Development

#### **MidTerm Examination(September)**

- Macro Economics
  - National Income
  - Money and Baking
  - Government Budget
  - Balance of Payment
  - Foreign Exchange Rate
  - Determination of Income and Employment
- Indian Economy
  - Indian Economy on the eve of Independence
  - Five Year Plan in India
  - Features, Problems and Policies of Agriculture
  - Strategy of Industrial Growth
  - India's Foreign Trade
  - EconomicReformsSince1991 or New Economic Policy
  - Human Capital Formation
  - Rural development
  - Employment

#### **Pre-Board Examination I(November)**

- Macro Economics
  - National Income

- Money and Banking
- Government Budget
  
- Balance of Payment
- Foreign Exchange Rate

➤ **Indian Economy**

- Indian Economy on the eve of Independence
- Five Year Plan in India
- Features, Problems and Policies of Agriculture
- Strategy of Industrial Growth
- India's Foreign Trade
- Economic Reforms Since 1991 or New Economic Policy
- Human Capital Formation
- Rural development
- Employment

**Pre-Board Examination II (December) Complete**

**syllabus as per CBSE**

**Psychology (037)**

**Theory Paper: 3 Hours**

**Marks: 70**

<b>Units</b>	<b>Topics</b>	<b>Marks</b>
I	Variations in Psychological Attributes	13
II	Self and Personality	13
III	Meeting Life Challenges	9
IV	Psychological Disorders	12
V	Therapeutic Approaches	9
VI	Attitude and Social Cognition	8
VII	Social Influence and Group Processes	6
	<b>Total</b>	<b>70</b>

**COURSE CONTENT**

<b>Unit I</b>	<p><b>APRIL</b></p> <p><b>Variations in Psychological Attributes</b></p> <p><i>The topics in this unit are:</i></p> <ol style="list-style-type: none"><li>1. Introduction</li><li>2. Individual Differences in Human Functioning</li><li>3. Assessment of Psychological Attributes</li><li>4. Intelligence</li><li>5. Psychometric Theories of Intelligence, Information Processing Theory: Planning, Attention-arousal and Simultaneous successive Model of Intelligence, Triarchic Theory of Intelligence; Theory of Multiple Intelligences.</li><li>6. Individual Differences in Intelligence</li><li>7. Culture and Intelligence</li><li>8. Emotional Intelligence</li><li>9. Special Abilities: Aptitude: Nature and Measurement</li><li>10. Creativity</li></ol>
<b>Unit II</b>	<p><b>APRIL-MAY</b></p> <p><b>Self and Personality</b></p> <p>The topics in this unit are:</p> <ol style="list-style-type: none"><li>1. Introduction</li><li>2. Self and Personality</li><li>3. Concept of Self</li><li>4. Cognitive and Behavioural aspects of Self</li><li>5. Culture and Self</li><li>6. Concept of Personality</li><li>7. Major Approaches to the Study of Personality<ul style="list-style-type: none"><li>• Type Approaches</li><li>• Trait Approaches</li></ul></li><li>• Psychodynamic Approach and Post Freudian Approaches</li></ol>

