LOYOLA CONVENT SCHOOL

Vidyalaya Marg, Dumardaga, Booty, Ranchi

An ISO 9001 : 2000 Certified School, Affiliated to CBSE, New Delhi

Session : 2021-22

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Syllabus of Class - XII

Subject - English Core (301)

Term Wise Syllabus

SECTION	TERM 1	WEIGHTAGE (IN MARKS)	TERM II	WEIGHTAGE (IN MARKS)
A	**Reading Comprehension**: (Two Passages) • Unseen passage (factual, descriptive or literary/ discursive or persuasive) • Case Based Unseen (Factual) Passage	**14 (8+6 Marks)**	**Reading Comprehension**: (Two Passages) • Unseen passage (factual, descriptive or literary/ discursive or persuasive) • Case Based Unseen (Factual) Passage	**14 (8+6 Marks)**
B	**Creative Writing Skills** : **Short Writing Tasks** • Notice Writing • Classified Advertisements **Long Writing Tasks(One)** • Letter to an Editor (giving suggestions or opinion on issues of public interest) • Article Writing	**3+5 marks** **Total=08**	**Creative Writing Skills** : **Short Writing Tasks** • Formal & Informal Invitation Cards or the Replies to Invitation/s **Long Writing Tasks(One)** • Letter of Application for a Job • Report Writing	**3+5 Marks** **Total=08**
C	**Literature :** Literary-prose/poetry extracts (seen- texts) to assess comprehension and appreciation, analysis, inference, extrapolation **Questions Based on Texts to assess** comprehension and appreciation, analysis, inference, extrapolation **Book- Flamingo (Prose)** • The Last Lesson • Lost Spring • Deep Water **Book-Flamingo (Poetry)** • My Mother at Sixty-Six • An Elementary School Classroom in a Slum • Keeping Quiet **Book-Vistas (Prose)** • The Third Level • The Enemy	**11 Marks for Flamingo + 7 Marks for Vistas = 18 Marks**	**Literature:** Questions based on extracts/texts to assess comprehension and appreciation, analysis, inference, extrapolation **Book-Flamingo (Prose)** • The Rattrap • Indigo **Book-Flamingo (Poetry)** • A Thing of Beauty • Aunt Jennifer's Tigers **Book-Vistas (Prose)** • Should Wizard Hit Mommy? • On the Face of It • Evans Tries an O Level	**11 Marks for Flamingo + 7 Marks for Vistas = 18 Marks**
	TOTAL	**40**	**TOTAL**	**40**
	ASL	**10**	**ASL**	**10**
	GRAND TOTAL	**40 + 10 = 50**	**GRAND TOTAL**	**40 + 10 = 50**

Prescribed Books

1. **Flamingo**: English Reader published by National Council of Education Research and Training, New Delhi
2. **Vistas:** Supplementary Reader published by National Council of Education Research and Training, New Delhi

Subject - Hindi Core (302)

कक्षा 12वीं हिंदी 'आधार' परीक्षा हेतु पाठ्यक्रम विनिर्देशन 2021-2022 (कोड सं. 302) प्रथम सत्र

परीक्षा भार विभाजन				
	विषयवस्तु		उपभार	कुलभार
1	**अपठित गद्यांश (चिंतन क्षमता एवं अभिव्यक्ति कौशल पर बहुविकल्पात्मक प्रश्न पूछे जाएंगे)**		**15**	
	अ	दो अपठित गद्यांशों में से कोई एक गद्यांश करना होगा। (450-500 शब्दों के) (1 अंक x 10 प्रश्न)	10	**10**
	ब	दो अपठित पद्यांशों में से कोई एक पद्यांश करना होगा। (250-250 शब्दों के) (1 अंक x 5 प्रश्न)	05	**05**
2	**कार्यालयी हिंदी और रचनात्मक लेखन ('अभिव्यक्ति और माध्यम' पुस्तक के आधार पर)**		**05**	
	अ	अभिव्यक्ति और माध्यम पुस्तक से बहुविकल्पात्मक प्रश्न (1 अंक x5 प्रश्न)	05	**05**
3	**पाठ्यपुस्तक आरोह भाग – 2 से बहुविकल्पात्मक प्रश्न**		**15**	
	अ	पठित काव्यांश पर पाँच बहुविकल्पीय प्रश्न (1 अंक x 05 प्रश्न)	05	
	ब	पठित गद्यांश पर पाँच बहुविकल्पीय प्रश्न। (1 अंक x 05 प्रश्न)	05	
	स	पठित पाठों पर पाँच बहुविकल्पीय प्रश्न। (1 अंक x 05 प्रश्न)	05	
4	**अनुपूरक पाठ्यपुस्तक वितान भाग-2 से बहुविकल्पात्मक प्रश्न**		**05**	
	अ	पठित पाठों पर पाँच बहुविकल्पीय प्रश्न। (1 अंक x 05 प्रश्न)	05	
5	**आंतरिक मूल्याङ्कन**			**10**
		श्रवण तथा वाचन	10	
कुल अंक				**50**

सत्र-1 2021-22 में निम्नलिखित पाठ सम्मिलित किए गए हैं –

पाठ्यपुस्तक - आरोह भाग – 2

काव्य खंड	**गद्य खंड**
1. हरिवंश राय बच्चन - एक गीत	1. महादेवी वर्मा - भक्तिन
2. कुँवर नारायण - कविता के बहाने	1. जैनेन्द्र कुमार - बाज़ार दर्शन
2. रघुवीर सहाय - कैमरे में बंद अपाहिज	1. धर्मवीर भारती - काले मेघा पानी दे
2. गजानन माधव मुक्तिबोध - सहर्ष स्वीकारा है	
अभिव्यक्ति और माध्यम	**अनुपूरक पाठ्यपुस्तक - वितान भाग – 2**
विभिन्न माध्यमों के लिए लेखन	मनोहर श्याम जोशी - सिल्वर वैडिंग
पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया	आनंद यादव - जूझ

कक्षा 12वीं हिंदी 'आधार' परीक्षा हेतु पाठ्यक्रम विनिर्देशन 2021-2022 (कोड सं. 302) द्वितीय सत्र				
		विषयवस्तु	**उप भार**	**कुलभार**
1	**कार्यालयी हिंदी और रचनात्मक लेखन**			**20**
	1	दिए गए तीन नए और अप्रत्याशित विषयों में से किसी एक विषय पर लगभग 150 शब्दों में रचनात्मक लेखन (5 अंक x1 प्रश्न)	05	
	2	औपचारिक विषय से संबंधित पत्र लेखन। (5 अंक x1 प्रश्न) (विकल्प सहित)	05	
	3	कहानी/नाटक की रचना प्रक्रिया पर आधारित दो लघु उत्तरीय प्रश्न (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न) (विकल्प सहित)	05	
	4	समाचार लेखन/फीचर लेखन/आलेख लेखन पर आधारित दो लघु उत्तरीय प्रश्न (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न) (विकल्प सहित)	05	
2	**पाठ्यपुस्तक आरोह भाग – 2** तथा **अनुपूरक पाठ्यपुस्तक वितान भाग-2**			**20**
	1	काव्य खंड पर आधारित तीन प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर (लगभग 50-60 शब्दों में) (3 अंक x 2 प्रश्न)	6	
	2	गद्य खंड पर आधारित चार प्रश्नों में से किन्हीं तीन प्रश्नों के उत्तर (लगभग 50-60 शब्दों में) (3 अंक x 3 प्रश्न)	9	
	3	अनुपूरक पाठ्यपुस्तक वितान भाग-2 के पठित पाठों पर तीन अंक का एक तथा दो अंक का एक प्रश्न पूछा जाएगा (विकल्प सहित) (1 X 3)+(1 X 2)	5	
3 आंतरिक मूल्याङ्कन				**10**
	परियोजना कार्य		10	
कुल अंक				**50**

