

REVISED
SYLLABUS
SESSION 2024–25
CLASS – XII

For further details students must go through I.S.C. 2025 Syllabus Booklet.

ENGLISH LANGUAGE

Term 1

March

1

Pattern of English language paper-ISC

Learning outcome –

Through this particular exercise the students will come to know about the exact format of the ISC questions paper.

2

The art of writing Essays [NARRATIVE ESSAY]

Learning outcome –

Children will learn to write effective narration. This is the most common kind of essay selection

The art of writing Essays [DESCRIPTIVE ESSAY]

+ Test paper-1

Learning outcome –

Here the children will learn to describe an action, incident or a phenomenon through the art of descriptive writing.

The art of writing Essays [REFLECTIVE ESSAY]

Learning outcome –

Children learn here to transform their ideas and channel them through reflection.

+ Test paper-2

The art of writing Essays [ARGUMENTATIVE ESSAY]

Learning outcome –

Children will learn to express their opinions which will enable them to remain highly opinionated throughout their life.

The art of writing Essays [SHORT STORY]

Learning outcome –

Students will be able to spin tall yarn into stories which will promote their creative thinking and writing.

April

3

Directed writing

A

Article writing

+ Test paper-3

Learning outcome –

Students will learn to identify the difference between newspaper report and article writing, they will learn to describe an event, experience, place or person.

B

Report Writing

Learning outcome –

Student will learn to write magazine and newspaper Report. The exercise will help to sum up an event or an accident.

C

Book/Film review

+ Test paper-4

Learning outcome –

Students will be able write and understand the art of review writing.

D

Speech Writing

+ Test paper-5

Learning outcome –

The students will be able to write effective and eloquent speeches.

E

Statement of purpose

Learning outcome –

Students learn to write SoP's which in long run will help them to build up their college portfolios.

May Proposal Writing

+ Test paper-6

Learning outcome –

Students will learn to write proposals which will benefit them in taking grants for academic purpose.

Grammar section

Learning outcome-

Students will learn to solve grammatical errors. It will help them perform better at prepositions and transformation of sentences.

July

Comprehension

+ Test paper-7

Learning outcome –

Students will be able to concentrate as the following exercise will boost their concentration and critical thinking

A Tenses

Learning outcome –

Students will be able to identify tenses in sentences.

I Unit Test Syllabus

Article writing and transformation of sentences.

Term 2

July

+ Test paper-8

August

Sequence of Tenses

+ Test paper-9

Learning outcome –

Through this chapter students will be able to determine the order of events in a sentence.

B Active and passive voice

Learning outcome –

Students will learn to transform active sentences into passive and vice-versa.

C Direct and indirect speech

+ Test paper-10

Learning outcome –

Students will learn to transform direct sentences into indirect sentences and vice-versa.

D Comparison of adjectives

+ Test paper-11

Learning outcome-

The students will be able to adjudicate the degrees of comparison between adjectives.

September

E Conditional sentences

+ Test paper-12

Learning outcome –

Children will learn the usages of hypothetical conditional sentences [imaginary sentences]

F Transformation of sentences I

+ Test paper-13

Learning outcome –

Students will learn to define and transform sentences.

G Transformation of sentences II

+ Test paper-14

Learning outcome –

Students will learn to define and transform sentences.

H prepositions

+ Test paper-15

Learning outcome –

They learn about the strong and evil character of Hecate and how she is influencing the fateful meeting. They also learn here the atrocities of human misery .however scene VI is taken as a choice commentary which will introduce the children to the tyrannical rule of Macbeth.

Prose -

Poetry -

I Unit Test Syllabus

Atithi / Guest

Term 2

July

Play **Introduction of Act IV**

Prose

Poetry -

August

Play **Act IV Sc I-III + WB (Pages152– 201)**

Learning outcome –

Children learn about the false sense of security instilled in Macbeth by the witches they will also learn how evil, vulgar and ugly the witches are to the core. In sc II Macduff is seen fleeing to the court of England in order to seek assistance.

Prose **Indigo + WB**

Learning outcome

The students will learn a gripping story of horror and suspense where in the main character Aniruddha will encounter an almost paranormal phenomenon.

Poetry **Small Towns and the River + WB**

Learning outcome –The poetry teaches us that the dull and monotonous life of villages, despite all odd is beautiful.

September

Play **Act V SC I-IX (Pages 202-243)**

learning outcome –

Students learn about the plot development, character development, karma and how nothing good can ever churn out from evil and causing pain to others. The play teaches morals to the young learners and polishes their characters by delivering the message that greed is always the cause of all human misery.

Prose -

Poetry -

October

Play -

Prose **The medicine bag+ WB**

Learning outcome –

Through this story the Students learn about significance of culture and know the value of preserving it.

Poetry Death be not proud+ WB

Learning outcome –

Here the children learn two vital things, one their most precious childhood experiences and next is the formulation of adult identities and family relationships.

Term 3

November-

Play **Revision**
Act Reflection and Group Discussion

Prose **Discussion on conclusion**

Poetry **poet's introspect**

December

Play

Prose **Revision**

Poetry	Revision
January	Revision
Play	Plot Development + Sub Plot

Learning outcome –

Through Plot Development students learn action and event, change, wonder and surprises in a play. Through sub – plot students learn about the turns and twists in a story.

Prose	Revision
--------------	-----------------

Poetry	Revision
---------------	-----------------

February

Play	Character Description, Theme and Message (Revision)
-------------	--

Learning outcome –

Students will be able to brush up all the characters, Theme of the play and what message does it give.

Prose	Revision
--------------	-----------------

Poetry	Revision
---------------	-----------------



HINDI LANGUAGE

Term 1

March

निबन्ध 29. समय का महत्व

सीखने का प्रतिफल–

समय के महत्व को समझकर छात्रों में अनुशासन की भावना का विकास होगा।

निबन्ध 30. हमारा प्यारा भारत वर्ष

सीखने का प्रतिफल–

देश प्रेम की भावना का विकास होगा।

निबन्ध 31. वह दुर्घटना जिसे मैं भुला न पाई

सीखने का प्रतिफल–

प्रकृति की सर्वोच्चता का ज्ञान प्राप्त होगा।

निबन्ध 32. स्वस्थ शरीर में स्वस्थ मस्तिष्क का वास

सीखने का प्रतिफल–

स्वास्थ्य रक्षा के महत्व तथा उपायों का ज्ञान मिलेगा।

निबन्ध 34. खेल कूद का जीवन में महत्व

सीखने का प्रतिफल–

खेलों के महत्व का ज्ञान प्राप्त होगा।

अपठित गद्यांश पेज नं0 108 से 111

सीखने का प्रतिफल–

प्रश्न का उत्तर देने की क्षमता का विकास होगा।

April

निबन्ध 35. बेरोजगारी की समस्या

सीखने का प्रतिफल–

बेरोजगारी के कारणों एवं निवारण का ज्ञान प्राप्त होगा।

निबन्ध 33. भारतीय नारी का आदर्श

सीखने का प्रतिफल–

समाज में नारियों के महत्व का बोध होगा।

निबन्ध 36. कम्प्यूटर: एक आवश्यकता

सीखने का प्रतिफल–

कम्प्यूटर का देश के विकास में योगदान की जानकारी मिलेगी।

निबन्ध 37. प्रदूषण की समस्या

सीखने का प्रतिफल—

प्रदूषण के कारणों को जानकर इनसे बचाव की प्रेरणा मिलेगी।

निबन्ध

38. सिनेमा का समाज पर प्रभाव

सीखने का प्रतिफल—

सिनेमा के हानि लाभों को समझकर इसके सदुपयोग की प्रेरणा मिलेगी।

मुहावरे

पेज नं0 178 से 181

सीखने का प्रतिफल—

मुहावरों के प्रयोग से भाषा प्रवाहपूर्ण एवं प्रभावशाली बनेगी।

लोकोक्तियाँ

पेज नं0 190

सीखने का प्रतिफल—

लोकोक्तियों के प्रयोग से भाषा प्रवाहपूर्ण, आकर्षक एवं प्रभावशाली बनेगी।

May

निबन्ध

39. परिश्रम का महत्व

सीखने का प्रतिफल—

परिश्रम के महत्व को समझकर जीवन को सुखी बनाने की प्रेरणा मिलेगी।

निबन्ध

40. मन के हारे हार है मन के जीते जीत

सीखने का प्रतिफल—

आत्मविश्वास के महत्व का बोध होगा।

निबन्ध

41. प्रकृति का संदेश

सीखने का प्रतिफल—

प्रकृति के महत्व को समझने में सहायता मिलेगी।

अपठित गद्यांश

पेज नं0 112 से 116

सीखने का प्रतिफल—

प्रश्न का उत्तर देने की क्षमता का विकास होगा।

व्यवहारिक व्याकरण

पेज नं0 196 से 200

सीखने का प्रतिफल—

वाक्य लेखन की क्षमता का विकास होगा।

July

निबन्ध

42. करुणामूर्ति मदर टेरेसा

सीखने का प्रतिफल—

मदर टेरेसा के जीवन चरित्र से उच्चादर्शों की प्रेरणा मिलेगी।

निबन्ध

43. मेरे सपनों का भारत

सीखने का प्रतिफल—

देश प्रेम के भाव से प्रेरित होकर इच्छाओं की अभिव्यक्ति की प्रेरणा मिलेगी।

अपठित गद्यांश

पेज नं0 117 से 120

सीखने का प्रतिफल—

प्रश्न का उत्तर देने की क्षमता का विकास होगा।

व्यवहारिक व्याकरण

पेज नं0 201 से 203

सीखने का प्रतिफल—

नये वाक्यों को लिखने की क्षमता का विकास होगा।

I Unit Test Syllabus

व्यवहारिक व्याकरण

पेज नं0 196 से 204

Term 2

July

निबन्ध

43. मेरे सपनों का भारत

August

निबन्ध

44. विद्यालय द्वारा आयोजित एक पर्यटन (गोवा यात्रा)

सीखने का प्रतिफल—

यात्रा साहित्य लेखन कला का विकास होगा।

अपठित गद्यांश

पेज नं० 121 से 125

सीखने का प्रतिफल—

प्रश्न का उत्तर देने की क्षमता का विकास होगा।

व्यावहारिक व्याकरण

पेज नं० 204 से 207

सीखने का प्रतिफल—

नये वाक्यों के ज्ञान से भाषा प्रभावशाली बनेगी।

September

व्यवहारिक व्याकरण

पेज नं० 208 से 214

सीखने का प्रतिफल—

नये वाक्यों को सीखने से भाषा प्रभावशाली बनेगी।

अपठित गद्यांश

पेज नं० 126 से 132

सीखने का प्रतिफल—

प्रश्न का उत्तर देने की क्षमता का विकास होगा।

मुहावरे

पेज नं० 182 से 186

सीखने का प्रतिफल—

मुहावरों के प्रयोग से भाषा प्रवाहपूर्ण एवं प्रभावशाली बनेगी।

October

व्यवहारिक व्याकरण

पेज नं० 215 से 218

सीखने का प्रतिफल—

नये वाक्यों के ज्ञान से लेखन प्रभावशाली हो जायेगा।

अपठित गद्यांश

पेज नं० 133 से 135

सीखने का प्रतिफल—

प्रश्न का उत्तर देने की क्षमता का विकास होगा।

Term 3

November

Revision

निबन्ध 1 से 4

मुहावरे पेज नं० 168 से 173

लोकोक्तियाँ 187 से 188

December

Revision

निबन्ध 5 से 8

मुहावरे पेज नं० 174 से 178

लोकोक्तियाँ 188 से 190

January

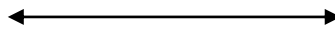
Revision

प्रतिदर्श प्रश्न पत्र 1 से 4

February

Revision

व्यवहारिक व्याकरण पेज नं० 217 से 218



HINDI LITERATURE

Term 1

March

गद्य संकलन

8. भक्तिन

सीखने का प्रतिफल—

भारतीय समाज में पुरुषों की प्रधानता तथा नारियों के साथ पक्षपात पूर्ण व्यवहार का ज्ञान।

April

नाटक

आषाढ़ का एक दिन (अंक-3)

सीखने का प्रतिफल—

ऐतिहासिक पृष्ठ भूमि के माध्यम से भारतीय समाज में नर—नारी सम्बन्धों का ज्ञान।

May

काव्य मंजरी

8. उद्यमी नर

सीखने का प्रतिफल—

परिश्रम के माध्यम से ही बड़े लक्ष्य की प्राप्ति सम्भव है।

July

काव्य मंजरी

9. बादल को घिरते देखा है

सीखने का प्रतिफल—

प्राकृतिक सौंदर्य के शब्द चित्र का बोध।

I Unit Test Syllabus

गद्य संकलन

भक्तिन

Term 2

July

नाटक

आषाढ़ का एक दिन (अंक 3)

सीखने का प्रतिफल—

साहित्यकार के अहं के साथ नर—नारी सम्बन्धों का ज्ञान

August

काव्य मंजरी

10. अँधेरे का दीपक

सीखने का प्रतिफल—

मनुष्य को कभी धैर्य नहीं खोना चाहिए।

नाटक

आषाढ़ का एक दिन (अंक 3)

सीखने का प्रतिफल—

मनुष्य रूढ़िवादी नहीं होना चाहिए।

गद्य संकलन

9. संस्कृति क्या है?