	<ul style="list-style-type: none"> <li>• Behavioural Approach</li> <li>• Cultural Approach</li> <li>• Humanistic Approach</li> </ul> <p>8. Assessment of Personality</p> <ul style="list-style-type: none"> <li>• Self-report Measures</li> <li>• Projective Techniques</li> <li>• Behavioural Analysis</li> </ul>
<b>Unit III</b>	<p><b>JULY</b></p> <p><b>Meeting Life Challenges</b></p> <p>The topics in this unit are:</p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Nature, Types and Sources of Stress</li> <li>3. Effects of Stress on Psychological Functioning and Health <ul style="list-style-type: none"> <li>• Stress and Health</li> <li>• General Adaptation Syndrome</li> <li>• Stress and Immune System</li> <li>• Lifestyle</li> </ul> </li> <li>4. Coping with Stress <ul style="list-style-type: none"> <li>• Stress Management Techniques</li> </ul> </li> <li>5. Promoting Positive Health and Well-being <ul style="list-style-type: none"> <li>• Life Skills</li> <li>• Positive Health</li> </ul> </li> </ol>
<b>Unit IV</b>	<p><b>JULY-AUGUST</b></p> <p><b>Psychological Disorders</b></p> <p>The topics in this unit are:</p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Concepts of Abnormality and Psychological Disorders <ul style="list-style-type: none"> <li>• Historical Background</li> </ul> </li> <li>3. Classification of Psychological Disorders</li> <li>4. Factors Underlying Abnormal Behaviour</li> <li>5. Major Psychological Disorders <ul style="list-style-type: none"> <li>• Anxiety Disorders</li> <li>• Obsessive-Compulsive and Related Disorders</li> <li>• Trauma-and Stressor-Related Disorders</li> <li>• Somatic Symptom and Related Disorders <ul style="list-style-type: none"> <li>• Dissociative Disorders</li> </ul> </li> <li>• Depressive Disorder</li> <li>• Bipolar and Related Disorders</li> <li>• Schizophrenia Spectrum and Other Psychotic Disorders</li> <li>• Neurodevelopmental Disorders</li> <li>• Disruptive, Impulse-Control and Conduct Disorders</li> <li>• Feeding and Eating Disorders</li> <li>• Substance Related and Addictive Disorders</li> </ul> </li> </ol>
<b>Unit V</b>	<p><b>AUGUST-SEPTEMBER</b></p> <p><b>Therapeutic Approaches</b></p> <p>The topics in this unit are:</p>

	<ol style="list-style-type: none"> <li>1. Nature and Process of psychotherapy <ul style="list-style-type: none"> <li>• Therapeutic relationship</li> </ul> </li> <li>2. Types of Therapies <ul style="list-style-type: none"> <li>• Behaviour Therapy</li> <li>• Cognitive Therapy</li> <li>• Humanistic-Existential Therapy</li> <li>• Alternative Therapies</li> <li>• Factors contributing to healing in Psychotherapy</li> <li>• Ethics in Psychotherapy</li> </ul> </li> <li>3. Rehabilitation of the Mentally Ill</li> </ol>
<b>Unit VI</b>	<p><b>OCTOBER</b>  <b>Attitude and Social Cognition</b>  The topics in this unit are:</p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Explaining Social Behaviour</li> <li>3. Nature and Components of Attitudes</li> <li>4. Attitude Formation and Change <ul style="list-style-type: none"> <li>• Attitude Formation</li> <li>• Attitude Change</li> <li>• Attitude-Behaviour Relationship</li> </ul> </li> <li>5. Prejudice and Discrimination</li> <li>6. Strategies for Handling Prejudice</li> </ol>
<b>Unit VII</b>	<p><b>NOVEMBER</b>  <b>Social Influence and Group Processes</b>  The topics in this unit are:</p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Nature and Formation of Groups</li> <li>3. Type of Groups</li> <li>4. Influence of Group on Individual Behaviour <ul style="list-style-type: none"> <li>• Social Loafing</li> <li>• Group Polarisation</li> </ul> </li> </ol>

**Practical**

**30 Marks**

- A. Development of case profile:  
Using appropriate methods like interview, observation & psychological tests.
- B. Test administration:  
Students are required to administer and interpret five psychological tests related to various psychological attributes like intelligence, aptitude, attitude, personality, etc.
- C. In the Practical examination, the student will be required to administer and interpret two psychological tests.

**Distribution of Marks:**

• Practical File and Case Profile	10 Marks
• Viva Voce (Case Profile & Two Practicals)	05 Marks
• Two Practicals (5 marks for conduct of practicals and 10	15 Marks