सत्र-2 2021-22 में निम्नलिखित पाठ सम्मिलित किए गए हैं –

पाठ्यपुस्तक - आरोह भाग – 2

काव्य खंड	**गद्य खंड**
शमशेर बहादुर सिंह - उषा	फणीश्वर नाथ रेणु - पहलवान की ढोलक
तुलसीदास - (i) कवितावली (ii) लक्ष्मण मूर्च्छा और राम का विलाप	रज़िया सज्जाद ज़हीर - नमक
फ़िराक गोरखपुरी - (i) रुबाइयाँ (ii) गज़ल	बाबा साहेब भीमराव आंबेडकर - (i) श्रम विभाजन और जाति - प्रथा (ii) मेरी कल्पना का आदर्श समाज

अभिव्यक्ति और माध्यम

1. कैसे करें कहानी का नाट्य रूपांतरण
2. कैसे बनता है रेडियो नाटक
3. नए और अप्रत्याशित विषयों पर लेखन
4. पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया
5. विशेष लेखन - स्वरुप और प्रकार

अनुपूरक पाठ्यपुस्तक - वितान भाग – 2

1. ओम थानवी - अतीत में दबे पाँव
2. ऐन फ्रैंक - डायरी के पन्ने

निर्धारित पुस्तकें:

1. **आरोह, भाग–2,** एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित नवीनतम संस्करण
2. **वितान, भाग–2,** एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित नवीनतम संस्करण
3. **अभिव्यक्ति और माध्यम,** एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित नवीनतम संस्करण

Subject - Mathematics (041)

TERM - I

One Paper

90 minutes **Max Marks: 40**

No.	Units	Marks
I.	Relations and Functions	08
II.	Algebra	10
III.	Calculus	17
V.	Linear Programming	05
	Total	40
	Internal Assessment	10
	Total	50

Unit-I: Relations and Functions

1. Relations and Functions

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

2. Inverse Trigonometric Functions

Definition, range, domain, principal value branch.

Unit-II: Algebra

1. Matrices

Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices, Invertible matrices; (Here all matrices will have real entries).

2. Determinants

Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

Unit-III: Calculus

1. Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivative of inverse trigonometric functions, derivative of implicit functions. Concept of exponential and logarithmic functions.

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

2. Applications of Derivatives

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

Unit-V: Linear Programming

1. Linear Programming

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

INTERNAL ASSESSMENT	**10 MARKS**
Periodic Test	5 Marks
Mathematics Activities: Activity file record +Term end assessment of one activity & Viva	5 Marks

Note: For activities NCERT Lab Manual may be referred

TERM - II

One Paper

Max Marks: 40

No.	Units	Marks
III.	Calculus	18
IV.	Vectors and Three-Dimensional Geometry	14
VI.	Probability	8
	Total	40
	Internal Assessment	10
	Total	**50**

Unit-III: Calculus

1. Integrals

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

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

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

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

2. Applications of the Integrals

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

3. Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree of the type: $\frac{dy}{dx} = f(y/x)$. Solutions of linear differential equation of the type:

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

Unit-IV: Vectors and Three-Dimensional Geometry

1. Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

2. Three - dimensional Geometry

Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Distance of a point from a plane.

Unit-VI: Probability

1. Probability

Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution.

INTERNAL ASSESSMENT	**10 MARKS**
Periodic Test	5 Marks
Mathematics Activities: Activity file record +Term end assessment of one activity & Viva	5 Marks

Note: For activities NCERT Lab Manual may be referred

Assessment of Activity Work:

In first term any 4 activities and in second term any 4 activities shall be performed by the student from the activities given in the NCERT Laboratory Manual for the respective class (XI or XII) which is available on the link : http://www.ncert.nic.in/exemplar/labmanuals.htmla record of the same may be kept by the student. A term end test on the activity is to be conducted.

The weightage are as under:

- The activities performed by the student in each term and record keeping : 3 marks
- Assessment of the activity performed during the term end test and Viva-voce : 2 marks

Prescribed Books:

1) Mathematics Textbook for Class XI, NCERT Publications
2) Mathematics Part I - Textbook for Class XII, NCERT Publication
3) Mathematics Part II - Textbook for Class XII, NCERT Publication
4) Mathematics Exemplar Problem for Class XI, Published by NCERT
5) Mathematics Exemplar Problem for Class XII, Published by NCERT
6) Mathematics Lab Manual class XI, published by NCERT
7) Mathematics Lab Manual class XII, published by NCERT

Subject - Physics (042)

Physics Theory and Practical course will be done in two terms. Each term will be assessed individually.

Syllabus assigned for Term I (Theory)

Course structure

Time: 90 Minutes **Max Marks: 35**

		No. of Periods	Marks
Unit–I	**Electrostatics**	**23**	**17**
	Chapter–1: Electric Charges and Fields		
	Chapter–2: Electrostatic Potential and Capacitance		
Unit-II	**Current Electricity**	**15**	
	Chapter–3: Current Electricity		
Unit-III	**Magnetic Effects of Current and Magnetism**	**16**	**18**
	Chapter–4: Moving Charges and Magnetism		
	Chapter–5: Magnetism and Matter		
Unit-IV	**Electromagnetic Induction and Alternating Currents**	**19**	
	Chapter–6: Electromagnetic Induction Chapter 7: Alternating currents		
Total		**73**	**35**

Unit I: Electrostatics **23 Periods**

Chapter–1: Electric Charges and Fields

Electric Charges; Conservation of charge, Coulomb's law-force between two-point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet

Chapter–2: Electrostatic Potential and Capacitance

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor.

Unit II: Current Electricity 15 Periods

Chapter–3: Current Electricity

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity; temperature dependence of resistance. Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's laws and simple applications, Wheatstone bridge, metre bridge(**qualitative ideas only).** Potentiometer - principle and its applications to measure potential difference and for comparing EMF of two cells; measurement of internal resistance of a cell **(qualitative ideas only)**

Unit III: Magnetic Effects of Current and Magnetism 16 Periods

Chapter–4: Moving Charges and Magnetism

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

Chapter–5: Magnetism and Matter

Current loop as a magnetic dipole and its magnetic dipole moment, magnetic dipole moment of a revolving electron, bar magnet as an equivalent solenoid, magnetic field lines; earth's magnetic field and magnetic elements.