सीखने का प्रतिफल—

विभिन्न सांस्कृतिक विशेषताओं और लक्षणों का ज्ञान।

September

गद्य संकलन

10. मजबूरी

सीखने का प्रतिफल—

बच्चों के उज्ज्वल भविष्य हेतु माता—पिता द्वारा उनको अपने पास रखने की भावना त्याग आवश्यक।

नाटक

आषाढ़ का एक दिन (अंक 3)

October

गद्य संकलन

काव्य मंजरी

Revision

1. पुत्र प्रेम
2. गौरी
3. शरणागत
1. साखी
2. बाल लीला
3. एक फूल की चाह

Term 3

November

नाटक

गद्य संकलन

Revision

- आषाढ़ का एक दिन (अंक—1)
4. सती
 5. आउट साइडर
 6. दासी

December

नाटक

काव्य मंजरी

Revision

- आषाढ़ का एक दिन (अंक 2 व 3)
4. आ: धरती कितना देती है।
 5. नदी के द्वीप
 6. तुलसी के पद
 7. जाग तुझको दूर जाना है
 8. उद्यमी नर
 9. बादल को घिरते देखा है।
 10. अँधेरे का दीपक

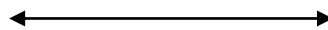
January

7. क्या निराश हुआ जाए

8. भक्तिन
 9. संस्कृति क्या है?
 10. मजबूरी
- मॉडल टेस्ट पेपर— 1, 2, 3

February

मॉडल टेस्ट पेपर— 4



REVISED PHYSICS

Term 1

March

Chapter 1

Electric Charges and Fields

Learning Outcome-

After studying this chapter, students will be able to understand about frictional electricity (Types of charges), electrostatic induction, coulomb's law, dielectric constant. They will study about the concept of electric field (uniform and non-uniform), force on a charge in an electric field and electric dipole.

Chapter 2

Gauss' Theorem

Learning Outcome-

In this chapter students will be able to understand to unify different concepts of electrostatics, strength of electric field due to multiple charge configuration, Area vector, flux of a vector field, electric flux, solid angle, Gauss' Theorem and its applications.

Chapter 3

Electric Potential

Learning Outcome-

By studying this chapter, students will be able to understand about the concept of electric potential, potential energy, electric potential due to a point charge and electric potential, potential energy due to electric dipole, equipotential surface and electric intensity due to a conducting sphere etc.

Experiment 1-

To find focal length of a convex lens by using u-v method (no parallax method). Using a convex lens, optical bench / metre scales and two pins, obtain the positions of images for various positions of the object; $f < u \leq 2f$, $u \sim 2f$, $u > 2f$. Draw the following set of graphs using data from the experiments.

(i) v against u . It will be a curve

(ii) Magnification $\left(m = \frac{v}{u}\right)$ against v which is a straight line and to find focal length by intercept.

(iii) $y = \frac{100}{v}$ against $x = \frac{100}{u}$ which is a straight line and find f by intercepts.

Experiment 2-

To determine the focal length of the given convex lens by no parallax method.

April

Chapter 4

Capacitors And Dielectrics

Learning Outcome-

In this chapter students will be able to understand about free and bound charges inside a conductor, capacitor or condensers, capacitance and its SI unit, capacitance of an isolated spherical conductor, capacitance of parallel and series plate of capacitors, energy and energy density of a charged capacitor, dielectrics, polar and non-polar dielectrics, types and uses of a capacitor

Chapter 5

Electric Current – Ohm's Law

Learning Outcome-

Students will be able to understand about the concept of electric current and its direction, free electron theory of conduction, drift velocity of charges, relaxation time and mean free path, electron mobility, ohm's law, electric energy and power, electricity consumption and billing, etc.

Chapter 6

Direct Current Circles

Learning Outcome-

Students will be able to understand about emf of a cell, internal resistance of a cell, lost volt of back emf and terminal PD, combination of resistors, kirchhoff's laws, wheatstone bridge, slide wire bridge or Metre bridge, Potentiometer and applications of potentiometer etc.

Chapter 7

Moving charges and Magnetism

Learning Outcome-

After studying this chapter you should be able to understand about concept of magnetic field, Biol-Savant law, Ampere's circuital law and its applications, motion of charged particles in a uniform magnetic field,

Motion of a charged particle under crossed electric and magnetic field, force between two parallel current carrying wires and force between parallel conductors carrying current.

Chapter 8 Torque on a Current – carrying Loop – Moving Coil Galvanometer

Learning Outcome-

By studying this chapter you should be able to understand about the magnetic dipole moment, Right hand rule to find the direction of dipole moment, Torque experienced by a current loop in a uniform magnetic field, Moving coil Galvanometer, current sensitivity of a Galvanometer, Voltage sensitivity of a galvanometer, orbital magnetic moment of electrons in Bohr model of Hydrogen atom, conversion of Galvanometer into Ammeter and Voltmeter and sensitivity of a voltmeter etc.

Chapter 9 Magnetism And Matter

Learning Outcome-

After studying this chapter you should be able to understand about magnetic dipole moment of a revolving electron, PE of a magnetic dipole kept in a magnetic field, magnetic field and magnetic flux, bar magnet as an equivalent solenoid, etc.

Experiment 3-

To find focal length (f) of a convex lens by displacement method.

Experiment 4-

Using a metre bridge determine the resistance of about 100cm of (constantan) wire. Measure its length radius and hence, calculate the specific resistance of the material.

Experiment 5-

Verify ohm's law for the given unknown resistance (a 60cm constantan wire), plotting a graph of potential difference versus current. Also calculate the resistance per cm of the wire from the slope of the graph and the length of the wire.

Experiment 6-

To study variation of potential difference with the length of wire.

May

Chapter 10 Properties of Magnetic Substances

Learning Outcome-

After studying this chapter students should be able to understand about modern electric theory of magnetism, Magnetic intensity (H), Intensity of magnetism (M), Magnetic induction (B), susceptibility, Permeability, Diamagnetism based on modern electron theory, Hysteresis and electromagnets etc.

Chapter 11 Electromagnetic Induction

Learning Outcome-

After studying this chapter you should be able to understand about the concept of magnetic field and magnetic flux, electromagnetic induction, faraday's law of electromagnetic induction, Lenz's law, Motional EMF, Lorentz force, Fleming's Right Hand Rule, Generator, Eddy or Foucault Currents, Self induction and inductance, Energy stored in an inductor, Mutual induction and inductance etc.

Chapter 12 Alternating Current

Learning Outcome-

After studying this chapter you should be able to understand about time period and frequency of AC, amplitude or peak value, mean value of AC, RMS value or virtual value of AC circuit (Lead and Lag), AC circuit containing pure Resistance (R), Inductor (L) and pure capacitor only, AC circuits of combinations of L,R and C, electrical resonance – Resonance in series LCR circuit, Q factor, Power associated with LCR series circuit, voltage magnification, Transformer and energy loss in it, advantages of AC in long distance power transmission and AC generator.

Chapter 13 Electromagnetic Waves

Learning Outcome-

After studying this chapter you should be able to understand about concept of magnetic waves, displacement current, Maxwell's correction to Ampere's Law, Maxwell's equations, nature of electromagnetic wave and its characteristics, energy, momentum and radiation pressure, electromagnetic spectrum etc.

Chapter 14 Ray optics – Reflection of Light by Spherical Mirrors

Learning Outcome-

By this chapter students should be able to understand about reflection of light at plane surfaces, laws of reflection, spherical mirrors and terms related to spherical mirrors formation of images by convex and concave mirrors, mirror formula – Relation between u, v and f, and linear magnification etc.

Experiment 7-

To determine the internal resistance of a cell by a potentiometer.

Experiment 8-

To compare emfs of two cells using a potentiometer.

Experiment 9-

To measure e.m.f. of a dry cell using potentiometer.

Experiment 10-

To determine the specific resistance of the material of the given wire using principle of wheatstone bridge.

July

Chapter 15 Refraction of light at plane Surfaces

Learning Outcome-

In this chapter students should be able to understand about concept of refraction of light, refractive index, principle of reversibility of light, refraction through rectangular glass slab, Total internal reflection and critical angle, Atmospheric refraction, optical fibres and its application etc.

Chapter 16 Refraction of light at spherical Surfaces – Lenses

Learning Outcome-

After studying this chapter you should be able to understand about refraction through spherical surface (convex and concave), reason for convergence and divergence of a parallel beam by a lens, formation of images, Lens formula, Lateral magnification, relation between focal length, magnification and displacement of a convex lens and object, Lens Maker's formula, formula for focal length of two thin lenses in contact, and combination of lenses and mirrors.

Chapter 17 Refraction through a Prism – Dispersion

Learning Outcome-

After studying this chapter you should be able to understand about refraction through a prism (all special cases), dispersion of light, angular dispersion, dispersive power, types of spectra, etc.

Experiment 11-

To determine focal length of Concave mirror by using two pins (by u.v method).

Experiment 12-

To determine the refractive index of a liquid by using a convex lens and a plane mirror.

I Unit Test Syllabus

Chapter 1 Electric Charges and Fields

Chapter 2 Gauss' Theorem

Term 2

July

Chapter 18 Optical Instruments

Learning Outcome-

By studying this chapter you should be able to understand about human eye, visual angle, microscopes; simple microscope, compound microscope, Telescopes, uses of telescopes and characteristics of telescope etc.

August

Chapter 19 Wave optics – Huygen's Principle

Learning Outcome-

After studying this chapter you should be able to understand about wave theory of light, wavefront and rays, types of wavefront, Huygen's Principle, proof of laws of reflection using Huygen's theory, Laws of refraction by Huygen's theory, and change in wavelength of light on passing from one medium to another.

Chapter 20 Interference of Light

Learning Outcome-

By studying this chapter you should be able to understand about Interference of light, Coherent and Incoherent sources, Young's Double – Slit Experiment, Interference and law of conservation of energy, Bandwidth or spacing of fringes, conditions for sustained. Interference of light waves, path difference in double slit experiment and interference in thin films.

Chapter 21 Diffraction of light

Learning Outcome-

After studying this chapter you should be able to understand about concept of diffraction, Fraunhofer diffraction at a single slit, distribution of intensity with angular distance, angular width of the central bright fringe, and difference between interference and diffraction.

Chapter 23 Photoelectric Effect

Learning Outcome-

By studying this chapter you should be able to understand about the concept of photoelectric effect, Laws of photoelectric Emission, failure of wave theory and planck's Quantum theory, particle nature of radiation, work function, Threshold frequency, stopping potential, energy and momentum of photon, Einstein's photoelectric equation and determination of planck's constant.

Chapter 24 Matter Waves

Learning Outcome-

In this chapter you should be able to understand about wave nature and particle nature of light or radiation, de Broglie waves and wavelength, phenomenon of electron diffraction etc.

Experiment 13-

From a potentiometer set up, measure the fall in potential for increasing length of a constantan wire, through which a steady current is flowing, plot a graph of pd. (V) vs length (l), Calculate potential gradient of the wire and specific resistance of its material.

Experiment 14-

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

Experiment 15-

To study variation of resistance with length using wheatstone bridge principle.

Experiment 16-

To study balanced wheatstone bridge.

September

Chapter 26 Atoms – Energy Levels

Learning Outcome-

By studying this chapter you should be able to understand about Atoms and energy levels, Thomson's atomic model, observations made by Rutherford, theory of α -particle scattering, Distance of closest approach – size of nucleus, Rutherford's nuclear model of atom and its drawbacks, Bohr's atomic model, Hydrogen model, radius of orbit, total energy of electron, Line spectra of Hydrogen, Emission and Absorption spectra of Hydrogen.

Chapter 27 Nuclei

Learning Outcome-

After studying this chapter you should be able to understand about composition of nucleus, characteristics of nucleus, unified atomic mass unit (u), nuclear forces, mass – energy relation, mass defect and binding energy etc.

Chapter 29 Nuclear Energy – Fission and Fusion

Learning Outcome-

After studying this chapter you should be able to understand about nuclear reaction, variation of binding energy per nucleon with mass number, nuclear fission, critical size and multiplication factor, nuclear reactor, Nuclear fusion, production of thermonuclear energy in the sun and stars, advantage of fusion over fission etc.

Experiment 17-

To determine the focal length of a given convex lens with the help of an auxiliary convex lens.

Experiment 18-

To determine the focal length of a convex mirror using convex lens.

Experiment 19-

To determine the focal length of a convex lens by Combining it co-axially with another lens.

October

Chapter 30 Semiconductor Electronics

Learning Outcome-

After studying this chapter you should be able to understand about electronics, energy band in Silicon, conductors, Insulators and Semiconductors, Intrinsic and Extrinsic semiconductors, current conduction in semiconductors, drift velocity and mobility, and difference between n-type and p-type semiconductors.

Chapter 31 Semiconductor Diodes

Learning Outcome-

After studying this chapter you should be able to understand about P-N junction, depletion layer and potential barrier of a junction diode, semiconductor diode, characteristics of a P-N junction diode, Diode as rectifier, Half wave rectifier, Full wave rectifier, zener diode, photodiode, LED and solar cell etc.

Experiment 20-

To determine the focal length of a concave lens by combining it co-axially with a convex lens.

Experiment 21-

To determine the focal length of a concave lens, using an auxiliary convex lens not in contact and plotting appropriate graph.