marks for reporting)	
<b>Total</b>	<b>30 Marks</b>

## **ASSESSMENTS**

### **PERIODIC TEST 1 (MAY)**

UNIT 1: Variations in Psychological Attributes

UNIT 2: Self and Personality

### **PERIODIC TEST 2 (JULY)**

UNIT 3: Meeting Life Challenges

UNIT 4: Psychological Disorders

### **MID TERM EXAMINATION ( SEPTEMBER)**

UNIT1: Variations in Psychological Attributes

UNIT 2: Self and Personality

UNIT 3: Meeting Life Challenges

UNIT 4: Psychological Disorders

UNIT 5: Therapeutic Approaches

### **PRACTICAL ASSESSMENT:**

Development of case profile and 3 psychological tests

### **PREBOARD 1 (NOVEMBER)**

UNIT1: Variations in Psychological Attributes

UNIT 2: Self and Personality

UNIT 3: Meeting Life Challenges

UNIT 4: Psychological Disorders

UNIT 5: Therapeutic Approaches

UNIT 6: Attitude and Social Cognition

UNIT 7: Social Influence and Group Processes

### **PRACTICAL ASSESSMENT**

### **PREBOARD 2 (DECEMBER)**

**COMPLETE SYLLABUS AS PER CBSE GUIDELINES PRACTICAL**

**ASSESSMENT**

**Mathematics (041)**

**THEORY – 80**

**PRACTICAL - 20**

**TIME: 3 HOURS**

**EVALUTION SCHEME**

<b>UNITS</b>	<b><u>UNIT NAME</u></b>	<b>MARKS</b>
I	RELATIONS AND FUNCTIONS	08
II	ALGEBRA	10
III	CALCULUS	35
IV	VECTORS AND THREE-DIMENSIONAL GEOMETRY	14
V	LINEAR PROGRAMMING	05
VI	PROBABILITY	08
	INTERNAL ASSESSMENT	20
	<b><u>TOTAL</u></b>	<b>100</b>

**APRIL – MAY**

**Unit I: Relations and Functions**

**Relations and Functions:** Types of relations: reflexive, symmetric, transitive, and equivalence relations. One to one and onto functions.

**Inverse Trigonometric Functions:** Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.

**Unit II: Algebra**

**Matrices:** Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew-symmetric matrices. Operation on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication, and scalar multiplication. Noncommutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrices (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

**Determinants:** Determinants of a square matrix (up to 3 x 3 matrices), minors, co-factors, and applications of determinants in finding the area of a

triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency, and the number of solutions of the system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using the inverse of a matrix.

## JULY

### Unit III: Calculus

**Continuity and Differentiability:** Continuity and differentiability, chain rule, the derivative of inverse trigonometric functions, *like*  $\sin^{-1}x$ ,  $\cos^{-1}x$ , and  $\tan^{-1}x$ , derivative of implicit functions. Concept of exponential and logarithmic functions.

Derivatives of logarithmic and exponential functions. Logarithmic differentiation is the derivative of functions expressed in parametric forms. Second-order derivatives.

**Applications of Derivatives:** Applications of derivatives: rate of change of bodies, increasing/decreasing functions, 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).

## AUGUST

**Integrals:** Integration is an inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions, and by parts, Evaluation of simple integrals of the following types and problems based on them.

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

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

$$\int \sqrt{ax^2 + bx + c} dx,$$

Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

**Applications of the Integrals:** Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only).

## SEPTEMBER

**Differential Equations:** Definition, order, and degree, general and particular solutions of a differential equation. Solution of differential equations by the method of separation of variables, solutions of homogeneous differential equations of the first order and first degree. Solutions of linear differential equation of the type:

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

where  $p$  and  $q$  are functions of  $y$  or constants.



#### **Unit IV: Vectors and Three-Dimensional Geometry**

**Vectors:** Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector,

components of a vector, the addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties, and application of scalar (dot) product of vectors, vector (cross) product of vectors.

#### **OCTOBER**

**Three-dimensional Geometry:** Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, the shortest distance between two lines. The angle between two lines.

#### **Unit V: Linear Programming**

**Linear Programming:** Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

#### **Unit VI: Probability**

**Probability:** Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable, and its probability distribution, mean of the random variable.