Unit IV: Electromagnetic Induction and Alternating Currents 19 Periods

Chapter–6: Electromagnetic Induction

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

Chapter–7: Alternating Current

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

Syllabus assigned for Practical for Term I

Total Periods:16

First term practical examination will be organised by schools as per the directions of CBSE. The record to be submitted by the students at the time of first term examination has to include a record of at least 4 Experiments and 3 Activities to be demonstrated by teacher.

Evaluation Scheme

Time Allowed: one and half hours **Max. Marks: 15**

Two experiments to be performed by students at time of examination	**8 marks**
Practical record [experiments and activities]	**2 marks**
Viva on experiments, **and** activities	**5 marks**
Total	**15 marks**

Experiments assigned for Term I

1. To determine resistivity of two / three wires by plotting a graph between potential difference versus current.
2. To find resistance of a given wire / standard resistor using metre bridge.

   OR

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

   OR

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

3. To compare the EMF of two given primary cells using potentiometer.

   OR

   To determine the internal resistance of given primary cell using potentiometer.

4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
5. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.

   OR

   To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.

6. To find the frequency of AC mains with a sonometer.

Activities assigned for Term I

1. To measure the resistance and impedance of an inductor with or without iron core.

2. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.

3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.

4. To assemble the components of a given electrical circuit.

5. To study the variation in potential drop with length of a wire for a steady current.

6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

Syllabus assigned for Term II (Theory)

Course structure

Time: 2 Hours **Max Marks: 35**

		No of Periods	Marks
Unit–V	**Electromagnetic Waves**	**02**	**17**
	Chapter–8:Electromagnetic Waves		
Unit–VI	**Optics**	**18**	
	Chapter–9: Ray Optics and Optical Instruments		
	Chapter–10: Wave Optics		
Unit–VII	**Dual Nature of Radiation and Matter**	**07**	**11**
	Chapter–11: Dual Nature of Radiation and Matter		
Unit–VIII	**Atoms and Nuclei**	**11**	
	Chapter–12: Atoms		
	Chapter–13: Nuclei		
Unit–IX	**Electronic Devices**	**07**	**7**
	Chapter–14: Semiconductor -Electronics: Materials, Devices and Simple Circuits		
Total		**45**	**35**

Unit V: Electromagnetic waves **2 Periods**

Chapter–8: Electromagnetic Waves

Electromagnetic waves, their characteristics, their Transverse nature (qualitative ideas only).

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Unit VI: Optics **18Periods**

Chapter–9: Ray Optics and Optical Instruments

Ray Optics: Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism.

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

Chapter–10: Wave Optics

Wave optics: Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent

sources and sustained interference of light, diffraction due to a single slit, width of central maximum

Unit VII: Dual Nature of Radiation and Matter **7 Periods**

Chapter–11: Dual Nature of Radiation and Matter

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

Experimental study of photoelectric effect

Matter waves-wave nature of particles, de-Broglie relation

Unit VIII: Atoms and Nuclei **11Periods**

Chapter–12: Atoms

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

Chapter–13: Nuclei Composition and size of nucleus Nuclear force Mass-energy relation, mass defect, nuclear fission, nuclear fusion.

Unit IX: Electronic Devices **7 Periods**

Chapter–14: Semiconductor Electronics: Materials, Devices and Simple Circuits Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier; Special purpose p-n junction diodes: LED, photodiode, solar cell.

Syllabus assigned for Practical for Term II

Total Periods: 16

The second term practical examination will be organised by schools as per the directions of CBSE and viva will be taken by both internal and external observers. The record to be submitted by the students at the time of second term examination has to include a record of at least 4 Experiments and 3 Activities to be demonstrated by teacher.

Evaluation Scheme

Time Allowed: one and half hours **Max. Marks: 15**

Two experiments to be performed by students at time of examination	**8 marks**
Practical record [experiments and activities]	**2 marks**
Viva on experiments, **and** activities	**5 marks**
Total	**15 marks**

Experiments assigned for Term-II

1. To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and1/v.
2. To find the focal length of a convex mirror, using a convex lens.

   OR

   To find the focal length of a concave lens, using a convex lens.
3. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
4. To determine refractive index of a glass slab using a travelling microscope.
5. To find refractive index of a liquid by using convex lens and plane mirror.
6. To draw the I-V characteristic curve for a p-n junction diode in forward bias and reverse bias.

Activities assigned for Term-II

1. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
2. Use of multimeter to see the unidirectional flow of current in case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order.
3. To study effect of intensity of light (by varying distance of the source) on an LDR.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe polarization of light using two Polaroids.
6. To observe diffraction of light due to a thin slit.
7. To study the nature and size of the image formed by a (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

Subject - Chemistry (043)

SYLLABUS FOR SESSION 2021-22 CLASS XII Term-I

S.No	UNIT	Periods	MARKS
1	Solid State	8	10
2	Solutions	8	
3	p-Block Elements	7	10
4	Haloalkanes and Haloarenes	9	15
5	Alcohols, Phenols and Ethers	9	
6	Biomolecules	8	
	TOTAL	49	35

Solid State: Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects.

Solutions: Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties.

p Block Elements: Group -15 Elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; Nitrogen preparation properties and uses; compounds of Nitrogen: preparation and properties of Ammonia and Nitric Acid.
Group 16 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen: preparation, properties and uses, classification of Oxides, Ozone, Sulphur -allotropic forms; compounds of Sulphur: preparation properties and uses of Sulphur-dioxide, Sulphuric Acid: properties and uses; Oxoacids of Sulphur (Structures only).
Group 17 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens, Preparation, properties and uses of Chlorine and Hydrochloric acid, interhalogen compounds, Oxoacids of halogens (structures only).
Group 18 Elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

Haloalkanes and Haloarenes: Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions.
Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).

Alcohols, Phenols and Ethers: Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration.
Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols.
Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Biomolecules: Carbohydrates - Classification (aldoses and ketoses), monosaccahrides (glucose and fructose), D-L configuration
Proteins -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins.
Nucleic Acids: DNA and RNA

PRACTICALS

Term I: **A 15-mark Practical** would be conducted under the supervision of subject teacher/ internal examiner. This would contribute to the overall practical marks for the subject.
OR

In case the situation of lockdown continues until Nov-Dec 2021, a *Practical Based Assessment (pen-paper) of 15 marks* would be conducted at the end of Term I at the school level and marks would be submitted by the schools to the Board. This would contribute to the overall practical marks for the subject.

Term-I Evaluation Scheme

S. No	Practical	Marks
1.	Volumetric Analysis	4
2.	Salt Analysis	4
3.	Content Based experiment	2
4.	Class record and viva(Internal Examiner)	5
	TOTAL	15

(1) **Volumetric analysis (4 marks)**

Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of:

i. Oxalic acid,
ii. Ferrous Ammonium Sulphate
(Students will be required to prepare standard solutions by weighing themselves).