Term 3

November

Chapter 1
Chapter 2
Chapter 3
Chapter 4
Chapter 5
Chapter 6
Chapter 7
Chapter 8
Chapter 9

Revision

Electric Charges And Fields
Gauss' Theorem
Electric Potential
Capacitors And Dielectrics
Electric Current – Ohm's Law
Direct Current Circuits
Moving Charges And Magnetism
Torque on A Current – Carrying Loop Moving Coil Galvanometer
Magnetism And Matter

December

Chapter 10
Chapter 11
Chapter 12
Chapter 13
Chapter 14
Chapter 15
Chapter 16
Chapter 17
Chapter 18
Chapter 19
Chapter 20
Chapter 21

Revision

Properties of Magnetic Substances
Electromagnetic Induction
Alternating Current
Electromagnetic Waves
Ray Optics – Reflection of light By Spherical Mirrors
Refraction of light at Plane Surfaces
Refraction of light at spherical surfaces - Lenses
Refraction Through A Prism – Dispersion
Optical Instruments
Wave Optics – Huygen's Principle
Interference of Light
Diffraction of Light

January

Chapter 23
Chapter 24
Chapter 26
Chapter 27
Chapter 29
Chapter 30
Chapter 31

Revision

Photoelectric Effect
Matter Waves
Atoms – Energy Levels
Nuclei
Nuclear Energy – Fission And Fusion
Semiconductor Electronics
Semiconductor Diodes

February

Revision



REVISED CHEMISTRY

Term 1

March

Chapter 1

Solutions

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Have an idea of different types solutions.
- Have an idea of intensive, extensive, and colligative properties.
- Learn Raoult's Law and nature of ideal solution. Characteristics of non-ideal solutions and azeotropic mixtures.
- Have an idea of solubility of gases in liquids and Henry's Law. Colligative properties and determination of molecular mass
- Have an idea of Van't Hoff factor and calculation involving colligative properties.
- Solve numericals on the above topics of colligative properties.

Chapter 2

Electrochemistry

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Have an idea of electrolytic and electrochemical cells. Redox reactions
- Have an idea of electromotive force of a cell, standard electrode potential, Nernst equation and its application to chemical cells.
- Have an idea of relation between Gibbs energy change and emf of a cell.
- Have an idea of Conductance in electrolytic solutions, specific, equivalent and molar conductivity, variations of conductivity with concentration, graphs; Kohlrausch's Law of electrolysis and Faraday's Laws of electrolysis. Dry cell, fuel cells, corrosion.
- Solve numerical on the on the basis of emf of a cell, Kohlrausch's Law, Faraday's Law of electrolysis.

Practical work: Volumetric analysis (Titration)
(i) Potassium manganate (VII) with ammonium iron (II) Sulphate

April

Chapter 3 Chemical Kinetics

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Understand chemical Kinetics – slow and fast reactions.
- Understand factors affecting rate of reaction: surface area, nature of reactants, concentration, temperature, catalyst and radiation.
- Explain order and molecularity of a reaction, rate law.
- Explain integrated rate equations and half-life for zero and first order reactions, concept of collision theory. Concept of threshold and activation energy, Arrhenius equation.
- Solve numerical on the basis of zero order reaction, first order reaction and activation energy.

Chapter 6 Haloalkanes and Haloarenes

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Write the names of haloalkanes and haloarenes according to the common and IUPAC systems of nomenclature.
- Have an idea general formula, nomenclature and classification. Nature of C–X bond, physical and chemical properties, mechanism of substitution reactions, optical rotation.
- Have an idea about basic idea, nature of C–X bond in haloarenes, substitution reactions
- Explain uses and stereo types and environmental effects of dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons and DDT.

Practical work: (i) Identification of compounds and functional groups
(a) Alcoholic group - glycerol (b) Aldehydic group-Formaldehyde
(ii) Qualitative analysis (single salt) Cation: Group zero- NH_4^+ , Group I- Pb^{2+} , Anion: CO_3^{2-} , Cl^- , NO_3^-

May

Chapter 7 Alcohols, Phenols and Ethers

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Understand classification, Methods of preparation,
- Learn physical and chemical properties identification of primary, secondary and tertiary alcohols,
- Learn mechanism of dehydration, uses with special reference to methanol and ethanol.
- Learn methods of preparation of phenol and ether, physical and chemical properties of phenol and ether, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.

Chapter 5 Coordination compounds

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Learn definition of ligands, coordination number, oxidation number. IUPAC nomenclature of mononuclear coordination compounds. Isomerism (structural and stereo).
- Learn the nature of bonding in co-ordination compounds
- Have an idea of application of co-ordination compound.

Practical work: Volumetric analysis (Titration)
(i) Potassium manganate (VII) with oxalic acid
Qualitative analysis (single salt)
Cation: Group II- Cu^{2+} , Pb^{2+} Anion: SO_4^{2-} , CH_3COO^-

July

Chapter 8 Aldehydes, Ketones and Carboxylic acid

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Learn the nomenclature of aldehydes, ketones and carboxylic acids according to the common and IUPAC systems.
- Learn methods of preparation of aldehydes and ketones, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes and uses.
- Learn carboxylic Acids nomenclature, acidic nature, methods of preparation, physical and chemical properties and uses.

Chapter 9 Organic compounds containing nitrogen

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Learn the chemistry of nitro compounds, nitrites cyanides, and isocyanides.
- Learn amines classification of amines. nomenclature. Methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.
- explain diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

- Distinguish different types of amines.

Practical work:

- (i) Identification of compounds and functional groups
 - (a) Ketone group- Acetone
 - (b) Carboxylic group- Benzoic acid
 - (c) Amino group- Aniline
- (ii) Qualitative analysis (single salt)
Cation: Group III: Al^{3+} , Fe^{3+} , Anion: PO_4^{3-} , Cl^-

I Unit Test Syllabus

Chapter 2

Solution

Term 2

July

Chapter 10

Biomolecules

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Have an idea about Carbohydrates – Definition, classification monosaccharides, oligosaccharides, polysaccharides, reducing sugars and non-reducing sugars – examples and uses.
- Learn proteins, amino acids, peptide bond, polypeptides, structure of proteins primary, secondary, tertiary structure and quaternary structures, denaturation of proteins. Enzymes
- Learn vitamins - Classification and functions. nucleic Acids - DNA and RNA

August

Chapter 10

Biomolecules

Learning outcome

After studying this unit thoroughly, the students should be able to:

- Have an idea about Carbohydrates – Definition, classification monosaccharides, oligosaccharides, polysaccharides, reducing sugars and non-reducing sugars – examples and uses.
- Learn proteins, amino acids, peptide bond, polypeptides, structure of proteins primary, secondary, tertiary structure and quaternary structures, denaturation of proteins. Enzymes
- Learn vitamins - Classification and functions. nucleic Acids - DNA and RNA

Practical work:

Qualitative analysis (single salt)
Cation: Group IV: Zn^{2+} , Mn^{2+} , Ni^{2+} , Co^{2+}
Anion: $\text{C}_2\text{O}_4^{2-}$, S^{2-}
Study of rate of reaction: Reaction between sodium Thiosulphate and hydrochloric acid

September

Chapter 4

d- and f-block elements

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Learn electronic configuration, characteristics and definition of transition elements,
- Have an idea general trends in properties of the 3d-series of transition metals - metallic character, ionisation enthalpy, oxidation states, ionic radii, colour of ions, catalytic property, magnetic properties, interstitial compounds, alloy formation,
- Explain preparation and properties of $\text{K}_2\text{Cr}_2\text{O}_7$ and KMnO_4 . Lanthanoids and actinoids.

Practical work:

(i) Qualitative analysis (single salt)
Cation: Group V: Ba^{2+} , Ca^{2+} , Sr^{2+} Group VI: Mg^{2+}
(ii) Study of rate of reaction: Reaction between magnesium and dil. Sulphuric acid

October

Chapter 4

d- and f-block elements

Learning outcome-

After studying this unit thoroughly, the students should be able to:

- Learn electronic configuration, characteristics and definition of transition elements,
- Have an idea general trends in properties of the 3d-series of transition metals - metallic character, ionisation enthalpy, oxidation states, ionic radii, colour of ions, catalytic property, magnetic properties, interstitial compounds, alloy formation,
- Explain preparation and properties of $\text{K}_2\text{Cr}_2\text{O}_7$ and KMnO_4 . Lanthanoids and actinoids.

Term 3

November

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Revision

Solid State

Solution

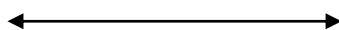
Electrochemistry

Chemical Kinetics

December Chapter 5 Chapter 6 Chapter 9 Chapter 7	Revision Surface Chemistry General principals and processes of Isolation of elements. Co-ordination compounds p-Block elements
---	---

January Chapter 8 Chapter 10 Chapter 11 Chapter 12	Revision d- and f-block elements Haloalkanes and Haloarenes Alcohols, Phenols and Ethers Aldehydes, Ketones and Carboxylic acid
---	--

February Chapter 13 Chapter 14 Chapter 15 Chapter 16	Revision Organic compounds containing nitrogen Biomolecules Polymer Chemistry in everyday life
---	---



REVISED BIOLOGY

Term 1

March

Chapter 2 Sexual reproduction in flowering plants

Learning Outcome-

After studying this chapter you should be able to understand the following topics-

Structure of flower.

Development of Male and female gametophyte.

Pollination – Types, agencies and examples.

Pollen pistil interaction, Events during pollination and fertilization. Double fertilization.

Post fertilization events – Development of endosperm and Embryo. Definition of perisperm.

Development of seed and formation of fruit.

Special modes of reproduction – Apomixis, parthenocarpy, polyembryony.

Significances of seed dispersal and fruit formation.

Experiment 1-

To study the floral characteristics of family Malvaceae by dissection of flowers of china rose.

Experiment 2-

To study the floral Characteristics of family Solanaceae by dissection of flowers of Petunia / Datura

April

Chapter 3 Human Reproduction

Learning Outcome-

After studying this chapter you should be able to understand the following topics-

Male and female reproductive organs.

Anatomy (T.S.) of Testis and Ovary.

Gametogenesis – Spermatogenesis and oogenesis.

Menstrual cycle – its different phases.

Embryonic development upto blastocyst formation.

Implantation, Gestation and pregnancy.

Placenta and its roles, process of its formation.

Parturition and lactation (Brief idea)

Chapter 4 Reproductive health

Learning Outcome-

After studying this chapter you should be able to understand he following topics.

Definition of reproductive health. Programs of reproductive health (family planning, RCH).

Population explosion – Role of government in controlling the population.

Contraceptive methods and their methods of action.

Medical termination of pregnancy (MTP) and reasons for it.

Amniocentesis and its role in detecting genetic disorders.

Causes of infertility in females and males.

Assisted reproductive technologies (ARTs)- IVF, IUT, ZIFT, ICSI, GIFT, AI, IUI – Definition and application.

Sexually transmitted diseases (STDs) – Causes, Symptoms and methods of prevention.

The diseases are – Gonorrhoea, Syphilis, genital herpes, chlamydiasis, genital warts, trichomoniasis, hepatitis – B, AIDS.

Chapter 8 Evdution – Origin of life

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Concept of origin of life- Abiogenesis and biogenesis, effects of O₂ on evolution to show that reducing atmosphere is essential for abiotic synthesis.

Important views on the origin of life.

Oparin Haldane theory. Millar Urey experiment.

Concept of protobionts, Coacervates.

Evidences for biological evolution (Palaeontology, Biogeography, Comparative anatomy, Embryology, Darwin's finches, molecular evidences with different examples).

Homologous and Analogous organs, vestigial organs with examples

Geological time scale.

Experiment 3-

To study the floral characteristics of sub-family papilionaceae (leguminosae) by dissection of flowers of Pisum sativum. (Pea)

Experiment 4-

To study the floral characteristics of family Amaryllidaceae by dissection of flowers of Lily.

Experiment 5-

To identify and comment on Permanent slides (spotting)

May

Chapter 5 Principles of inheritance and variation.

Learning Outcome-

After studying this chapter you should be able to understand the following topics-

Heredity and variation – Mendelian inheritance.

Mendel's principles and laws of inheritance.

Back cross and testcross, Monohybrid & Dihybrid cross.

Reasons for Mendel's success.

Definition of homologous chromosome, Autosomes and sex- chromosomes.

Terms related to heredity.

Deviations from Mendel's law – incomplete dominance, co-dominance, multiple alleles, inheritance of blood groups, pleiotropy with reference to PKU and starch synthesis in pea seed.

Idea regarding polygenic inheritance.

Pedigree chart showing the pattern of inheritance.

Chapter 6

Chromosomes, Sex linked inheritance and human genetic disorders.

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Chromosomal theory of inheritance – chromosomes and genes.

Sex determination in humans, fruitfly, birds and honeybee, grass hopper.

Sexlinked inheritance – with reference to Drosophila.

Definition and Significance of linkage and crossing over.

Mutation and its types.

Sex linked inheritance in man (colour blindness and haemophilia).

Human genetic disorders – phenylketonuria, thalassaemia, colourblindness, Sickle cell anaemia.

Chromosomal disorders – Down's syndrome, Klinefelter's Syndrome, Turner's syndrome.

Experiment 6-

To study the water holding capacity and p^H of soil from two different sites.

Experiment 7-

To prepare a temporary slide of T.S. of any locally available flower to show (i) axile placentation (ii) Marginal placentation.

Experiment 8-

To prepare a temporary slide of T.S. of a xerophytic leaf eg-Nerium.

July

Chapter 7 Molecular basis of inheritance

Learning Outcome-

After studying this chapter you should be able to understand the following topics-

Search for genetic material and DNA as genetic material.

Structure of DNA and RNA.

Experiments based to prove that DNA is genetic material. Process of DNA replication.

Central dogma of molecular biology.

Transcription and its steps. Post transcriptional processing.

Intron, exon and cistron

Genetic code and its features.