#### **DECEMBER - JANUARY**

**REVISION OF THE SYLLABUS AND PRACTICAL.**

#### **ASSESSMENT:**

#### **PERIODIC TEST 1: (MAY)**

CHAPTER 1: RELATION AND FUNCTION

CHAPTER 3: MATRICES

CHAPTER 4: DETERMINANT

#### **PERIODIC TEST 2: (JULY)**

CHAPTER 5: CONTINUITY AND DIFFERENTIABILITY

CHAPTER 2: INVERSE TRIGONOMETRIC FUNCTIONS

CHAPTER 12: LINEAR PROGRAMMING

#### **MID TERM EXAMINATION: (SEPTEMBER)**

CHAPTER 1: RELATION AND FUNCTION

CHAPTER 2: INVERSE TRIGNOMETRIC FUNCTION

CHAPTER 3: MATRICES

CHAPTER 4: DETERMINANT

CHAPTER 5: CONTINUITY AND DIFFERENTIABILITY

CHAPTER 6: APPLICATION OF DERIVATIVE

CHAPTER 12: LINEAR PROGRAMMING

**PREBOARD- I: (NOVEMBER)**

CHAPTER 1: RELATION AND FUNCTION

CHAPTER 2: INVERSE TRIGNOMETRIC FUNCTION CHAPTER 3:  
MATRICES

CHAPTER 4: DETERMINANT

CHAPTER 5: CONTINUITY AND DIFFERENTIABILITY CHAPTER 6:  
APPLICATION OF DERIVATIVE

CHAPTER 7: INTEGRALS

CHAPTER 8: APPLICATION OF INTEGRALS CHAPTER 9:  
DIFFERENTIAL EQUATION CHAPTER 10: VECTORS

CHAPTER 12: LINEAR PROGRAMMING **PREBOARD-**  
**II(DECEMBER):** COMPLETE SYLLABUS AS PER CBSE

INTERNAL ASSESSMENT	20 MARKS
Periodic Tests ( Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks

**Note:** For activities NCERT Lab Manual may be referred.

**PRACTICALS:**

**Activity 1:** To verify that the relation R in the set L of all lines in a plane, defined by  $R = \{(l, m): l \perp m\}$  is symmetric but neither reflexive nor transitive

**Activity 2:** To demonstrate a function which is one-one but is onto.

**Activity 3:** To sketch the graph of  $ax$  and  $\log ax, a > 0, a \neq 1$  and to examine that they are mirror images of each other.

**Activity 4:** To find analytically the limit of the function  $f(x)$  at  $x=c$  and also to check the continuity of the function at that point.

**Activity 5:** To construct an open box of maximum volume from a given rectangular sheet by cutting equal squares from each corner

**Activity6:** To understand the concepts of decreasing and increasing functions.

**Activity7:** To understand the concept of absolute maximum and minimum values of a function in a given closed interval through its graph.

**Activity 8:** To verify that amongst all the rectangles of the same perimeter, the squares has the maximum area.

**Activity 9:** To verify that angles in a semi -circle is a right angle, using vector method

**Activity 10:**To explain the computation of conditional probability of a given event A, when event B has already occurred, through an example of throwing a pair of dice.

**The weightage is as under:**

- **The activities performed by the student throughout the year and record keeping: 5 marks**
- **Assessment of the activity performed during the year end test: 3marks**
- **Viva-voce: 2 marks**

## INFORMATION TECHNOLOGY(802)

**Total Marks: 100 (Theory-60 + Practical-40)**

### **PART A Employability Skills (10 marks)**

Unit 1 : Communication Skills-III	2 Marks
Unit 2 : Self-Management Skills-III	3 Marks
Unit 3 : ICT Skills-III	1 Marks
Unit 4 : Entrepreneurial Skills-III	3 Marks
Unit 5 : Green Skills-III	1Marks

### **PART B Subject Specific Skills (50 Marks)**

Unit -1 : Database Concepts – RDBMS Tool	15 Marks
Unit -2 : Operating Web Based Applications	10 Marks
Unit-3: JAVA - Fundamentals of Java	20 Marks
Unit-4: Work Integrated Learning IT – DMA	5 Marks

### **PART C & PART D (Practical Work&Project Work(20 +20 Marks)**

Java Program	10 Marks
SQL Queries(Table Creation + 5 Queries)	10Marks
Practical File (Must contain minimum 15 Java Programs and minimum 15 queries in MySQL. )	10 Marks
Viva	5 Marks
Project Work	5 Marks

(Any Application made using Java Netbeans IDE)

### **APRIL -MAY**

#### **UNIT -1: DATABASE CONCEPTS – RDBMS TOOL**

- Basics of RDBMS.
- SQL – Creating and Opening Database.
- Creating and populating tables.
- Modifying the content and structure of table.
- Ordering and Grouping. • Operating with multiple tables

#### **UNIT -2 : OPERATING WEB BASED APPLICATIONS(PART B)**

- Operating Web Based Applications
- Online Reservation Systems.