(2) **Salt analysis (Qualitative analysis) (4 marks)**

Determination of one cation and one anion in a given salt.
Cations- Pb^{2+}, Cu^{2+}, As^{3+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Ni^{2+}, Zn^{2+}, Co^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+
Anions – $(CO_3)^{2-}$, S^{2-}, NO_2^-, SO_3^{2-}, SO_4^{2-}, NO_3^-, Cl^-, Br^-, I^-, PO_4^{3-}, $C_2O_4^{2-}$, CH_3COO^- (Note: Insoluble salts excluded)

(3) **Content Based Experiments (2 marks)**

A. Chromatography
   i. Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of Rf values.
   ii. Separation of constituents present in an inorganic mixture containing two cations only (constituents having large difference in Rf values to be provided).
B. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.

SYLLABUS FOR SESSION 2021-22 CLASS XII Term-II

S.No	UNIT	No. of Periods	MARKS
1	Electrochemistry	7	
2	Chemical Kinetics	5	
3	Surface Chemistry	5	13
4	d-and f-Block Elements	7	
5	Coordination Compounds	8	9
6	Aldehydes, Ketones and Carboxylic Acids	10	
7	Amines	7	13
	TOTAL	49	35

Electrochemistry: Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis.

Chemical Kinetics: Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions).

Surface Chemistry: Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids, colloidal state: distinction between true solutions, colloids and suspension; lyophilic, lyophobic, multi-molecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation.

d-and f-Block Elements: General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation.
Lanthanoids - Electronic configuration, oxidation states and lanthanoid contraction and its consequences.

Coordination Compounds: Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT.

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

Amines:

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

PRACTICALS

Term II: At the end of Term II, **a 15-mark Practical** would be conducted under the supervision of Board appointed external examiners. This would contribute to the overall practical marks for the subject.

OR

In case the situation of lockdown continues beyond December 2021, a *Practical Based Assessment (pen-paper) of 10 marks and Viva 5 marks* would be conducted at the end of Term II jointly by the external and internal examiners and marks would be submitted by the schools to the Board. This would contribute to the overall practical marks for the subject.

TERM-II Evaluation Scheme

S. No	Practical	Marks
1.	Volumetric Analysis	4
2.	Salt Analysis	4
3	Content Based Experiment	2
4	Project Work and Viva(Internal and External Both)	5
	TOTAL	15

1) **Volumetric analysis (4 marks)**
   Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of:
   i. Oxalic acid,
   ii. Ferrous Ammonium Sulphate
   (Students will be required to prepare standard solutions by weighing themselves).

2) **Salt analysis (Qualitative analysis) (4 marks)**
   Determination of one cation and one anion in a given salt.

   Cations- Pb^{2+}, Cu^{2+}, As^{3+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Ni^{2+}, Zn^{2+}, Co^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+

   Anions – $(CO_3)^{2-}$, S^{2-} , NO_2^- , SO_3^{2-} , SO_4^{2-} , NO_3^-, Cl^- , Br^- , I^- , PO_4^{3-} , $C_2O_4^{2-}$,CH_3COO^- (Note: Insoluble salts excluded)

3) **Content based experiment**
   A. Preparation of Inorganic Compounds
      Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum.
      Preparation of Potassium Ferric Oxalate.

   B. Tests for the functional groups present in organic compounds:
      Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

Subject - Biology (044)

COURSE STRUCTURE
CLASS XII (2021 - 22)

EVALUATION SCHEME		
Theory		
Units	**Term – I**	**Marks**
VI	Reproduction: Chapter - 2, 3 and 4	15
VII	Genetics and Evolution: Chapter – 5 and 6	20
Units	**Term - II**	**Marks**
VIII	Biology and Human Welfare: Chapter – 8 and 10	14
IX	Biotechnology and its Applications: Chapter – 11 and 12	11
X	Ecology and Environment: Chapter – 13 and 15	10
Total Theory (Term – I and Term – II)		**70**
Practicals Term – I		**15**
Practicals Term – II		**15**
Total		**100**

THEORY

TERM - I

Unit-VI Reproduction

Chapter-2: Sexual Reproduction in Flowering Plants

Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

Chapter-3: Human Reproduction

Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).

Chapter-4: Reproductive Health

Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).

Unit-VII Genetics and Evolution

Chapter-5: Principles of Inheritance and Variation

Heredity and variation: Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in human being, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans -thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Chapter-6: Molecular Basis of Inheritance

Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting.

TERM - II

Unit-VIII Biology and Human Welfare

Chapter-8: Human Health and Diseases

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

Chapter-10: Microbes in Human Welfare

Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.

Unit-IX Biotechnology and its Applications

Chapter-11: Biotechnology - Principles and Processes

Genetic Engineering (Recombinant DNA Technology).

Chapter-12: Biotechnology and its Application

Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.

Unit-X Ecology and Environment

Chapter-13: Organisms and Populations

Organisms and environment: Habitat and niche, population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.

Chapter-15: Biodiversity and its Conservation

Biodiversity - Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

PRACTICALS

Max. Marks: 15 for each Term

Evaluation Scheme			
	TERM - I	**TERM - II**	**MARKS**
Part A			
One Major Experiment	Experiment No. – 1	Experiment No. - 3	**4**
One Minor Experiment	Experiment No. - 2	Experiment No. – 4, 5	**3**
Part B			
Spotting (3 Spots of 1 mark each)	B.1, 2, 3, 4, 5	B.6, 7, 8	**3**
Practical Record + Investigatory Project &Record + Viva Voce			**5**
Total			**15**

Practicals should be conducted alongside the concepts taught in theory classes.

A. List of Experiments

TERM - I:

1. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.
2. Prepare a temporary mount to observe pollen germination.

TERM - II:

3. Prepare a temporary mount of onion root tip to study mitosis.
4. Collect water from two different water bodies around you and study them for pH, clarity and presence of any living organism
5. Collect and study soil from at least two different sites and study them for texture, moisture content, pH and water holding capacity. Correlate with the kinds of plants found in them.

B. Study/observation of the following (Spotting)

TERM - I:

B.1 Flowers adapted to pollination by different agencies (wind, insects, birds).

B.2 Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).

B.3 Meiosis in onion bud cell or grasshopper testis through permanent slides.

B.4 T.S. of blastula through permanent slides (Mammalian).

B.5 Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colourblindness.

TERM – II:

B.6 Common disease - causing organisms like *Ascaris, Entamoeba, Plasmodium*, any fungus causing ringworm through permanent slides, models or virtual images. Comment on symptoms of diseases that they cause.

B.7 Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations.

B.8 Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations.

Practical Examination for Visually Impaired Students of Classes XI and XII

Evaluation Scheme

Max. Marks: 15 for each Term

Topic	Marks
Identification/Familiarity with the apparatus	5
Written test (Based on given/prescribed practicals)	5
Practical Records and Viva	5
Total	**15**

General Guidelines

- The practical examination will be of one-hour duration.
- The written examination in practicals for these students will be conducted at the time of practical examination of all other students.
- The written test will be of 30 minutes duration.
- The question paper given to the students should be legibly typed. It should contain a total of 8 practical skill based very short answer type questions. A student would be required to answer any 5 questions.
- A writer may be allowed to such students as per CBSE examination rules.
- All questions included in the question paper should be related to the listed practicals. Every question should require about two minutes to be answered.
- These students are also required to maintain a practical file. A student is expected to record the listed experiments Term -wise as per the specific instructions for each subject. These practicals should be duly checked and signed by the internal examiner.
- The format of writing any experiment in the practical file should include aim, apparatus

required, simple theory, procedure, related practical skills, precautions etc.