Protein Synthesis – translation in Prokaryotes.
Human genome project and Rice genome project.
DNA fingerprinting.

Experiment 9-

To study the texture of soil samples collected from two different sites.

Experiment 10-

To study the moisture content of soil from two different sites.

I Unit Test Syllabus

Chapter 1

Reproduction in organisms

Term 2

July

Chapter 9

Theory of Evolution and evolution of man.

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Darwin's theory of natural selection.

Drawbacks of Darwinism. Neo-Darwinism.

Lederberg's replica plating experiment

Types of natural selection, Examples.

Hardy – Weinberg's principle. Mutation and its types

Genetic variation and factors affecting Hardy-Weinberg equilibrium.

Adaptive Radiations.

Evolution of man features of each of the ancestors – Dryopithecus, Ramapithecus, Australopithecus, Homo habilis, Homo erectus, Homo neanderthalensis, Cro-magnon man and Homo sapiens leading to man of today.

August

Chapter 9

Theory of Evolution and evolution of man.

Chapter 10

Human health and diseases

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Concept of Pathogen, Parasites.

Parasites causing diseases (common cold, dengue, chikungunya, typhoid, pneumonia, amoebiasis, malaria, filariasis, ring worm, ascariasis) – their symptoms and control measures.

Concept of immunology, Types of immunity structure of a typical antibody, its diagram and types.

Concept of vaccination, immunisation, Allergy and Allergens.

Concept of AIDS – Causative agent (HIV), modes of transmission, diagnosis (ELISA), Symptoms, replication of retrovirus and prevention of AIDS and its diagrams.

Concept of cancer.

Chapter 11

Adolescent issues: Alcoholism and drugs

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Alcoholism and smoking effects on health.

Drugs – Effects and sources of opioids, cannabinoids, cocaine and barbiturates.

Reasons for addiction, prevention and control of alcohol and drug abuse.

Chapter 14

Microbes in human welfare

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Concept of microbes role in – house hold food processing industrial production, Sewage treatment, energy production and microbes as biocontrol agents and as biofertilisers.

Structure of biogas plant and production of biogas.

IPM (Integrated Pest Management)

Harmful effects of chemical pesticides.

Experiment 11-

To study about the humus content of soil.

Experiment 12-

To demonstrate the effect of temperature on the activity of enzyme (Salivary amylase).

Experiment 13-

To study the effect of p^H on the action of diastase.

Experiment 14-

To isolate DNA from Banana pulp.

September

Chapter 15

Biotechnology: Principles and processes

Learning Outcome-

After studying this chapter you should be able to understand the following topics-

Concept of biotechnology, its principles and processes.

Genetic engineering (rDNA technology) its different steps.

Gene Amplification by PCR technique.

Features and roles of restriction enzymes (EcoRI; Hind II) and role of ligase. Concept of Gel Electrophoresis.

Cloning vectors- its features and examples.

Methods of transfer of rDNA into a competent host e.g by direct method and indirect methods.

Bioreactor (basic features and uses of stirred tank and sparged tank bioreactors)

Concept of Down stream processing.

Chapter 16

Biotechnology and its Applications

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Application of biotechnology in the field of health and Agriculture.

In Medicine – Production of human insulin, gene therapy with reference to treatment of SCID, molecular diagnosis by PCR, ELISA and use of DNA / RNA probe.

Transgenic animals and its uses, GMOs (Genetically modified organisms and their uses)

In Agriculture – Bt crops, crops tolerant to abiotic stresses, pest resistant crops – RNAi with reference to Meloidogyne incognita, crops with enhanced nutritional value (golden rice)

Role of GEAC, concept of Biopiracy, Biopatent.

Chapter 17

Organisms and population

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Population interactions – mutualism, Competition, predation, parasitism with examples.

Population attributes – Growth rate, birthrate and Death rate, Age distribution.

Concept of sex ratio, types of age distribution pyramids.

Concept of population density, natality, mortality, emigration, immigration, carrying capacity. Ways to measure population density. Calculation of natality and mortality.

Population growth models, factors affecting growth. Life history variations.

Concept of reproductive fitness and its examples.

Chapter 18

Ecosystem

Learning Outcome-

After studying this chapter you should be able to understand the following topics:

Concept of Ecosystem – Patterns and its components (Biotic and Abiotic)

Productivity and decomposition, Energy flow. Pyramids of number, biomass and energy.

Structure and functions of a pond Ecosystem.

Concept of Productivity (GPP) and (NPP).

Concept of decomposition and factors affecting it.

Various types of food chains – grazing and detritus, food webs, trophic levels.

Concept of Photosynthetic active radiation (PAR).

Concept of 10% law, standing crop and standing state.

Experiment 15-

To prepare temporary slides of-

- (i) L.S. of a Monocot seed (maize)
- (ii) L.S. of a Dicot seed (Gram or Pea)

Experiment 16-

To study the arrangement / distribution of stomata on isobilateral and dorsiventral leaves.

Experiment 17-

To identify and comment on plant and Animal specimens.

Experiment 18-

To prepare a temporary slide of T.S. of hydrophyte stem-eg Hydrilla.

October

Chapter 19

Biodiversity and conservation

Learning Outcome-

After studying this chapter you should be able to under the following topics:

Concept of Biodiversity.

Importance of biodiversity, loss of biodiversity.

Patterns of biodiversity (latitudinal gradients, species- area relationship – graph and equation), Rivet popper hypothesis.

Biodiversity conservation.

In-situ methods – protected areas – biosphere reserves national parks, wildlife sanctuaries, sacred groves.
Ex-situ methods – captive breeding, zoo, botanical gardens, cryopreservation, wild life safari, seed banks, tissue culture.

Definitions and examples of Hotspots, Ramsar sites and Red data book.

The place, year and main agenda of historic conventions on biological diversity.

Experiment 19-

To identify and comment of Permanent Slides. (Spotting)

Experiment 20-

To observe germination of pollen grains in a nutrient medium.

Experiment 21-

To study about the flowers adapted to pollination by different agencies – insect and wind.

Term 3

November

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Revision

Sexual reproduction in flowering plants

Human reproduction

Reproductive health

Principles of inheritance and variation

December

Chapter 6

Chapter 7

Chapter 8

Chapter 9

Chapter 10

Chapter 11

Revision

Chromosomes, Sex-linked inheritance and human genetic disorders

Molecular basis of inheritance

Evolution – origin of life

Theory of evolution and evolution of man

Human health and diseases

Adolescent issues: Alcoholism and Drugs

January

Chapter 14

Chapter 15

Chapter 16

Chapter 17

Chapter 18

Revision

Microbes in human welfare

Biotechnology Principles and processes

Biotechnology and its Applications

organisms and populations

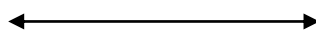
Ecosystem

February

Chapter 19

Revision

Biodiversity and conservation



REVISED MATHEMATICS

Term 1

March

Chapter 1

Learning Outcome-

Students will learn about the concept of Cartesian product and different types of relations.
Students will learn about equivalence relation.

Section (A)

Relations

Chapter 2

Functions

Learning Outcome-

Students will learn the concept of range and domain.

They will understand the concept of bijective functions and invertible functions.

Chapter 4

Inverse trigonometric functions

Learning Outcome-

Students will know the range and domain of all inverse trigonometric functions.

Students will understand the properties of inverse trigonometric functions.

April

Chapter 7

Learning Outcome-

Students will know the concept of limit and how to apply it in checking continuity of functions.

Students will learn how to check differentiability of functions using first principle of differentiation.

Section (A)

Continuity and Differentiability of functions

Chapter 8

Differentiation (continued from Book I)

Learning Outcome-

Students will learn how to apply chain rule, product rule, quotient rule, to find derivative of functions.

Students will learn to find the derivatives of inverse trigonometric functions, exponential function and logarithmic functions.

Chapter 15 Indefinite Integral – 3 (Special Integrals)

Learning Outcome-

Students will study about some special types of integrals, and integration by parts.

Chapter 16 Definite integrals

Learning Outcome-

Students will learn about fundamental theorem of calculus.

Students will understand Definite Integral as a limit of the sum.

Students will understand how to solve definite integrals using their properties.

Chapter 17 Differential Equations

Learning Outcome-

Students will be able to find order, degree, general and particular solutions of a differential equations.

They will learn how to form differential equation and find solution of differential equations using separation of variables, linear differential equations and homogeneous differential equations.

September Section (A)

Chapter 18 Probability

Learning Outcome-

Students will know about laws of probability, addition theorem, multiplication theorem, conditional probability.

Students will understand the concept of dependent and independent events.

Chapter 19 Baye's Theorem

Learning Outcome-

Students will able to use theorem of total probability and Baye's Theorem in real life.

Chapter 20 Theoretical Probability Distribution

Learning Outcome-

Students will understand the concept of probability distribution function: Mean and variance.

Section (B)

Chapter 23 Three Dimensional Geometry

Learning Outcome-

Students will understand the concept of direction cosines and direction ratios, coplanar and skew lines, distance of a point from a line and the shortest distance between two lines.

Chapter 24 Plane

Learning Outcome-

Students will understand the Cartesian and vector equation of a plane, its normal form, intercept form.

Students will be able to find the angle between two planes, a line and a plane, intersection of the line and a plane.

October Section (B)

Chapter 25 Application of Integrals

Learning Outcome-

Students will learn how to find area bounded by curves, lines, circles / parabolas / ellipse, polynomials, and other functions.

Section (C)

Chapter 28 Linear Programming

Learning Outcome-

Students will learn different terminology such as constraints, objective function and optimization.

Students will know about different types of linear programming problems, its mathematical formulation, graphical method.

Students will learn how to find feasible and infeasible regions and solutions, and optimal solutions.

Term 3

November

Section A (Revision)

Chapter 1

Relations

Chapter 2

Functions

Chapter 4

Inverse trigonometric functions

Chapter 5

Determinants

Chapter 6

Matrices

December

Section A (Revision)

Chapter 7

Continuity and Differentiability of functions

Chapter 8

Differentiation

Chapter 11

Applications of Derivatives

Chapter 12

Maxima and Minima

Chapter 13

Indefinite Integral – 1 (standard forms)

Chapter 14

Indefinite Integral – 2 (methods of Integration)

Chapter 21	Section B (Revision) Vectors
Chapter 22	Vectors (continued)
January	Section A (Revision)
Chapter 15	Indefinite Integral – 3
Chapter 16	Definite Integrals
Chapter 17	Differential Equations
Chapter 18	Probability
Chapter 19	Baye’s Theorem
Chapter 20	Theoretical Probability Distribution
	Section B (Revision)
Chapter 23	Three Dimensional Geometry
Chapter 24	The Plane
Chapter 25	Application of integrals
	Section C (Revision)
Chapter 26	Application of Calculus in Commerce and Economics
Chapter 27	Linear Regression
February	
Chapter 28	Linear Programming



**REVISED
ACCOUNTS**

For further details, students must go through I.S.C. Revised Syllabus 2025 Booklet.

Term 1

March

VOLUME-I

Chapter 1

Accounting for Partnership Firms - Fundamentals

Learning Outcome-

After studying this chapter you should be able to understand:

A. Fundamentals of Partnership

(i) Definition, meaning and features of a Partnership. Self-explanatory.

(ii) Provisions of The Indian Partnership Act, 1932, with respect to books of accounts.

(i) Meaning and importance.

(ii) Rules applicable in the absence of a partnership deed.

(iii) Preparation of Profit and Loss Appropriation Account and Partners’ Capital and Current Accounts.

(a) Profit and Loss Appropriation Account. (b) Partners’ capital accounts: fixed and fluctuating. (c) Partners’ Current Accounts when fixed capital method is followed. Interest on capital, interest on drawings, interest on current accounts (debit and credit) salary, commission to partners and managers, transfer to reserves, division of profit among partners, (d) Guarantee of profits, (e) Past adjustments (Relating to interest on capital, interest on drawing, salary and profit-sharing ratio).

NOTE:

• Interest on loan given by the partner to the firm is to be taken as a charge against profits. This interest will be debited to the P/L account and credited to his loan account.

• Interest on loan taken by a partner from the firm should be credited to P/L account and debited to his capital/current account as the case may be.

• Rent due to a partner is a charge against profit and is to be credited to partners’ current account in case of fixed capital system or to partners’ capital account when capitals are fluctuating.

• Percentage of partner's commission / General Reserve to be calculated only on the correct trading profit and not on the divisible profit.

• Rectification of errors (past adjustments) through a single journal entry/ adjusting and closing journal entries, preparation of partners’ adjusted capital/current accounts.

• Admission of manager as a Partner is excluded from the topic of past adjustments/guarantee of profits.

April

Chapter 2

Goodwill : Concept and Valuation

Learning Outcome-

After studying this chapter you should be able to understand:

B. Goodwill Concept of goodwill and mode of valuation. (a) Meaning, nature and features of Goodwill.

(b) Factors affecting the value of goodwill. (c) Mode of Valuation. • Average profit method – Meaning and practical application. – Simple average. – Weighted average method. • Super profit method – Meaning and practical application. • Capitalization method – Meaning and practical application. – Capitalization of average profit. – Capitalization of super profit.

NOTE: Capital Employed/Net assets are Total assets (excluding purchased goodwill, non-trade investments and fictitious assets) less outside liabilities. Investments to be taken as non-trade investments unless specified as trade investments.

Chapter 3 Admission of a Partner

Learning Outcome-

After studying this chapter you should be able to understand:

C. Reconstitution of Partnership

I. Admission

(i) Calculation of new profit-sharing ratio, sacrificing ratio and gaining ratio. Self-Explanatory

(ii) Accounting treatment of goodwill on admission of a partner.