- E-Governance.
- Online Shopping and Bill payments.
- Online Tutorials and Tests.
- Project Management – Web Based Application development.
- Project essentials and tips.

### **JULY**

#### **UNIT -2 : OPERATING WEB BASED APPLICATIONS(PART B)**

- Case Study - Online Game.
- Case Study - Online Quiz.
- Case Study – Online Bill Calculator

#### **UNIT 2 : SELF-MANAGEMENT SKILLS-III (PART A)**

### **AUGUST- SEPTEMBER**

#### **UNIT 4 WORK INTEGRATED LEARNING IT – DMA (PART B)**

- Identification of Work Areas.
- Work Experience

#### **UNIT 1 : COMMUNICATION SKILLS-III (PART A)**

#### **UNIT 4 : ENTREPRENEURIAL SKILLS-III (PART A)**

- Revision of Mid term Exam

### **OCTOBER -NOVEMBER**

#### **UNIT 3 Fundamentals of Java programming**

- Introduction to Java, Object
- Oriented Programming, Java Language Elements,
- Operators, • Control Flow, • Array • Class Design
- Exception Handling, Assertions, Threads, Wrapper Classes,
- String Manipulation

#### **Unit 3 : ICT Skills-III (Part A)**

#### **Unit 5 : Green Skills-III (Part A)**

### **DECEMBER-JANUARY**

#### **Revision & Completion of Project Work**

### **PERIODIC TEST -1 (MAY)**

UNIT -1: DATABASE CONCEPTS – RDBMS TOOL UNIT -2 :  
OPERATING WEB BASED APPLICATIONS

### **PERIODIC TEST -2 (JULY)**

UNIT 2 : SELF-MANAGEMENT SKILLS-III (PART A)  
UNIT -1: DATABASE CONCEPTS – RDBMS TOOL (PART B)  
UNIT -2 : OPERATING WEB BASED APPLICATIONS (PART B)

### **MID TERM EXAMINATION (SEPTEMBER)**

UNIT 2 : SELF-MANAGEMENT SKILLS-III (PART A)  
UNIT 4 : ENTREPRENEURIAL SKILLS-III (PART A)  
UNIT -1: DATABASE CONCEPTS – RDBMS TOOL (PART B)  
UNIT -2 : OPERATING WEB BASED APPLICATIONS (PART B)  
UNIT 4 WORK INTEGRATED LEARNING IT – DMA (PART B)

### **PREBOARD EXAMINATION -1(NOVEMBER)**

UNIT 2 : SELF-MANAGEMENT SKILLS-III (PART A)  
UNIT 4 : ENTREPRENEURIAL SKILLS-III (PART A)  
UNIT -1: DATABASE CONCEPTS – RDBMS TOOL (PART B)  
UNIT -2 : OPERATING WEB BASED APPLICATIONS (PART B)  
UNIT 3 FUNDAMENTALS OF JAVA PROGRAMMING (PART B)  
UNIT 4 WORK INTEGRATED LEARNING IT – DMA (PART B)

### **PREBOARD EXAMINATION -2(DECEMBER)**

Complete syllabus as per CBSE guidelines

## COMPUTER SCIENCE (083)

### **Learning Outcomes**

Student should be able to

- a) apply the concept of function.
- b) explain and use the concept of file handling.
- c) use basic data structure: Stacks
- d) explain basics of computer networks.
- e) use Database concepts, SQL along with connectivity between Python and SQL.