- Questions may be generated jointly by the external/internal examiners and used for assessment.
- The viva questions may include questions based on basic theory/principle/concept, apparatus/materials/chemicals required, procedure, precautions, sources of error etc.

Class XII

Practicals should be conducted alongside the concepts taught in theory classes.

A. Items for Identification/ familiarity with the apparatus for assessment in practicals (All experiments)

TERM -I:

- Beaker, flask, petri plates, test tubes, aluminium foil, paint brush, bunsen burner/spirit lamp/water bath.
- Starch solution, iodine, ice cubes.
- Developmental stages of frog highlighting morula and blastula.

TERM -II:

- Soil from different sites- sandy, clayey, loamy; Small potted plants, Cactus/*Opuntia* (model), Large flowers, Maize inflorescence.
- Model of *Ascaris*

B. List of Practicals

TERM -I:

1. Study of flowers adapted to pollination by different agencies (wind, insects).
2. Identification of T.S of morula or blastula of frog (model).
3. Preparation of pedigree charts of genetic traits such as rolling of tongue, colour blindness.

TERM -II:

4. Study of the soil obtained from at least two different sites for their texture.
5. Identify common disease-causing organisms like *Ascaris (Model)* and learn some common symptoms of the disease that they cause.
6. Comment upon the morphological adaptations of plants found in xerophytic conditions.

Note: The above practicals may be carried out in an experiential manner rather than recording observations.

Prescribed Books:

1. Biology, Class-XII, Published by NCERT
2. Other related books and manuals brought out by NCERT (including multimedia)
3. Biology Supplementary Material (Revised). Available on CBSE website.

Assessment Areas (Theory) 2021-22
Class XII
Biology (044)

Competencies	
Demonstrate Knowledge and Understanding	50%
Application of Knowledge / Concepts	30%
Analyse, Evaluate and Create	20%

Note:

- Internal choice would be provided.

Suggestive verbs for various competencies

- **Demonstrate, Knowledge and Understanding**
  State, name, list, identify, define, suggest, describe, outline, summarize, etc.
- **Application of Knowledge/Concepts**
  Calculate, illustrate, show, adapt, explain, distinguish, etc.
- **Analyze, Evaluate and Create**

  Interpret, analyse, compare, contrast, examine, evaluate, discuss, construct, etc.

Subject - Accountancy (055)

CLASS XII - CURRICULUM (TERM-WISE)

	TERM -1 (MCQ BASED QUESTION PAPER) **Theory:40 Marks** **Duration: 90 minutes**	**MARKS**
	Part A	
	UNIT **ACCOUNTING FOR PARTNERSHIP FIRMS:**	18
1	FUNDAMENTALS	
2	CHANGE IN PROFIT SHARING RATIO	
3	ADMISSION OF A PARTNER	
	COMPANY ACCOUNTS:	12
1	ACCOUNTING FOR SHARES	
	PART B	
	ANALYSIS OF FINANCIAL STATEMENTS:	10
1	FINANCIAL STATEMENTS OF A COMPANY *(i) Statement of Profit and Loss and Balance Sheet in prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013)* *(ii) Tools of Analysis - Ratio Analysis*	
2	ACCOUNTING RATIOS	
	OR	
	COMPUTERISED ACCOUNTING	10
1	OVERVIEW OF COMPUTERISED ACCOUNTING SYSTEM	
2	ACCOUNTING APPLICATION OF ELECTRONIC SPREADSHEET	
	Total	**40**
	Project Work (Part -1): 10 Marks	

Part - A:

Unit : Accounting for Partnership Firms

Units/Topics	Learning Outcomes
• Partnership: features, Partnership Deed. • Provisions of the Indian Partnership Act 1932in the absence of partnership deed. • Fixed v/s fluctuating capital accounts. Preparation of Profit and Loss Appropriationaccount- division of profit among partners, guarantee of profits. • Past adjustments (relating to interest on capital, interest on drawing, salary and profitsharing ratio). • Goodwill: nature, factors affecting and methods of valuation - average profit, superprofit and capitalization. ***Note:*** *Interest on partner's loan is to be treated as a charge against profits.* Goodwill to be adjusted through partners capital/current account. *Note: Raising and writing off goodwill is excluded.* **Accounting for Partnership firms - Reconstitution** • **Change in the Profit Sharing Ratio** amongthe existing partners - sacrificing ratio, gaining ratio, accounting for revaluation of assets and reassessment of liabilities and treatment of reserves and accumulated profits. Preparation of revaluation account and balance sheet. • **Admission of a partner** - effect of admissionof a partner on change in the profit sharing ratio, treatment of goodwill, treatment for revaluation of assets and re-assessment of liabilities, treatment of reserves and accumulated profits.	**After going through this Unit, the students will beable to:** • state the meaning of partnership, partnershipfirm and partnership deed. • describe the characteristic features of partnership and the contents of partnershipdeed. • discuss the significance of provision of Partnership Act in the absence of partnershipdeed. • differentiate between fixed and fluctuating capital, outline the process and develop the understanding and skill of preparation of Profit and Loss Appropriation Account. • develop the understanding and skill of preparation profit and loss appropriation account involving guarantee of profits. • develop the understanding and skill ofmaking past adjustments. • state the meaning, nature and factors affecting goodwill • develop the understanding and skill of valuation of goodwill using different methods. • state the meaning of sacrificing ratio, gainingratio and the change in profit sharing ratio among existing partners. • develop the understanding of accounting treatment of revaluation assets and reassessment of liabilities and treatment ofreserves and accumulated profits by preparing revaluation account and balancesheet. • explain the effect of change in profit sharingratio on admission of a new partner. • develop the understanding and skill of treatment of goodwill, treatment of revaluation of assets and re-assessment of liabilities, treatment of reserves and accumulated profits, and preparation of balance sheet of the new firm.

Unit - Accounting for Companies

Units/Topics	Learning Outcomes
Accounting for Share Capital • Share and share capital: nature and types. • Accounting for share capital: issue and allotment of equity and preferences shares. Public subscription of shares - over subscription and under subscription of shares; issue at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash. • Concept of Private Placement and EmployeeStock Option Plan (ESOP). • Accounting treatment of forfeiture and re-issue of shares. • Disclosure of share capital in the BalanceSheet of a company.	**After going through this Unit, the students will beable to:** • state the meaning of share and share capitaland differentiate between equity shares and preference shares and different types of share capital. • understand the meaning of private placementof shares and Employee Stock Option Plan. • explain the accounting treatment of sharecapital transactions regarding issue of shares. • develop the understanding of accounting treatment of forfeiture and re-issue of forfeited shares. • describe the presentation of share capital inthe balance sheet of the company as per schedule III part I of the Companies Act 2013.