Based on Accounting Standard -26 issued by the Institute of Chartered Accountants of India in the context of Intangible Assets.

(a) Premium for goodwill paid privately.

(b) Premium for goodwill paid (in cash or kind) and retained in the business.

(c) Premium for goodwill paid and withdrawn by the old partners.

(d) When the incoming partner cannot bring premium for goodwill in cash, adjustments are to be done through his current account.

(e) Hidden goodwill.

(f) When goodwill appears in the old Balance Sheet.

(iii) Preparation of Revaluation Account.

Preparation of a Revaluation Account where changes in the values of assets and liabilities are reflected in the new Balance Sheet after reconstitution of a partnership firm.

(iv) Accounting treatment of accumulated profits and losses. General Reserve / Reserve Fund,

Workmen Compensation Reserve/ Fund, Investment Fluctuation, Reserve/Fund,

Contingency Reserve, Profit and Loss Account (Debit and Credit balance) and Advertisement Suspense Account/ Deferred Revenue Expenditure.

(v) Adjustment of Capitals.

(a) Adjustment of old partner's Capital Accounts on the basis of the new partner's capital.

(b) Calculation of new partner's capital on the basis of old partner's adjusted capital.

(vi) Change in Profit-Sharing Ratio.

Change in PSR takes place at the time of admission of a partnership firm. Accounting treatment of accumulated profits and losses through one journal entry: (Adjustment of the incoming partner's share to be done through his current account-similar to the treatment of goodwill not brought in cash.)

Gaining Partners' Cap/Current A/c Dr.

To Sacrificing Partners Cap/Current (in case of profits).

Sacrificing Partners' Cap/Current A/c Dr.

To Gaining Partners Cap/Current (in case of losses)

General Reserve/ Reserve fund, Workmen Compensation Reserve/ Fund, Investment Fluctuation Reserve/

Fund, Contingency Reserve, Profit and Loss Account (Debit and Credit Balance) and Advertisement Suspense Account/ Deferred Revenue Expenditure.

NOTE:

- Preparation of Balance Sheet during admission of a partner to be done in Horizontal format.

- Memorandum revaluation account, Joint Life Policy, Individual life policy are excluded from the syllabus.

- Admission of a partner during an accounting year is excluded from the syllabus.

May

Chapter 4 Retirement or Death of a Partner

Learning Outcome-

After studying this chapter you should be able to understand:

II. Retirement and death of a partner

(i) Calculation of new profit-sharing ratio, gaining ratio and sacrificing ratio. Self-Explanatory.

(ii) Adjustment with regard to goodwill including hidden goodwill. Self-Explanatory.

(iii) Adjustment with regard to undistributed profits and losses. Self-Explanatory.

(iv) Adjustment with regard to share of profits of the retiring or deceased partner from the date of the last Balance Sheet to the date of retirement or death (on the basis of time or turnover). Through P & L Suspense A/c (in case of no change in PSR of remaining partners). Through Gaining Partners capital/ current A/c (in case of change in PSR of remaining partners).

(v) Preparation of Revaluation Account on retirement or death of a partner. Self-Explanatory.

(vi) Adjustment of capitals. (a) Readjusting the adjusted capital of the continuing partners in the new profit-sharing ratio. (b) Adjusting the capitals of the continuing partners on the basis of the total capital of the new firm. (c) When the continuing partners bring in cash to pay off the retiring partners.

(vii) Calculation and payment of amount due to retiring partner. Self-Explanatory.

(viii) Preparation of retiring partner's loan accounts and deceased partner's executor's loan account (with interest on loan accrued and due and interest on loan accrued but not due). Self-explanatory.

(ix) Change in Profit-Sharing Ratio. Change in PSR takes place at the time of retirement/ death of a partnership firm. Accounting treatment of accumulated profits and losses through one journal entry: Gaining Partners' Cap Current A/c Dr. To Sacrificing Partners' Cap/Current (in case of profits). Sacrificing Partners' Cap/Current A/c Dr. To Gaining Partners' Cap/Current (in case of losses) General Reserve/ Reserve fund, Workmen Compensation Reserve/ Fund, Investment Fluctuation Reserve/ Fund,

Contingency Reserve, Profit and Loss Account (Debit and Credit Balance) and Advertisement Suspense Account/ Deferred Revenue Expenditure.

NOTE: – Preparation of Balance Sheet during retirement / death of a partner to be done in Horizontal format only.

– Memorandum Revaluation Account, joint life policy and individual life policy are excluded from syllabus.

July

Chapter 5 Dissolution of Partnership Firm

Learning Outcome-

After studying this chapter you should be able to understand:

III. Dissolution of a Partnership firm.

(i) Meaning of dissolution and settlement of accounts under Section 48 of The Indian Partnership Act 1932.

Self- Explanatory

(ii) Preparation of Memorandum Balance Sheet, Realization Account, Partner's Loan Account, Partner's Capital Account and Cash/Bank Account. Self-explanatory.

NOTE:

When an asset or a liability is taken to the realization account any corresponding/related fund or reserve is also transferred to realization account and not to the partners' capital accounts.

When accounts are prepared on a fixed capital basis, partners' current account balances are to be transferred to capital account. No adjustments are required to be passed through current account. Bank overdraft is to be taken to the Bank/Cash A/c and not to be transferred to realization account but bank loan must be transferred to realization account.

- If question is silent about the payment of a liability, then it has to be paid out in full.
- If the question is silent about the realized value of tangible assets and investments it should be considered as realized at book value itself.
- If the question is silent about the realized value of intangible assets, accrued income and prepaid expenses it should be considered as nil (zero value).
- Loan taken from a partner will be passed through cash or bank account even if the partner's capital account has a debit balance.
- Loan given to a partner will be transferred (debited) to his Capital account.
- Realization expenses – paid by the firm; paid by a partner; borne by a partner; to be borne by a partner but paid by the firm on his behalf; partner reimbursed by the firm for the realization expenses paid by him with an asset of the firm.
- Admission cum retirement, amalgamation of firms and conversion/sale to a company together with piecemeal distribution and insolvency of a partner / partners not required.

I Unit Test Syllabus:

Chapter 1 Accounting for Partnership Firms - Fundamentals

Term 2 VOLUME-II

July

Chapter 6 Company Accounts - Issue of Shares

Learning Outcome-

After studying this chapter you should be able to understand:

A. Issue of Shares Problems on issue of shares.

(a) Issue of shares at par and premium under Companies Act, 2013.

August

Chapter 6 Company Accounts - Issue of Shares

Learning Outcome-

After studying this chapter you should be able to understand:

A. Issue of Shares Problems on issue of shares.

(a) Issue of shares at par and premium under Companies Act, 2013.(Revision)

(b) Issue of shares for considerations other than cash:

- To promoters (can be considered either through Goodwill account or Incorporation costs account).
- To underwriters. • To vendors.

(c) Calls in arrears, calls in advance and interest thereon.

(d) Over and undersubscription (including pro-rata allotment).

(e) Preparation of Journal; Cash Book and Journal Proper; Ledger Accounts.

NOTE: In pro-rata allotment when shares are issued at a premium, excess money received on application will first be adjusted towards the share capital. Any excess thereon will be utilized towards the Securities Premium. When allotment or any call money is due, it is to be transferred to the calls in arrears account, on which interest, if provided in the Articles of Association, will be calculated.

(f) Forfeiture and reissue of shares at par, premium or discount. Self-explanatory.

(g) Disclosure of Share capital in the company's Balance Sheet.

NOTE: Issue of bonus and rights shares, private placement of shares, sweat equity shares, employees' stock option scheme, reservations for small individual participants and minimum tradable lots are not required.

Chapter 7 Company Accounts - Issue of Debentures

Learning Outcome-

After studying this chapter you should be able to understand:

B. Issue of Debentures

Problems on issue of debentures (at par, at premium and at discount.) Problems on issue of debentures to include:

- (a) Issue of debentures at par, at premium and at discount under Companies Act 2013.
- (b) Issue of debentures as collateral security for a loan.
- (c) Issue of debentures for considerations other than cash.
 - To promoters. • To underwriters. • To vendors
- (d) Accounting entries at the time of issue when debentures are redeemable at par and premium.
- (e) Calls in arrears, calls in advance and interest thereon.
- (f) Interest on debentures (with TDS).
- (g) Disclosure of Debentures in the company's Balance Sheet.

NOTE: All capital losses to be written off in the year in which they occur.

Chapter 8 Company Accounts - Redemption of Debentures

Learning Outcome-

After studying this chapter you should be able to understand:

C. Redemption of Debentures • Creation of Debenture Redemption Reserve (wherever applicable)

• Redemption of debentures out of profits. • Redemption of debentures out of capital. • Redemption of debentures in a lump sum. • Redemption of debentures in annual instalments by draw of lots. Self-explanatory.

NOTE:

I. All capital losses to be written off in the year in which they occur.

II. Calculation of ex-interest and cum-interest are not required.

III. In case of redemption of debentures in annual instalments by draw of lots:

(i) The entire DRI purchased for the redemption of the instalment of debentures is not sold at the end of the year but sold/further purchased to the extent to maintain 15% of the face value of the debentures to be redeemed in the next instalment. In case of redemption in equal instalments, DRI purchased for the first instalment remains invested till the last instalment.

(ii) Wherever applicable, DRR is transferred to General Reserve in proportion to the debentures redeemed.

IV. Rules relating to creation of Debenture Redemption Reserve (DRR):

(i) Listed companies including NBFCs registered with RBI and HFCs registered with National Housing Bank (NHB) both for public issue as well as private placements do not require the creation of any DRR.

(ii) Unlisted NBFCs registered with RBI and HFCs registered with National Housing Bank (NHB) both for public issue as well as private placements do not require the creation of any DRR.

(iii) For unlisted companies (other than NBFCs and HFCs), DRR is created to the extent of 10 percent of the outstanding debentures.

Rules regarding Debenture Redemption Investment (DRI)

• Unlisted NBFCs and HFCs need not deposit any amount of its debentures maturing during the year with scheduled banks or invest it in specified government securities.

• The following companies will continue to invest or deposit, on or before 30th April in each year, a sum which shall not be less than 15 per cent, of the amount of its debentures maturing during the year, ending on 31st March of the next year, in deposits with any scheduled bank, free from any charge or lien / in unencumbered securities of the Central Government or any State Government / in unencumbered securities mentioned in Section 20 of the Indian Trusts Act, 1882/ in unencumbered bonds issued by any other company notified under Section 20 of the Indian Trusts Act, 1882:

(i) Listed companies including NBFCs registered with RBI HFCs National Housing Bank (NHB) and unlisted companies (other than NBFCs and HFCs).

(ii) Unlisted companies (other than NBFCs and HFCs).

Basically, All India Financial Institutions regulated by RBI, Banking Companies for both public as well as privately placed debentures, other Financial Institutions within the meaning of Section 2(72) of the Companies Act, 2013 and unlisted NBFCs registered with RBI and HFCs registered with National Housing Bank (NHB) are exempted both, from creating DRR and from making a DRI.

Chapter 9 Financial Statements of Companies

Learning Outcome-

After studying this chapter you should be able to understand:

D. Final Accounts of Companies

Preparation of the Balance Sheet of a company (along with notes to accounts) as per Schedule III Part I of Companies Act 2013.

Amendments:

1. As per the amendment made in Accounting Standard 4, dividend proposed for a year is not a liability till it has been approved by the shareholders. Thus, proposed dividend is not shown as a short-term provision in the current Balance Sheet of a company but disclosed in Notes to Accounts under Contingent Liabilities.

2. Schedule III of Companies Act 2013 has been amended whereby:

(I) The sub-head 'Fixed Assets' under Non-Current Assets is replaced with 'Property, Plant and Equipment and Intangible Assets.'

(II) Tangible Assets under Fixed Assets is replaced with 'Property, Plant and Equipment.'

3. Current maturities of long-term borrowings to be shown under the Head - Current Liabilities Sub head- Short Term Borrowing.

4. Securities Premium Reserve to be replaced with Securities Premium.

All capital losses to be written off in the year in which they occur unless otherwise mentioned.

NOTE: Schedule III Part II of Companies Act 2013 (Statement of Profit and Loss) is not required for the purpose of preparing final accounts of a Company.

September

Chapter 10

Financial Statements Analysis

Learning Outcome-

After studying this chapter you should be able to understand:

3. Financial Statement Analysis.- Meaning.

Chapter 11

Tools for Financial Analysis : Comparative Statements

Learning Outcome-

After studying this chapter you should be able to understand:

3. Financial Statement Analysis- Comparative Statements and Common Size Statements.

Meaning, significance and limitations of Comparative Statements and Common Size Statements.

Preparation of Comparative Balance Sheet and Statement of Profit and Loss (inter-firm and intra-firm) showing absolute change and percentage change.

NOTE: Preparation of comparative statements and common size statements to be made from the Balance Sheets and Statements of P/L without notes to accounts.

Chapter 12

Common Size Statements

Learning Outcome-

After studying this chapter you should be able to understand:

3. Financial Statement Analysis- Common Size Statements.

Meaning, significance and limitations of Common Size Statements.

Common size Balance Sheet to be prepared as a percentage of total assets and total liabilities. Common size Statement of Profit and Loss to be prepared as a percentage of Revenue from operations.

NOTE: Preparation of comparative statements and common size statements to be made from the Balance Sheets and Statements of P/L without notes to accounts.