### Distribution of Marks:

THEORY (70 MARKS)

Unit No.	Unit Name	Marks
I	Computational Thinking and Programming	40
II	Computer Networks	10
III	Database Management	20

PRACTICAL (30 MARKS)

S.No	Unit Name	Marks (Total=30)
1	Lab Test: 1. Python program (60% logic + 20% documentation + 20% code quality)	8
	2. SQL queries (4 queries based on one or two tables)	4
2	Report file: <ul style="list-style-type: none"><li>• Minimum 15 Python programs.</li><li>• SQL Queries – Minimum 5 sets using one table / two tables.</li><li>• Minimum 4 programs based on Python - SQL connectivity</li></ul>	7
3	Project (using concepts learnt in Classes 11 and 12)	8
4	Viva voce	3

### APRIL -MAY

#### **Chapter-1 Python Revision Tour**

Introduction , tokens , variables, keywords, mutable and immutable datatypes, Operators & Operands

#### **Chapter-2 Python Revision Tour-II**

Strings operations ,List operations and List slicing , built in List functions and methods ,Tuples and tuples built in functions , dictionary

#### **Chapter- 10 Relational Databases**

- Database concepts: introduction to database concepts and its need

#### **Chapter-11 Simple Queries in SQL**

- Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)

- Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables,

### **Chapter -12 Table Creation and Data Manipulation Commands**

create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count)

### **Chapter 13 Grouping Records , Joins In SQL**

group by, having clause, joins: cartesian product on two tables, equi-join and natural join

### **Chapter-14 Interface Python with MYSQL**

- Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using connect(), cursor(), execute(), commit(), fetchone(), fetchall(), rowcount, creating database connectivity applications, use of %s format specifier or format() to perform queries

## **JULY**

### **Chapter-3 Working with Functions**

Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope)

### **Chapter 5 File Handling**

**Text file:** opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(), seek and tell methods, manipulation of data in a text file

**Binary file:** basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file

**CSV file:** import csv module, open / close csv file, write into a csv file using writer(), writerow(), writerows() and read from a csv file using reader()

## **AUGUST -SEPTEMBER**

### **Chapter 4 Using Python Libraries**

Library , Module , Packages

### **Chapter-6 Exception Handling**

Exception Handling: Introduction, handling exceptions using try-except-finally blocks

### **Revision of Mid term Exam**

## **OCTOBER -NOVEMBER**

### **Chapter-7 Data Structures**

Data Structure: Stack, operations on stack (push & pop), implementation of stack using list.



## **Chapter 8 – Computer Networks-1**

- Evolution of networking: introduction to computer networks, evolution of networking(ARPANET, NSFNET, INTERNET)
- Data communication terminologies: concept of communication, components of data communication (sender,receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)

## **Chapter 9 – Computer Networks-II**

- Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves)
- Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
- Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)
- Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP
- Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, webhosting

### **DECEMBER - JANUARY**

#### **Revision & Completion of Project Work Suggested**

#### **Practical List:**

#### **Python Programming**

- Read a text file line by line and display each word separated by a #.
- Read a text file and display the number of vowels/consonants/uppercase/lowercase characters in the file.
- Remove all the lines that contain the character 'a' in a file and write it to another file.
- Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.
- Create a binary file with roll number, name and marks. Input a roll number and update the marks.
- Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).
- Write a Python program to implement a stack using list.
- Create a CSV file by entering user-id and password, read and search the password for given userid.

#### **Database Management**

- Create a student table and insert data. Implement the following SQL commands on the student table:
  - a. ALTER table to add new attributes / modify data type / drop attribute
  - b. UPDATE table to modify data
  - c. ORDER By to display data in ascending / descending order
  - d. DELETE to remove tuple(s)

- e. GROUP BY and find the min, max, sum, count and average
- Similar exercise may be framed for other cases.
- Integrate SQL with Python by importing suitable module.