Part – B:

Unit : Analysis of Financial Statements

Units/Topics	Learning Outcomes
Financial statements of a Company: Statement of Profit and Loss and Balance Sheet in prescribed form with major headings and sub headings (as per Schedule III to the Companies Act,2013) **Note:** *Exceptional items, extraordinary items and profit (loss) from discontinued operations are excluded.* • **Financial Statement Analysis:** Objectives, importance and limitations. • **Accounting Ratios:** Meaning, Objectives, classification and computation. • **Liquidity Ratios:** Current ratio and Quick ratio. • **Solvency Ratios:** Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and interest coverage ratio. • **Activity Ratios:** Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio and Working Capital Turnover Ratio.	**After going through this Unit, the students will be able to:** • develop the understanding of major headings and sub-headings (as per Schedule III to the Companies Act, 2013) of balance sheet as per the prescribed norms / formats. • state the meaning, objectives and limitations of financial statement analysis. • discuss the meaning of different tools of 'financial statements analysis'. • state the meaning, objectives and significance of different types of ratios. • develop the understanding of computation of current ratio and quick ratio. • develop the skill of computation of debt equity ratio, total asset to debt ratio, proprietary ratio and interest coverage ratio. • develop the skill of computation of inventory turnover ratio, trade receivables and trade payables ratio and working capital turnover ratio. • develop the skill of computation of gross

• **Profitability Ratios:** Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.	profit ratio, operating ratio, operating profit ratio, net profit ratio and return on investment.

Note: Net Profit Ratio is to be calculated on the basis of profit before and after tax.

OR

Part B: Computerised Accounting

Unit : Computerised Accounting

Overview of Computerised Accounting System

- Introduction: Application in Accounting.
- Features of Computerised Accounting System.
- Structure of CAS.
- Software Packages: Generic; Specific; Tailored.

Accounting Application of Electronic Spreadsheet.

- Concept of electronic spreadsheet.
- Features offered by electronic spreadsheet.
- Application in generating accounting information - bank reconciliation statement; asset accounting; loan repayment of loan schedule, ratio analysis
- Data representation- graphs, charts and diagrams.

TERM -II

	TERM II Theory: 40 Marks	MARKS
	Part A	
1	**UNIT** **ACCOUNTING FOR NOT-FOR PROFIT ORGANISATIONS**	**10**
1 2	**ACCOUNTING FOR PARTNERSHIP FIRMS:** RETIREMENT AND DEATH OF A PARTNER DISSOLUTION OF PARTNERSHIP FIRMS	**12**
1	**COMPANY ACCOUNTS:** ACCOUNTING FOR DEBENTURES	**8**
	PART B	
1	**ANALYSIS OF FINANCIAL STATEMENTS:** FINANCIAL STATEMENTS OF A COMPANY	**10**

2	*(i) COMPARATIVE AND COMMON SIZE STATEMENTS* CASH FLOW STATEMENT	
	OR	
1 2	**COMPUTERISED ACCOUNTING** USING COMPUTERISED ACCOUNTING SYSTEM DATABASE MANAGEMENT SYSTEM	**10**
	Total	**40**
	PROJECT (PART – 2): 10 MARKS	

Part - A:

Unit : Accounting for Not – For Profit Organisations

Units/Topics	Learning Outcomes
• Not-for-profit organizations: concept. • Receipts and Payments Account: features and preparation. • Income and Expenditure Account: features, preparation of income and expenditure account and balance sheet from the given receipts and payments account with additional information. **Scope:** *(i) Adjustments in a question should not exceed 3 or 4 in number and restricted to subscriptions,consumption of consumables and sale of assets/ old material.* *(ii) Entrance/admission fees and general donations are to be treated as revenue receipts.* *(iii) Trading Account of incidental activities is not to be prepared.*	**After going through this Unit, the students will be able to:** • state the meaning of a Not-for-profit organisation and its distinction from a profit making entity. • state the meaning of receipts and payments account, and understanding its features. • develop the understanding and skill of preparing receipts and payments account. • state the meaning of income and expenditure account and understand its features. • develop the understanding and skill of preparing income and expenditure account and balance sheet of a not-for-profit organisation with the help of given receipts and payments account and additional information.

Unit : Accounting for Partnership Firms

Accounting for Partnership firms - Reconstitution and Dissolution. • **Retirement and death of a partner:** effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill, treatment for revaluation of assets and reassessment of liabilities, adjustment of accumulated profits and reserves and preparation of balance sheet. • Calculation of deceased partner's share of profit till the date of death.	• explain the effect of retirement / death of a partner on change in profit sharing ratio. • develop the understanding of accounting treatment of goodwill, revaluation of assets and re-assessment of liabilities and adjustment of accumulated profits and reserves on retirement / death of a partner. • develop the skill of calculation of deceased

Dissolution of a partnership firm: meaning of dissolution of partnership and partnership firm, types of dissolution of a firm. Settlementof accounts - preparation of realization account, and other related accounts: capitalaccounts of partners and cash/bank a/c (excluding piecemeal distribution, sale to a company and insolvency of partner(s)). **Note:** (i) If realized value of an asset is not given, it is to be presumed that it has not realised any amount. (ii) If a partner has borne and/ or paid the realisation expenses, it should be stated.	partner's share till the time of his death. • discuss the preparation of the capital accounts of the remaining partners and the balance sheet of the firm after retirement / death of a partner. • understand the situations under which a partnership firm can be dissolved. • develop the understanding of preparation of realisation account and other related accounts.

Unit - Accounting for Companies

Units/Topics	Learning Outcomes
Accounting for Debentures • Debentures: Issue of debentures at par, at a premium and at a discount. Issue of debentures for consideration other than cash; Issue of debentures with terms of redemption; debentures as collateral security-concept, interest on debentures. Writing off discount / loss on issue of debentures. Note: Discount or loss on issue of debentures to be written off in the year debentures are allotted from Security Premium Reserve/ Capital Reserve/ Statement of Profit and Loss as Financial Cost (AS16) in that order. *Note: Related sections of the Companies Act, 2013will apply.* *Concept of Tax Deducted at Source (TDS) is excluded.*	**After going through this Unit, the students will be able to:** • explain the accounting treatment of different categories of transactions related to issue of debentures. • develop the understanding and skill of writing of discount / loss on issue of debentures. • understand the concept of collateral security and its presentation in balance sheet. • develop the skill of calculating interest on • debentures and its accounting treatment. • state the meaning of redemption of debentures.

Part – B:

Unit : Analysis of Financial Statements

Units/Topics	Learning Outcomes
Financial statements of a Company: • **Tools for Financial Statement Analysis:** Comparative statements, common size statements.	**After going through this Unit, the students will beable to:** • develop the understanding and skill of preparation of comparative and common sizefinancial statements.

Unit : Cash Flow Statement

Units/Topics	Learning Outcomes
• Meaning, objectives and preparation (as perAS 3 (Revised) (Indirect Method only) ***Note:*** ***(i)*** *Adjustments relating to depreciation and amortization, profit or loss on sale of assets includinginvestments, dividend (both final and interim) and tax.* ***(ii)*** *Bank overdraft and cash credit to be treated asshort term borrowings.* ***(iii)*** *Current Investments to be taken as Marketable securities unless otherwise specified.*	**After going through this Unit, the students willbe able to:** • state the meaning and objectives of cash flow statement. • develop the understanding of preparation of Cash Flow Statement using indirect methodas per AS 3 with given adjustments.