Chapter 13

Cash Flow Statement

Learning Outcome-

After studying this chapter you should be able to understand:

4. Cash Flow Statement (Only for Manufacturing Companies)

(i) Meaning, importance and preparation of a Cash Flow Statement.

NOTE: Based on Accounting Standard – 3 (revised) issued by the Institute of Chartered Accountants of India.

(ii) Calculation of net cash flows from operating activities based on Indirect Method only. Preparation of a Cash Flow Statement from two consecutive years' Balance Sheet with or without adjustments.

Preparation of complete/partial cash flow statement from extracts of Balance Sheets and Statements of P/L with or without adjustments.

NOTE: Any adjustment or an item in the Balance Sheet relating to extraordinary items and refund of tax are not required.

(iii) Preparation of Cash Flow Statement on basis of operating, investing and financing activities.

The following items are to be taken when calculating net cash flows from financing activities:

- Issue of shares at par and premium, issue of debentures at par, premium and discount.
- Redemption of preference shares and debentures at par.
- Interest paid on Long-Term and Short-Term Borrowings.
- Dividend– interim and final- paid on shares.
- Long-term borrowings and Short-term borrowings – bank overdraft, cash credit and short-term loan. whether taken or repaid.

• Share issue expenses / underwriting commission paid.

The following items are to be taken when calculating net cash flows from investing activities:

- Cash purchase of Property, Plant & Equipment & intangible assets.
- Cash sale of Property, Plant & Equipment & intangible assets.
- Purchase and proceeds from the sale of shares or debentures or long- term investments of other companies.
- Loans and advances given (whether short term or long-term).
- Repayment of Loans and advances given (whether short-term or long-term).
- Interest and dividend received on shares or debentures or long- term investments of other companies.
- Interest received on Loans and advances given (whether short-term or long-term).

The following items are to be taken for cash and cash equivalents: • Cash • Bank • Short term investments

• Marketable securities

NOTE:

(i) Adjustments relating to provision for taxation, proposed dividend, interim dividend, amortization of intangible assets, profit or loss on sale of fixed assets including provision for/accumulated depreciation on them, Profit or loss on sale of investment, uses of Securities Premium as per Companies Act, 2013.

(ii) Treatment of proposed dividend:

(a) Dividend proposed for the previous year will be an outflow for cash, unless otherwise stated, on the assumption that the proposed amount has been approved by the shareholders in the AGM.

(b) No effect is given to Proposed Dividend for the current year as it is not provided for and is a contingent liability.

(c) Any unpaid dividend is transferred to Dividend Payable Account / Unpaid Dividend Account which is shown in the Balance Sheet of the current year as Other Current Liabilities under Current Liabilities.

(iii) Treatment of provision for doubtful debts- Provision for doubtful debts can be treated as a charge against profits or as part of the working capital changes. In case of good debtors, the provision will be treated as an appropriation of profit.

(iv) To calculate cash flow from operating activities the Adjusted Profit and Loss Account is not acceptable as per AS-3.

(v) Calculation of Net Profit before Tax has to be shown as a Working Note.

(vi) Excluded: Any transaction pertaining to Capital Reserve.

October

Chapter 14

Ratio Analysis

Learning Outcome-

After studying this chapter you should be able to understand:

A. Liquidity Ratios:

(i) Current Ratio:

(ii) Quick Ratio / Liquid Ratio / Acid Test Ratio:

B. Solvency Ratios:

(i) Debt to Equity Ratio:

(ii) Proprietary Ratio:

(iii) Debt to Total Assets Ratio:

(iv) Interest coverage ratio:

C. Activity Ratios:

(i) Trade Receivables Turnover Ratio:

(ii) Trade Payables Turnover Ratio :

(iii) Working Capital Turnover Ratio :

(iv) Inventory Turnover Ratio :

D. Profitability Ratios: (i) Gross Profit Ratio:

(ii) Net Profit Ratio:

(iii) Operating Ratio:

(iv) Operating Profit Ratio:

(v) Earning per share:

(vi) Price Earning Ratio:

(vii) Return on Investment:

NOTE:

1. Current Ratio includes Net Debtors (Gross Debtors – Provision for doubtful debts) while Trade Receivables Turnover Ratio includes Gross Debtors.

2. Other Current Assets' is restricted to Prepaid Expenses and Accrued Income.

3. Capital employed = Shareholders' Funds + Non-current Liabilities – Non-trade Investments OR Non-current Assets (excluding Non-trade Investments) + Working Capital OR Property, Plant & Equipment & Intangible Assets + Trade Investments + Working Capital

4. Investments to be taken as non-trade investments unless specified as trade investments.

5. In Return on Investments Ratio- Net Profit before interest and tax will not include interest on non-trade investments.

6. Revenue from operations (for a manufacturing company)

For a manufacturing company-

• Net Sales • Sale of scrap-For a manufacturing company

Other Income: (for a manufacturing company) • Rent received (non- operating) • Commission received (operating) • Interest and Dividend Received (non- operating) • Profit from Sale of Fixed Assets (non- operating) • Cash discount received (operating)

7. Problems on effect of transactions on ratios to be restricted to Current Ratio, Quick Ratio and Debt-Equity Ratio.

8. Net Profit Ratio is to be calculated on 'Net Profit after Tax'.

For the preparation of Comparative and Common Size Income Statements (Section B – Unit 4: Financial Statement Analysis), the extent and format of the Statement of Profit and Loss as per Schedule III Part II of the Companies Act 2013 to be studied is as follows:

Statement of Profit and Loss of
For the year ended.....

	Particulars	Note No.	Figures for the Current reporting period	Figures for the Previous reporting period
I	Revenue from operations			
II	Other Income			
III	Total Revenue (I + II)			
IV	Expenses: Cost of materials consumed Purchases of Stock-in-Trade Changes in inventories of finished goods Work-in-progress and Stock-in Trade Employee benefits expense Finance costs Depreciation and amortization expense Other expenses Total expense			
V	Profit before tax (III-IV)			
VI	Less Tax			
VII	Profit after Tax (V-VI)			

Disclosure of Share capital in the company's Balance Sheet

Balance Sheet of
As at

Particulars	Note No.	Figures at the end of the current reporting period	Figures at the end of the previous reporting period
1	2	3	4
I. EQUITY AND LIABILITIES	1	x x x x y	
1. Shareholders' Funds			
(a) Share Capital			

Notes to Accounts: 1

Particulars	Amount (₹)
(a) Share Capital	
Authorised Capital	aaa
..... shares of ₹..... each	
Issued Capital	
..... shares of ₹..... each	
(of the above shares.....shares are allotted as fully paid up pursuant to a contract without payment being received in cash)	bbb
Subscribed Capital	
Subscribed and fully paid up	
..... shares of ₹.... each	
(of the above shares.....shares are allotted as fully paid up pursuant to a contract without payment being received in cash)	xxx
Subscribed but not fully paid up	
..... shares of ₹..... each, ₹ Called up	x x x
Less calls –in- arrear	(xx)
Shares Forfeited A/c	x
	xxxx
	y
	xxxxy

1. Equity Share Capital and Preference Share Capital to be shown separately. 2. If the Authorised / Issued Capital is not mentioned in the question it has to be shown in the notes to accounts. However, no figures will be shown as illustrated above. 3. Balance of Shares Forfeited Account is shown as a separate item under Share Capital in the Notes to Account. In other words:

Subscribed Capital + Balance of Shares Forfeited A/c = Share Capital

Format of the Balance Sheet of a Joint Stock Company

PART-1
Balance Sheet of
As at

Particulars	Note No.	Figures at the end of the current reporting period	Figures at the end of the previous reporting period
1.	2.	3.	4.
I. EQUITY AND LIABILITIES 1. Shareholders' Funds (a) Share Capital (b) Reserves and Surplus (c) Money received against share warrants 2. Share application money pending allotment 3. Non- Current Liabilities (a) Long- term borrowings (b) Deferred tax liabilities (Net) (c) Other Long term liabilities (d) Long-term provisions 4. Current Liabilities (a) Short term borrowings (b) Trade payables (c) Other current liabilities (d) Short term provisions			
TOTAL			
II. ASSETS 1. Non- Current Assets (a) Property, Plant & Equipment & Intangible Assets (i) Property, Plant & Equipment (ii) Intangible Assets (iii) Capital work-in-progress (iv) Intangible assets under development (b) Non-current Investments (c) Deferred Tax Assets (Net) (d) Long term loans and advances (e) Other non-current assets 2. Current Assets (a) Current Investments (b) Inventories (c) Trade Receivables (d) Cash and Bank Balance (e) Short-term loans and advances (f) Other current assets			
TOTAL			

Note: The course for Half Yearly and Pre-Boards will include all the prescribed topics from March to October.

Term 3

November

VOLUME-I

Chapter 1

Chapter 2

Chapter 3

Revision

Accounting for Partnership Firms - Fundamentals

Goodwill : Concept and Valuation

Admission of a Partner

Chapter 4	Retirement or Death of a Partner
Chapter 5	Dissolution of Partnership Firm
December	Revision
	VOLUME-II
Chapter 6	Company Accounts - Issue of Shares
Chapter 7	Company Accounts - Issue of Debentures
Chapter 8	Company Accounts - Redemption of Debentures
Chapter 9	Financial Statements of Companies

January	Revision
Chapter 10	Financial Statements Analysis
Chapter 11	Tools for Financial Analysis : Comparative Statements
Chapter 12	Common Size Statements
Chapter 13	Cash Flow Statement

February	Revision
Chapter 14	Ratio Analysis



REVISED COMMERCE

For further details, students must go through I.S.C. Revised Syllabus 2025 Booklet.

Term 1

March

Chapter 1 Business Environment

Learning Outcome-

After studying this chapter you should be able to understand:

Concept, and importance of Business Environment. Meaning, features and importance of Business Environment; Environmental scanning- Meaning. Dimensions of Business Environment – Micro (Internal and External factors) and Macro (Economic, social, technological, political and legal) – meaning and components. S.W.O.T. Analysis - A basic understanding of S.W.O.T. (Strength, Weakness, Opportunity and Threat) Analysis.

April

Chapter 2 Capital–Fixed and Working

Learning Outcome-

After studying this chapter you should be able to understand:

(i) Capital: Sources of finance for sole trader; partnership; Joint Stock Company; financial planning. Importance of finance for business. Sources of finance for different types of business firms. Meaning, features and importance of financial planning. Factors affecting capital structure. Fixed capital - meaning, factors affecting fixed capital. Working capital – meaning, types; factors affecting working capital. Comparison between fixed and working capital.

Chapter 3 Sources of Finance for a Joint Stock Company

Learning Outcome-

After studying this chapter you should be able to understand:

(ii) Sources of finance for a Joint Stock Company.

(a) Different types of shares: equity, preference. Bonus shares, rights issue, ESOP, Sweat Equity Shares, Retained earnings. Long-term sources of funds. Equity shares - features, advantages and disadvantages. Preference shares - features, types, advantages and disadvantages; distinction between equity shares and preference shares. Bonus and rights issue, ESOP and Sweat Equity Shares - meaning. Distinction between bonus shares and right shares. Retained earnings – meaning, merits and demerits.

(b) Loan capital: debentures. Debentures – meaning; kinds of debentures; advantages and disadvantages of debentures. Distinction between shares and debentures.

(c) Loans from commercial banks and Financial Institutions- meaning, advantages and disadvantages.

(d) Short-term sources of funds. Short-term sources of funds – different types of short-term financial assistance by Commercial Banks; public deposits, trade credit, customer advances, factoring, Inter corporate deposits and installment credit. Meaning, advantages and disadvantages of various sources of funds.

May

Chapter 4 Banking–Latest Trends

Learning Outcome-

After studying this chapter you should be able to understand:

(iii) Banking - latest trends. Online services- transfer of funds through Real Time Gross Settlement (RTGS), National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS), issue of demand drafts online: meaning and features. Online payments, e-Banking – meaning and features, advantages and disadvantages. Mobile Banking - SMS alerts, transfer of funds, making payments - advantages and

disadvantages. Debit Cards vs Credit Cards, ATM (Automated Teller Machine) – Meaning; Debit card and credit card: features and differences. Digital Banking, UPI, E-wallet- Meaning only.

Chapter 5 Management–Meaning, Nature and Importance

Learning Outcome-

After studying this chapter you should be able to understand:

- (i) Management: Meaning, objectives and characteristics of management. Meaning of Management: as an activity; as a group; as a discipline; as a process. Objectives and characteristics of management.
- (ii) Nature of Management – Science, Art and Profession. Self explanatory.
- (iii) Importance of Management. Levels of management- Meaning and functions. Self explanatory.

July

Chapter 6 Principles of Management

Learning Outcome-

After studying this chapter you should be able to understand:

- (iv) Principles of Management: nature of principles; need for principles. Nature of principles of Management; need for principles of management; Taylor’s 5 scientific principles of Management; Fayol’s 14 principles of Management; Relevance of the principles of Management in today’s business scenario. Comparison of Taylor’s and Fayol’s principles.

I Unit Test Syllabus:

Chapter 1 Business Environment

Term 2

July

Chapter 7 Functions of Management and Coordination

Learning Outcome-

After studying this chapter you should be able to understand:

- (v) Functions of Management: Planning; Organising; Staffing; Directing; Controlling and Coordinating.

August

Chapter 7 Functions of Management and Coordination

Learning Outcome-

After studying this chapter you should be able to understand:

- (f) Coordination: Meaning of Coordination; Coordination as an essence of Management.