### **PERIODIC TEST -1 (MAY)**

Chapter-1 Review of Python Basics-1  
Chapter-2 Review of Python Basic-2  
Chapter- 10 Relational Databases  
Chapter-11 Simple Queries in SQL

### **PERIODIC TEST -2 (JULY)**

Chapter 5 File Handling (Only Text File)  
Chapter- 10 Relational Databases Chapter-  
11 Simple Queries in SQL  
Chapter -12 Table Creation and Data Manipulation Commands  
Chapter 13 Grouping Records , Joins In SQL  
Chapter-14 Interface Python with MYSQL

### **MID TERM EXAMINATION (SEPTEMBER)**

Chapter-1 Review of Python Basics-1  
Chapter-2 Review of Python Basic-2  
Chapter-3 Working with Functions  
Chapter 4 Using Python Libraries  
Chapter 5 File Handling  
Chapter-6 Exception Handling  
Chapter- 10 Relational Databases  
Chapter-11 Simple Queries in SQL  
Chapter -12 Table Creation and Data Manipulation Commands  
Chapter 13 Grouping Records , Joins In SQL  
Chapter-14 Interface Python with MYSQL

### **PREBOARD EXAMINATION -1(NOVEMBER)**

Chapter-1 Review of Python Basics-1  
Chapter-2 Review of Python Basic-2  
Chapter-3 Working with Functions  
Chapter 4 Using Python Libraries  
Chapter 5 File Handling  
Chapter-6 Exception Handling  
Chapter-7 Data Structures Chapter-  
10 Relational Databases Chapter-11  
Simple Queries in SQL  
Chapter -12 Table Creation and Data Manipulation Commands  
Chapter 13 Grouping Records , Joins In SQL  
Chapter-14 Interface Python with MYSQL

### **PREBOARD EXAMINATION -2(DECEMBER)**

Complete syllabus as per CBSE guideline

## **Physical Education (048)**

Theory

Max. Marks 70

### **APRIL -MAY**

#### **Unit I: Management of Sporting Events**

- Functions of Sports Events Management (Planning, Organising, Staffing, Directing &Controlling)
- Various Committees & their Responsibilities (pre; during & post)
- Fixtures and its Procedures – Knock-Out (Bye & Seeding) & League (Staircase & Cyclic)

#### **Unit II: Children & Women in Sports**

- Common Postural Deformities - Knock Knee; Bow Legs; Flat Foot; Round Shoulders; Lordosis, Kyphosis, and Scoliosis and their corrective measures
- Special consideration (Menarche & Menstrual

Dysfunction) Female Athletes Triad (Osteoporosis, Amenorrhea, Eating Disorders)

#### **Unit IV: Physical Education & Sports for CWSN (Children with Special Needs - Divyang)**

- Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics)
- Advantages of Physical Activities for children with special needs.
- Strategies to make Physical Activities assessable for children with special needs

#### **Unit V: Sports & Nutrition**

- Concept of balance diet and nutrition
- Macro and Micro Nutrients: Food sources & functions
- Nutritive & Non-Nutritive Components of Diet

□

### **JULY**

#### **Unit VIII: Biomechanics & Sports**

- Newton's Law of Motion & its application in sports
- Equilibrium – Dynamic & Static and Centre of Gravity and its application in sports

- Friction & Sports
- Projectile in Sports

### **Unit X: Training in Sports**

- Concept of Talent Identification and Talent Development in Sports
- Introduction to Sports Training Cycle – Micro, Meso, Macro Cycle.
- Types & Method to Develop – Strength, Endurance and Speed
- Types & Method to Develop – Flexibility and Coordinative Ability

## **AUGUST -SEPTEMBER**

### **Unit III: Yoga as Preventive measure for Lifestyle Disease**

- Obesity: Procedure, Benefits & Contraindications for Vajrasana, Hastotansana, Trikonasana, Ardha - Matsyendrasana
- Diabetes: Procedure, Benefits & Contraindications for Bhujangasana, Paschimottanasana, Pavan muktasana, Ardha - Matsyendrasana, Kapalabhati
- Asthma: Procedure, Benefits & Contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottanasana, Matsyaasana, Anulom-Vilom
- Hypertension: Procedure, Benefits & Contraindications for Tadasana, Vajrasana, PavanMuktasana, Ardha Chakrasana, Bhujangasana, Shavasana