Note: *Previous years' Proposed Dividend to be given effect, as prescribed in AS-4, Events occurring after the Balance Sheet date. Current years' Proposed Dividend will be accounted for in the next year after it is declaredby the shareholders.*

OR

Part B: Computerised Accounting

Unit : Computerised Accounting

Using Computerized Accounting System.

- Steps in installation of CAS, codification and Hierarchy of account heads, creation of accounts.
- Data: Entry, validation and verification.
- Adjusting entries, preparation of balance sheet, profit and loss account with closing entries and opening entries.
- Need and security features of the system.

Database Management System (DBMS)

- Concept and Features of DBMS.
- DBMS in Business Application.
- Generating Accounting Information – Payroll.

Part C: Practical Work

Students would prepare only ONE project in the entire academic session, which is divided into two terms i.e. Term – I and Term – II

Detailed guidelines for project work are as follows-

Students need to create **one specific project** only in which they would be required to cover the company profile, assessment of financial

statements, and specific report analysis. The main objective of preparing the project report is for the following reason:

1. Students are able to state the meaning, objectives, and limitations of financial statement analysis.
2. Study the proper use of different tools of 'financial statements analysis' like comparative analysis, Ratios and Cash flow statement.
3. Capable to create Comparative Statements and Common Size Statement.
4. Understand the Meaning, objective, advantage, and limitation of Accounting Ratios.

TERM -I

PARTICULARS	**MAXIMUM MARKS**
Written Test (based on Project – Accounting Ratios)	**6**
Practical file	**2**
Viva (Ratio Analysis)	**2**

TERM -II

PARTICULARS	**MAXIMUM MARKS**
Written Test (based on Comparative Statements and Common Size Statement and Cash Flow statement)	**6**
Practical file	**2**
Viva (Comparative Statements and Common Size Statement and Cash flow Statement)	**2**

Prescribed Books:

Financial Accounting -I	Class XI	NCERT Publication
Accountancy -II	Class XI	NCERT Publication
Accountancy -I	Class XII	NCERT Publication
Accountancy -II	Class XII	NCERT Publication
Accountancy – Computerised Accounting System	Class XII	NCERT Publication

Subject - Economics (030)

CLASS XII - TERM-WISE CURRICULUM

TERM 1 - MCQ BASED QUESTION PAPER **Theory: 40 Marks** **Time: 90 minutes**	**Marks**	**Periods**
Part A: Introductory Macroeconomics		
▪ Money and Banking	6	8
▪ Government Budget and the Economy	6	15
▪ Balance of Payments	6	7
Sub Total	18	30
Part B: Indian Economic Development		
▪ Development Experience (1947-90) and Economic Reforms since 1991: ● Indian Economy on the eve of Independence ● Indian Economy (1950-90) ● Liberalisation, Privatisation and Globalisation : An Appraisal	12	28
▪ Current challenges facing Indian Economy ● Poverty ● Human Capital Formation ● Rural development	10	17
Sub Total	22	45
Total	40	75
Project Work (Part 1): 10 Marks		

Students would prepare only ONE project in the entire academic session, which is divided into 2 terms i.e. Term I and Term II.

Term 1

Part A: Introductory Macroeconomics

Unit 2: Money and Banking **8 Periods**

Money - meaning and supply of money - Currency held by the public and net demand deposits held by commercial banks.

Money creation by the commercial banking system.

Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit

Unit 4: Government Budget and the Economy **15 Periods**

Government budget - meaning, objectives and components.
Classification of receipts - revenue receipts and capital receipts; classification of expenditure – revenue expenditure and capital expenditure.

Measures of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.

Unit 5: Balance of Payments **7 Periods**

Balance of payments account - meaning and components;
Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

Part B: Indian Economic Development

Unit 6: Development Experience (1947-90) and Economic Reforms since 1991 **28 Periods**

A brief introduction of the state of Indian economy on the eve of independence.
Indian economic system and common goals of Five Year Plans.
Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.

Economic Reforms since 1991:
Features and appraisals of liberalisation, globalisation and privatisation (LPG policy);
Concepts of demonetization and GST

Unit 7: Current challenges facing Indian Economy **17 Periods**

Poverty- absolute and relative; Main programmes for poverty alleviation: A critical assessment;

Human Capital Formation: How people become resource; Role of human capital in economic development;

Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification;

TERM 2 - SUBJECTIVE QUESTION PAPER **Theory: 40 Marks** **Time: 2 Hours**	**Marks**	**Periods**
Part A: Introductory Macroeconomics		
▪ National Income and Related Aggregates	10	23
▪ Determination of Income and Employment	12	22
Sub Total	22	45
Part B: Indian Economic Development		
▪ Current challenges facing Indian Economy ● Employment ● Infrastructure ● Sustainable Economic Development	12	18
▪ **Development Experience of India – A Comparison with Neighbours-** ● Comparative Development Experience of India and its Neighbours	06	12
Sub Total	18	30
Total	40	75
Project Work: 10 Marks		

Term – II

Part A: Introductory Macroeconomics

Unit 1: National Income and Related Aggregates **23 Periods**

What is Macroeconomics?

Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

Aggregates related to National Income:

Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP.
GDP and Welfare

Unit 3: Determination of Income and Employment **22 Periods**

Aggregate demand and its components.

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

Short-run equilibrium output; investment multiplier and its mechanism.

Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Part B: Indian Economic Development

Unit 7: Current challenges facing Indian Economy **18 Periods**

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

Infrastructure: Meaning and Types: Case Studies: Health: Problems and Policies- A critical assessment;

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

Unit 8: Development Experience of India: **12 Periods**

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

Part C: Project in Economics **15 Periods**

Prescribed Books:

1. Statistics for Economics, NCERT
2. Indian Economic Development, NCERT
3. Introductory Microeconomics, NCERT
4. Macroeconomics, NCERT
5. Supplementary Reading Material in Economics, CBSE

Subject - Business Studies (054)

CLASS–XII (2021-22) TERM WISE CURRICULUM

Units	TERM 1- MCQ BASED QUESTION PAPER THEORY - 40 MARKS DURATION: 90 MINUTES	Periods	Marks
Part A	**Principles and Functions of Management**		
1.	Nature and Significance of Management	12	16
2	Principles of Management	11	
3	Business Environment	08	
4	Planning	08	14
5	Organising	10	
	Total	**49**	**30**
Part B	**Business Finance and Marketing**		
11	Marketing Management	24	10
	Total	**24**	**10**
	Total	**73**	**40**
	PROJECT WORK (PART 1)		**10**

Term 1:

Part A: Principles and Functions of Management

Unit 1: Nature and Significance of Management

Concept	After going through this unit, the student/ learner would be able to:
Management - concept, objectives, and importance	• Understand the concept of management. • Explain the meaning of 'Effectiveness and Efficiency. • Discuss the objectives of management. • Describe the importance of management.
Management as Science, Art and Profession	• Examine the nature of management as a science, art and profession.
Levels of Management	• Understand the role of top, middle and lower levels of management
Management functions-planning, organizing, staffing, directing and controlling	• Explain the functions of management
Coordination- concept and importance	• Discuss the concept and characteristics of coordination. • Explain the importance of coordination.