Chapter 8 Planning

Learning Outcome-

After studying this chapter you should be able to understand:

- (a) Planning: Meaning, steps, importance & limitation; Types of plans; Objectives, policy, procedures, method, rule, budget, program, strategy – meaning and features.

Chapter 9 Organising

Learning Outcome-

After studying this chapter you should be able to understand:

- (b) Organising: Meaning, importance, steps; Structure of organization (functional and divisional; Formal and informal organization) – Meaning, features, merits, demerits and differences between functional and divisional, formal and informal; Meaning and importance of delegation of authority; Decentralization v/s Centralization, comparison between delegation and decentralization, merits and demerits.

Chapter 10 Staffing

Learning Outcome-

After studying this chapter you should be able to understand:

- (c) Staffing: meaning, steps and importance; Recruitment - Meaning and sources; Selection –Meaning and procedure; Training and development – Meaning, types of training, difference between selection and recruitment, Training and Development.

September

Chapter 11 Directing

Learning Outcome-

After studying this chapter you should be able to understand:

- (d) Directing: Meaning and importance; Supervision-Meaning, functions and span of control; Motivation - Meaning and Maslow’s theory; Leadership- Meaning and qualities of a good leader; Communication - Meaning, objectives and process. Barriers to communication and overcoming barriers to communication.

Chapter 12 Controlling

Learning Outcome-

After studying this chapter you should be able to understand:

- (e) Controlling: Meaning, steps and importance; Relationship between Planning and Controlling; Management by Exception.

Chapter 13 Marketing - Concept and Functions

Learning Outcome-

After studying this chapter you should be able to understand:

(i) Marketing: concept and functions. Meaning and types of markets; meaning and features of marketing. Marketing concepts: traditional v/s modern - meaning and features of traditional and modern concepts of marketing. Comparison between marketing and selling. Objectives and importance of marketing; functions of marketing – meaning, features of each function of marketing.

Chapter 14 Marketing Mix

Learning Outcome-

After studying this chapter you should be able to understand:

(ii) Marketing Mix - Meaning and Elements. Product Mix - goods and services - meaning, features and types of goods; meaning, features of services; difference between product and services. Branding: meaning and merits. Labeling: meaning and merits. Packaging: meaning and features of good packaging. Price Mix – meaning, factors determining price. Place Mix – meaning, channel of distribution choice of channels of distribution and physical distribution. Promotion Mix – Meaning and elements. Elements – Advertising, sales promotion, personal selling and publicity – meaning, features, objectives and differences.

October

Chapter 15 Consumer Protection

Learning Outcome-

After studying this chapter you should be able to understand:

(iii) Consumer protection: rights of consumers, methods of consumer protection.

Need for consumer protection; methods of consumer protection - self-help, legislative measures and consumer associations/NGOs, Consumer Protection Act, 2019 - Meaning of consumer, rights of consumers and responsibilities of consumers.

The revised pecuniary jurisdiction according to Consumer Protection Rule 21 to be taken with reference to the Consumer Disputes Redressal Commissions (National, State and District). Difference between Consumer Protection Act, 1986 and Consumer Protection Act, 2019.

Note: The course for Half Yearly and Pre-Board will include all the prescribed topics from March to October.

Term 3

November

Chapter 1
Chapter 2
Chapter 3
Chapter 4
Chapter 5
Chapter 6
Chapter 7

Revision

Business Environment
Capital–Fixed and Working
Sources of Finance for a Joint Stock Company
Banking–Latest Trends
Management–Meaning, Nature and Importance
Principles of Management
Functions of Management and Coordination

December

Chapter 8
Chapter 9
Chapter 10
Chapter 11
Chapter 12

Revision

Planning
Organising
Staffing
Directing
Controlling

January

Chapter 13
Chapter 14
Chapter 15

Revision

Marketing - Concept and Functions
Marketing Mix
Consumer Protection

February

Chapter 15

Revision

Consumer Protection



ECONOMICS

For further details, students must go through I.S.C. 2025 Syllabus Booklet.

Term 1

March

Chapter 1

Demand Analysis

Learning Outcome-

After studying this chapter you should be able to understand:

(i) Demand: meaning, factors affecting demand; Demand function; Law of Demand; derivation of demand curve; movement and shift of the demand curve; exceptions to the Law of Demand.

The concept of demand: meaning, types of demand. A demand function to be specified incorporating the determinants of demand. Diagrams should be used in explaining the Law of Demand, reasons for downward slope of demand curve, its derivation using demand schedule. Derivation of market demand curve from individual demand curve.

April

Chapter 2 Equilibrium Analysis of the Consumer

Learning Outcome-

After studying this chapter you should be able to understand:

(i) Law of Diminishing Marginal Utility, Law of Equimarginal Utility, consumer's equilibrium through utility approach (Cardinal) and indifference curve analysis (Ordinal).

(a) Cardinal Utility Analysis: meaning of utility, total utility, marginal utility, relationship of TU and MU, Law of Diminishing Marginal Utility (schedule and diagram, Only assumptions to be taught, criticisms not required), Consumer's equilibrium – one commodity (schedule and diagram), Law of Equimarginal Utility (statement, schedule) and conditions of consumer's equilibrium using marginal utility;

(b) Ordinal Utility Analysis: Indifference Curve – its meaning and properties (including MRS and DMRS), indifference map, consumer's budget line, Consumer's equilibrium – condition (to be explained with the help of a diagram).

Chapter 3 Elasticity of Demand

Learning Outcome-

After studying this chapter you should be able to understand:

(ii) Elasticity of demand: meaning, types of elasticity of demand, measurement of elasticity of demand; factors affecting elasticity of demand. Various methods of measurement of the elasticity of demand: point method - percentage method, expenditure method and geometric method. (Numericals required on percentage method only). The cross and income elasticity of demand must be explained. Degrees of elasticity of demand to be explained. Use diagrams wherever necessary.

Chapter 4 Concept of Supply and Elasticity of Supply

Learning Outcome-

After studying this chapter you should be able to understand:

(iii) Supply: meaning; difference between stock and supply; determinants of supply; Law of Supply; movement and shift of the supply curve; elasticity of supply.

Difference between stock (intended supply) and supply (actual supply) with the help of relevant examples. A supply function should be specified and explained. Law of Supply: Meaning, supply schedule and supply curve. Derivation of market supply curve from individual supply curve. Movement and shift of the supply curve, exceptions to the Law of Supply. Elasticity of Supply: Meaning, degrees of elasticity of supply and measurement of elasticity of supply by percentage method and geometric method.

May

Chapter 5 Market Mechanism: Equilibrium Price and Effect of Changes in Demand and Supply on the Equilibrium Price

Learning Outcome-

After studying this chapter you should be able to understand:

(iv) Market Mechanism: Equilibrium and disequilibrium; Equilibrium price and effect of changes in demand and supply on the equilibrium price. Simple applications of tools of demand and supply.

A basic understanding of the concept of equilibrium. The effects of changes in demand and supply - both along the curves and shift of the curves to be explained.

Basic understanding of Price control, rationing, Price ceiling and Floor price with the help of demand and supply curves.

Chapter 6 Production Function: Returns to a Factor and Returns to Scale

Learning Outcome-

After studying this chapter you should be able to understand:

(v) Concept of production and production function: (short run and long run production function), returns to a factor, returns to scale (meaning only) total, average and marginal physical products; Law of Variable Proportions and its three stages.

A production function (concept only). Law of Variable Proportions: statement, assumptions, schedule (for the purpose of understanding and not for testing), diagram and explanation to the three stages.

Chapter 7 Cost Analysis

Learning Outcome-

After studying this chapter you should be able to understand:

(vi) Cost: Basic concepts of cost; fixed cost, variable cost, total cost, marginal cost and average cost – their relationships; opportunity cost; short run and long run cost curves.

Basic concepts – private cost, economic cost, social cost, money cost, real cost, explicit cost, implicit cost. Cost concepts – Fixed cost, variable cost, total cost, marginal cost, average cost with schedule and diagram; relationship between average cost, marginal cost, total cost (only concepts of long run and short run cost curves, derivations not required). Opportunity cost – meaning only. Difference between accounting cost and opportunity cost.

Chapter 8 Market Morphology

Learning Outcome-

After studying this chapter you should be able to understand:

(vii) Main market forms: perfect competition, monopolistic competition, oligopoly, monopoly, monopsony.

Chapter 9 Concept of Revenue and Profit

Learning Outcome-

After studying this chapter you should be able to understand:

(vi) Revenue: meaning; average revenue, marginal revenue and total revenue and their relationships under perfect competition and imperfect competition, Revenue – Average revenue, marginal revenue, total revenue – concepts and relationships under perfect competition and imperfect competition.

July

Chapter 10 Equilibrium of the Firm (Producer): A General View

Learning Outcome-

After studying this chapter you should be able to understand:

Producer's equilibrium:

Producer's equilibrium (Profit maximization goal) – meaning; conditions:

(a) TR and TC approach along with diagram (b) MR and MC approach along with diagram.

Chapter 11 Main Market Forms

Learning Outcome-

After studying this chapter you should be able to understand:

(vii) Main market forms: perfect competition, monopolistic competition, oligopoly, monopoly, monopsony; characteristics of the various market forms; equilibrium of a firm in perfect competition under short run and long run. Features of perfect competition, monopolistic competition, oligopoly, monopoly and monopsony (meaning only). Equilibrium of a firm in perfect competition under short run (explanation and diagram, shut down point and break-even point) and long run (diagram not required)

I Unit Test Syllabus:

Chapter 2 Equilibrium Analysis of the Consumer

Term 2

July

Chapter 12 Aggregate Demand and Aggregate Supply

Learning Outcome-

After studying this chapter you should be able to understand:

Basic concepts and determination of Income and Employment.

August

Chapter 12 Aggregate Demand and Aggregate Supply

Learning Outcome-

After studying this chapter you should be able to understand:

Basic concepts and determination of Income and Employment-The concept of demand (exante) and effective (expost) demand. Aggregate demand and its components, Meaning of full employment.

Chapter 13 Propensity to Consume, Save and Investment

Learning Outcome-

After studying this chapter you should be able to understand:

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

Chapter 14 Determination of Equilibrium Level of Income and Multiplier Analysts

Learning Outcome-

After studying this chapter you should be able to understand:

Equilibrium output; investment multiplier (its meaning and mechanism with the help of a diagram). Simple numerical based on the above.

Chapter 15 Problems of Excess Demand and Deficient Demand

Learning Outcome-

After studying this chapter you should be able to understand:

Problems of excess demand and deficient demand; measures to correct them.

Chapter 16 Money and Inflation

Learning Outcome-

After studying this chapter you should be able to understand:

(i) Money: meaning, functions of money, supply of money. Meaning, kinds of money, functions of money (primary, secondary and contingent) to be explained; supply of money (only meaning of M_0 , M_1 , M_2 , M_3 & M_4). Inflation: meaning, demand pull and cost push (diagrams not required)

Chapter 17 Banking System

Learning Outcome-

After studying this chapter you should be able to understand:

(ii) Banks: functions of commercial bank; high powered money, credit creation by commercial banks; Central Bank: functions. Basic understanding of the functions of commercial banks, credit creation process with limitation. The regulatory role of the Central Bank, its functions and the way it controls the flow of credit needs to be explained. A brief mention may be made of quantitative CRR, SLR, Bank Rate policy (repo rate and reverse repo rate) and Open Market Operations and qualitative methods.

September

Chapter 18

Balance of Payment and Exchange Rate

Learning Outcome-

After studying this chapter you should be able to understand:

Balance of Payment - Meaning and components; Causes of disequilibrium and how the disequilibrium can be corrected.

Foreign exchange – meaning, determination of exchange rate (Flexible).

Foreign Exchange Rate – meaning, meaning of fixed and flexible exchange rate, determination of exchange rate in a free market. Concepts of depreciation, appreciation, devaluation and revaluation (meaning only).

Chapter 19

National Income

Learning Outcome-

After studying this chapter you should be able to understand:

(i) Circular flow of Income. A simple model explaining the circular flow of income with two, three and four sector models with leakages and injections.

(ii) Concepts and definition of NY, GNP, GDP, NNP, private income, personal income, personal disposable income, National Disposable Income and per capita income; relationship between the income concepts. A brief understanding of the mentioned national income aggregates is needed. The concepts of GNP and NNP should be explained both at factor cost and market prices, real GDP and nominal GDP, National Disposable Income (Gross and Net), GDP and Welfare, GDP as an indicator of Economic welfare.

(iii) Methods of measuring National Income: product or value-added method; income method and expenditure method with simple numericals based on them.

Simple numericals based on all the methods to be covered for better understanding of the concept. Precautions and difficulties of measuring National Income for each method.

October

Chapter 20

Public Finance: Fiscal Policy and Budget

Learning Outcome-

After studying this chapter you should be able to understand:

(i) Fiscal Policy: meaning and instruments of fiscal policy. Meaning and instruments of fiscal policy – Public Revenue: Meaning, taxes (Meaning and types), difference between direct and indirect taxes; Public Expenditure: Meaning and importance; Public Debt: Meaning and redemption; Deficit Financing: meaning.

(ii) Government Budget: meaning, types and components. Meaning and types of Government budget – union, state; components – revenue and capital. Concept of deficit budget: revenue deficit, fiscal deficit, primary deficit – their meaning and implications.

Note: The course for Half Yearly and Pre-Boards will include all the prescribed topics from March to October.