### **Unit VI: Test & Measurement in Sports**

- Fitness Test – SAI Khelo India Fitness Test in school:
- Age group 5-8 yrs/ class 1-3: BMI, Flamingo Balance Test, Plate Tapping Test
- Age group 9-18yrs/ class 4-12: BMI, 50mt Speed test, 600mt Run/Walk, Sit & Reach flexibility test, Strength Test (Abdominal Partial Curl Up, Push-Ups for boys, Modified Push-Ups for girls).
- Computing Basal Metabolic Rate (BMR)
- Rikli & Jones - Senior Citizen Fitness Test
  - I. Chair Stand Test for lower body strength
  - II. Arm Curl Test for upper body strength
  - III. Chair Sit & Reach Test for lower body flexibility
  - IV. Back Scratch Test for upper body flexibility
  - V. Eight Foot Up & Go Test for agility
  - VI. Six Minute Walk Test for Aerobic Endurance

## OCTOBER -NOVEMBER

### Unit VII: Physiology & Injuries in Sports

- Physiological factors determining components of physical fitness
- Effect of exercise on Muscular System
- Effect of exercise on Cardio-Respiratory System
- Sports injuries: Classification (Soft Tissue Injuries -Abrasion, Contusion, Laceration, Incision, Sprain & Strain; Bone & Joint Injuries - Dislocation, Fractures - Green Stick, Comminuted, Transverse Oblique & Impacted)

### Unit IX: Psychology & Sports

- Personality; its definition & types (Jung Classification & Big Five Theory)
- Meaning, Concept & Types of Aggressions in Sports
- Psychological Attributes in Sports – Self Esteem, Mental Imagery, Self Talk, GoalSetting

## DECEMBER – JANUARY

Revision of complete syllabus

### **Practical**

**Max. Marks 30**

- |   |         |
|---|---------|
| • Physical Fitness Test : SAI Khelo India test, Brockport Physical Fitness Test (BPFT)* | 6       |
| • Yogic Practices**   | 7 Marks |
| • Record File ***   | 5 Marks |
| • Viva Voce (Health/ Games & Sports/ Yoga)  | 5 Marks |

\* Test for CWSN (any 4 items out of 27 items but 1 item from each component: Aerobic function, Body Composition, Muscular strength & endurance, range of motion or flexibility)

\*\*Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket.

\*\*CWSN (Children With Special Needs – Divyang): Bocce/Boccia , Sitting

Volleyball, WheelChair Basketball, Unified Badminton, Unified Basketball,

Unified Football, Blind Cricket, Goalball, Floorball, Wheel chair races and throws,

or any other sport/games of choice.

\*\*Children With Special Needs may opt any one sport/game from the list as alternative for Yogic Practices. However, the sport/game must be different for skill of Game and alternate to yogic practices.

\*\*\*Record File shall include:

- Practical-1: Fitness tests administration.
- Practical-2: Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.

- Practical-4: Anyone game of your choice out of the list above. Labelled diagram of field& equipment (Rules, Terminologies & Skills)

### **ASSESSMENTS**

#### **PERIODIC TEST -1 (MAY)**

Unit I Management of Sporting Events

Unit II Children & Women in Sports

#### **PERIODIC TEST - II (JULY)**

Unit IV Physical Education & Sports for CWSN (Children with Special Needs-Divyang)

Unit V Sports & Nutrition

#### **MID TERM EXAMINATION (SEPTEMBER)**

Unit I Management of Sporting Events

Unit II Children & Women in Sports

Unit IV Physical Education & Sports for CWSN (Children with Special Needs - Divyang)

Unit V Sports & Nutrition

Unit VIII Biomechanics & Sports

Unit X Training in Sports

#### **PRACTICAL WORK**

#### **PRE-BOARD 1 (NOVEMBER)**

Unit I Management of Sporting Events

Unit II Children & Women in Sports

Unit III Yoga as Preventive measure for Lifestyle Disease

Unit IV Physical Education & Sports for CWSN (Children with Special Needs - Divyang)

Unit V Sports & Nutrition

Unit VI Test & Measurement in Sports

Unit VII Physiology & Injuries in Sports Unit VIII Biomechanics & Sports

#### **PRE-BOARD 2 (DECEMBER)**

COMPLETE SYLLABUS AS PER CBSE GUIDELINES