Term 3

November

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 8

Chapter 9

Revision

Demand Analysis

Equilibrium Analysis of the Consumer

Elasticity of Demand

Concept of Supply and Elasticity of Supply

Market Mechanism: Equilibrium Price and Effect of Changes in Demand and Supply on the Equilibrium Price

Production Function: Returns to a Factor and Returns to Scale

Cost Analysis

Market Morphology

Concept of Revenue and Profit

December

Chapter 10

Chapter 11

Chapter 12

Chapter 13

Chapter 14

Chapter 15

Chapter 16

Revision

Equilibrium of the Firm (Producer): A General View

Main Market Forms

Aggregate Demand and Aggregate Supply

Propensity to Consume, Save and Investment

Determination of Equilibrium Level of Income and Multiplier Analysis

Problems of Excess Demand and Deficient Demand

Money and Inflation

January
Chapter 17
Chapter 18
Chapter 19
Chapter 20

Revision
Banking System
Balance of Payment and Exchange Rate
National Income
Public Finance: Fiscal Policy and Budget

February
Chapter 20

Revision
Public Finance: Fiscal Policy and Budget



COMPUTER SCIENCE

Term 1

March

Chapter 1

Boolean Algebra

Learning Outcome-

Students will learn propositional logic ,well formed formulae(wff),truth tables,satisfiable and unclassifiable and valid formulae. Equivalence laws and their use in simplifying wffs.Students will learn about propositional variables and its uses.Students will learn equivalence laws such as commutativity,associativity,distributivity,de-morgan's law ,law of implication etc., tautology, contradiction and contingency ,converse ,inverse and contrapositive . chain rule and modus ponens. Boolean algebra operation on AND,OR and NOT; TRUTH TABLES, basics theorem of Boolean algebra such as duality theorem ,de-morgan's etc.Students will learn about SOP expression (sum of product form)i.e minterm and POS expression(product of sum form)ie maxterm.Canonical sop and pos expression and cardinal representation and reducing expression by using K-Map(upto 4 variables).

Chapter 2

Computer Hardware

Learning Outcome-

Students will learn logic Gates(NOT,AND ,NOR ,OR,XOR,XNOR,NAND) and their use in circuits. Application of boolean algebra and logic gates to half adders ,full adders, encoders, decoders, multiplexers, NAND,NOR as universal gates. Drawing of circuits purely by NAND and NOR gates only and simplification of circuits.

April

Chapter 2

Computer Hardware

Learning Outcome-

Students will learn logic Gates(NOT,AND ,NOR ,OR,XOR,XNOR,NAND) and their use in circuits.Application of boolean algebra and logic gates to half adders, full adders, encoders, decoders, multiplexers, NAND, NOR as universal gates. Drawing of circuits purely by NAND and NOR gates only and simplification of circuits.

Chapter 4

Objects

Learning Outcome-

Students will learn objects as data (attributes)+behaviour(methods or function) , objects as instance of a class,constructors.Analysis of real world programming examples in terms of objects and classes.Basics input /output using scanner and printer classes from jdk;input/output exceptions,Tokens in an input stream,concept of whitespace,extracting tokens from an input stream(String Tokenizer class).

Chapter 5

Primitive values,Wrapper classes,Types and casting

Learning Outcome-

Students will learn primitive values and its types such as int, char, long, float etc.corresponding wrapper classes for each primitive type.Class as types of the object.type casting-explicit and implicit.

Chapter 6

Variables and Expression

Learning Outcome-

Students will learn about variables, constant (final), expression such as logical and arithmetic and their evaluation. Operators, associativity, precedence, Assignment operators, different between left hand and right hand side of assignment.

Chapter 7

Statements and their Scope

Learning Outcome-

Students will learn about statements if,if-else ,if-else-if ladder,switch ,ternary operator etc,iterative statements(whiel ,for and do- while,continue and break), access specifiers and visibility of variables and

methods in different scope or block, students will learn different types of access specifiers such as public, private and protected, types of variables.

Chapter 3 Programming in java (Review of class XI Section-B and Section-C)

Learning Outcome-

Students will revise all class XI topics with high order programming.

May

Chapter 8 Methods

Learning Outcome-

Students will learn methods (as abstractions for complex user defined operations on objects), formal arguments and actual arguments in methods; different behaviour of primitive and object arguments. Static method and variables. The this Operator. Examples of algorithmic problem solving using methods (number problems, finding roots of algebraic equations etc.).

Chapter 9 Arrays and Strings in Java

Learning Outcome-

Students will learn structured data types – arrays (single and multi- dimensional), address calculations, strings. Example algorithms that use structured data types (e.g. searching, finding maximum/minimum, sorting techniques, solving systems of linear equations, substring, concatenation, length, access to char in string, etc.). Storing many data elements of the same type requires structured data types – like arrays. Access in arrays is constant time and does not depend on the number of elements. Address calculation (row major and column major), Sorting techniques (bubble, selection, insertion). Structured data types can be defined by classes – String. Introduce the Java library String class and the basic operations on strings (accessing individual characters, various substring operations, concatenation, replacement, index of operations). The class StringBuffer should be introduced for those applications that involve heavy manipulation of strings.

Chapter 10 Recursion in Java

Learning Outcome-

Students will learn concept of recursion, simple recursive methods (e.g. factorial, GCD, binary search, conversion of representations of numbers between different bases). Recursion can be initially motivated by using recursive equations to define certain methods. The definitions can be directly converted to a program. Emphasize that any recursion must have a base case. Otherwise, the computation can go into an infinite loop. The tower of Hanoi is a very good example of how recursion gives a very simple and elegant solution where as non-recursive solutions are quite complex.

July

Chapter 10 Recursion in Java

Learning Outcome-

Students will learn concept of recursion, simple recursive methods (e.g. factorial, GCD, binary search, conversion of representations of numbers between different bases). Recursion can be initially motivated by using recursive equations to define certain methods. The definitions can be directly converted to a program. Emphasize that any recursion must have a base case. Otherwise, the computation can go into an infinite loop. The tower of Hanoi is a very good example of how recursion gives a very simple and elegant solution where as non-recursive solutions are quite complex.

I Unit Test Syllabus:

Chapter 1 Boolean Algebra

Term 2

July

Chapter 11 Inheritance and Polymorphism

Learning Outcome-

Students will learn inheritance; super and derived classes; member access in derived classes; redefinition of variables and methods in subclasses; abstract classes; class Object; protected visibility. Subclass polymorphism and dynamic binding, relationship between objects of the super class and that of the derived class. Interfaces in Java; implementing interfaces through a class; interfaces for user defined, implementation of behaviour.

August

Chapter 11 Inheritance and Polymorphism

Learning Outcome-

Students will learn inheritance; super and derived classes; member access in derived classes; redefinition of variables and methods in subclasses; abstract classes; class Object; protected visibility. Subclass polymorphism and dynamic binding, relationship between objects of the super class and that of the derived class. Interfaces in Java; implementing interfaces through a class; interfaces for user defined ,implementation of behaviour.

Chapter 12 Data structures

Learning Outcome-

Students will learn basic data structures (stack, queue, circular queue, dequeue); implementation directly through classes; definition through an interface and multiple implementations by implementing the interface. Conversion of Infix to Prefix and Postfix notations.

Single linked list (Algorithm and programming), binary trees, tree traversals (Conceptual). The following should be covered for each data structure: Linked List (single): insertion, deletion, reversal, extracting an element or a sublist, checking emptiness. Binary trees: apart from the definition the following concepts should be covered: root, internal nodes, external nodes (leaves), height (tree, node), depth (tree, node), level, size, degree, siblings, sub tree, completeness, balancing, traversals (pre, post and in-order).

September

Chapter 12 Data structures

Learning Outcome-

Students will learn basic data structures (stack, queue, circular queue, dequeue); implementation directly through classes; definition through an interface and multiple implementations by implementing the interface. Conversion of Infix to Prefix and Postfix notations.

Single linked list (Algorithm and programming), binary trees, tree traversals (Conceptual). The following should be covered for each data structure: Linked List (single): insertion, deletion, reversal, extracting an element or a sublist, checking emptiness. Binary trees: apart from the definition the following concepts should be covered: root, internal nodes, external nodes (leaves), height (tree, node), depth (tree, node), level, size, degree, siblings, sub tree, completeness, balancing, traversals (pre, post and in-order).

Chapter 13 Complexity and Big O notation

Learning Outcome-

Students will learn concrete computational complexity; concept of input size; estimating complexity in terms of methods; importance of dominant term; constants, best, average and worst case. Big O notation for computational complexity; analysis of complexity of example algorithms using the big O notation (e.g. Various searching and sorting algorithms, algorithm for solution of linear equations etc.).

October

Chapter 13 Complexity and Big O notation

Learning Outcome-

Students will learn concrete computational complexity; concept of input size; estimating complexity in terms of methods; importance of dominant term; constants, best, average and worst case. Big O notation for computational complexity; analysis of complexity of example algorithms using the big O notation (e.g. Various searching and sorting algorithms, algorithm for solution of linear equations etc.).

Term 3

November

Chapter 1

Chapter 2

Chapter 8

Revision

Boolean Algebra

Computer Hardware

Methods

December

Chapter 9

Chapter 10

Chapter 11

Chapter 12

Revision

Array and Strings

Recursion in Java

Inheritance and Polymorphism

Data structures

January

Chapter 13

Chapter 5

Chapter 4

Chapter 6

Revision

Complexity and Big O notation

Primitive values, Wrapper classes, Types and casting

Objects

Variables and Expression

Chapter 7

Statements and their Scope

February

Revision

Chapter 3

Programming in java (Review of class XI Section-B and Section-C)



PHYSICAL EDUCATION

Term 1

March

Theory

Chapter 1

Sociological Aspects of Physical Education

Learning Outcome-

The students will get enabled to know about the strong connection between health and games from the ancient age.

Practical:

Cricket

Learning Outcome-

The students will get enabled to follow the rules of the game and field.

April

Theory

Chapter 2

Training Methods

Learning Outcome-

The students will get enabled to understand various methods of training.

Practical:

Football and Hockey

Learning Outcome-

The students will get enabled to get and follow the rules of the games and field.

May

Theory

Chapter 3

Career Aspects in Physical Education

Learning Outcome-

The students will get notified about various career options and their eligibilities in the field of Physical Education.

Practical:

Basketball and Volleyball

Learning Outcome-

The students will get enabled to understand and follow all the rules of the games and field.

July

Theory

Chapter 4

Competition and Tournaments

Learning Outcome-

The students will get enabled to understand the tournaments and its types.

I Unit Test Syllabus

Chapter 1

Sociological Aspects of Physical Education

Term 2

July

Theory

Chapter 5

Health Education and Health Problems

Learning Outcome-

The students will get awared of meaning, principles and objectives of health education.

August

Theory

Chapter 5

Health Education and Health Problems

Learning Outcome-

The students will get awared of meaning, principles and objectives of health education.

Practical:

Badminton and Tennis

Learning Outcome-

The students will get enabled to learn and apply the rules of the games and field.

September

Theory

Chapter 6

Sports Injuries

Learning Outcome-

The students will get enabled to come to know about different types of sports injuries and their prevention.

Practical: Athletics

Learning Outcome-

The students will get enabled to know about different types of athletic events.

October

Practical: Swimming

Learning Outcome-

The students will get enabled to learn different types of swimming styles and the rules of pool.

Term 3

November

Chapter 1

Chapter 2

Revision

Sociological Aspects of Physical Education

Training Methods

December

Chapter 3

Revision

Career Aspects in Physical Education

January

Chapter 4

Revision

Competition and Tournaments

February

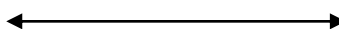
Chapter 5

Chapter 6

Revision

Health Education and Health Problems

Sports Injuries



S.U.P.W

Term 1

March

Chapter 1

Photography

Learning Outcome-

After studying this chapter you should be able to understand:

Photography: meaning, photographic camera, composition in photography, portrait photography, enlarging.

April

Chapter 4

Tie and Dye

Learning Outcome-

After studying this chapter you should be able to understand:

Tie and Dye: meaning, fabrics for tie and dye, technique / process of dye.

May

Chapter 11

Leather Work

Learning Outcome-

After studying this chapter you should be able to understand:

Leather work: meaning, types. Basic techniques of leather craft.

Community Service 1: Record book page number 54 to 62.

July

Chapter 11

Leather Work

Learning Outcome-

After studying this chapter you should be able to understand:

Leather work: meaning, types. Basic techniques of leather craft.

Term 2

July

Chapter 2

Commercial Art

Learning Outcome-

After studying this chapter you should be able to understand:

Commercial Art: meaning, material used for sketching, preparation of folder and poster.

August

Chapter 2

Commercial Art

Learning Outcome-

After studying this chapter you should be able to understand:

Commercial Art: meaning, material used for sketching, preparation of folder and poster.

Craft / Skill 1:

Record book page number 83 to 89.

September

Chapter 13

Health and Hygiene

Learning Outcome-

After studying this chapter you should be able to understand:

Health and Hygiene: Nutritional assessment, accidents and their prevention, First Aid Box, looking after animals.

Community Service 2:

Record book page number 64 to 72.

October

Chapter 13

Health and Hygiene

Learning Outcome-

After studying this chapter you should be able to understand:

Health and Hygiene: Nutritional assessment, accidents and their prevention, First Aid Box, looking after animals.

Term 3

November

Chapter 1

Revision

Photography

Craft / Skill 2:

Record book page number 91 to 97.

December

Chapter 4

Revision

Tie and Dye

Chapter 11

Leather Work

January

Chapter 2

Revision

Commercial Art

February

Chapter 13

Revision

Health and Hygiene