Unit 2: Principles of Management

Principles of Management- concept and significance	• Understand the concept of principles of management. • Explain the significance of management principles.
Fayol's principles of management	• Discuss the principles of management developed by Fayol.
Taylor's Scientific management- principles and techniques	• Explain the principles and techniques of 'Scientific Management'.

Unit 3: Business Environment

Business Environment- concept and importance	• Understand the concept of 'Business Environment'. • Describe the importance of business environment
Dimensions of Business Environment- Economic, Social, Technological, Political and Legal	• Describe the various dimensions of 'Business Environment'.

Unit 4: Planning

Planning: Concept, importance and limitation	• Understand the concept of planning. • Describe the importance of planning. • Understand the limitations of planning.
Planning process	• Describe the steps in the process of planning.

Unit 5: Organising

Organising: Concept and importance	• Understand the concept of organizing as a structure and as a process. • Explain the importance of organising.
Organising Process	• Describe the steps in the process of organizing
Structure of organisation- functional and divisional concept	• Describe functional and divisional structures of organisation.
Delegation: concept, elements and importance	• Understand the concept of delegation. • Describe the elements of delegation. • Appreciate the importance of Delegation.
Decentralization: concept and importance	• Understand the concept of decentralisation. • Explain the importance of decentralisation. • Differentiate between delegation and decentralisation.

Part B: Business Finance and Marketing

Unit 11: Marketing

Marketing – Concept, functions and philosophies - Product, Prize and Standard	• Understand the concept of marketing. • Discuss the functions of marketing.

	• Explain the marketing philosophies.
Marketing Mix – Concept and elements	• Understand the concept of marketing mix. • Describe the elements of the marketing mix.
Product - branding, labelling and packaging – Concept	• Understand the concept of product as an element of marketing mix. • Understand the concepts of branding, labelling and packaging.
Price - Concept, Factors determining price	• Understand the concept of price as an element of marketing mix. • Describe the factors determining price of a product.
Physical Distribution – concept	• Understand the concept of physical distribution.
Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations	• Understand the concept of promotion as an element of marketing mix. • Describe the elements of the promotion mix. • Understand the concept of advertising and personal selling • Understand the concept of sales promotion. • Discuss the concept of public relations.

PROJECT WORK IN BUSINESS STUDIES (ONLY ONE PROJECT): GUIDELINES AS GIVEN IN CLASS XII CURRICULUM

BUSINESS STUDIES-(CODE-054)

CLASS–XII (2021-22) - TERM WISE CURRICULUM

Units	TERM-2 SUBJECTIVE QUESTION PAPER Theory- 40 Marks DURATION:-2 Hrs	Periods	Marks
Part A	**Principles and Functions of Management**		
6	Staffing	13	20
7	Directing	09	
8	Controlling	07	
	Total	**29**	**20**
Part B	**Business Finance and Marketing**		
9	Financial Management	20	15
10	Financial Markets	18	
12	Consumer Protection	05	5
	Total	**43**	**20**
	Total	**72**	**40**
	PROJECT WORK (PART – 2)		10

Term 2: **Principles and Functions of Management**

Unit 6: Staffing

Staffing: Concept and importance	• Understand the concept of staffing. • Explain the importance of staffing
Staffing process	• Describe the steps in the process of staffing
Recruitment process	• Understand the meaning and steps in the process of recruitment. • Discuss the sources of recruitment.
Selection – process	• Understand the meaning of selection. • Describe the steps involved in the process of selection.
Training and Development - Concept and importance, Methods of training - on the job and off the job - vestibule training, apprenticeship training and internship training	• Understand the concept of training and development. • Appreciate the importance of training to the organisation and to the employees. • Discuss on the job and off the job methods of training. • Discuss the meaning of vestibule training, apprenticeship training and internship training. • Differentiate between training and development.

Unit 7: Directing

Directing: Concept and importance	● Describe the concept of directing. ● Discuss the importance of directing
Elements of Directing	● Describe the various elements of directing
Motivation - concept, Maslow's hierarchy of needs, Financial and non-financial incentives	● Understand the concept of motivation. ● Develop an understanding of Maslow's Hierarchy of needs. ● Discuss the various financial and non-financial incentives.
Leadership - concept, styles - authoritative, democratic and laissez faire	● Understand the concept of leadership. ● Understand the various styles of leadership.
Communication - concept, formal and informal communication;	● Understand the concept of communication ● Discuss the concept of formal and informal communication.

Unit 8: Controlling

Controlling - Concept and importance	● Understand the concept of controlling. ● Explain the importance of controlling.
Steps in process of control	● Discuss the steps in the process of controlling.

Part B: Business Finance and Marketing

Unit 9: Financial Management

Financial Management: Concept, role and objectives	● Understand the concept of financial management. ● Explain the role of financial management in an organisation. ● Discuss the objectives of financial management
Financial decisions: investment, financing and dividend- Meaning and factors affecting	● Discuss the three financial decisions and the factors affecting them.
Financial Planning - concept and importance	● Describe the concept of financial planning. ● Explain the importance of financial planning.
Capital Structure – concept and factors affecting capital structure	● Understand the concept of capital structure. ● Describe the factors determining the choice of an appropriate capital structure of a company.
Fixed and Working Capital - Concept and factors affecting their requirements	● Understand the concept of fixed and working capital. ● Describe the factors determining the requirements of fixed and working capital.

Unit 10: Financial Markets

Financial Markets: Concept, Functions and types	• Understand the concept of the financial market. • Explain the functions of the financial market. • Understand capital market and money market as types of financial markets.
Money market and its instruments	• Understand the concept of the money market. • Describe the various money market instruments.
Capital market: Concept, types (primary and secondary), methods of floatation in the primary market	• Discuss the concept of capital market. • Explain primary and secondary markets as types of capital market. • Differentiate between capital market and money market. • Discuss the methods of floating new issues in the primary market. • Distinguish between primary and secondary markets.
Stock Exchange – Meaning, Functions and trading procedure	• Give the meaning of a stock exchange. • Explain the functions of a stock exchange. • Discuss the trading procedure in a stock exchange. • Give the meaning of depository services and demat account as used in the trading procedure of securities.
Securities and Exchange Board of India (SEBI) - objectives and functions	• State the objectives of SEBI. • Explain the functions of SEBI.

Unit 12: Consumer Protection

Concept and importance of consumer protection	• Understand the concept of consumer protection. • Describe the importance of consumer protection. • Discuss the scope of Consumer Protection Act, 2019
The Consumer Protection Act, 2019: Source: http://egazette.nic.in/WriteReadData/2019/210422.pdf Meaning of consumer Rights and responsibilities of consumers Who can file a complaint? Redressal machinery Remedies available	Understand the concept of a consumer according to the Consumer Protection Act, 2019. • Explain the consumer rights • Understand the responsibilities of consumers • Understand who can file a complaint and against whom? • Discuss the legal redressal machinery under Consumer Protection Act, 2019. • Examine the remedies available to the consumer under Consumer Protection Act,2019s
Consumer awareness - Role of consumer organizations and Non-Governmental Organizations (NGOs)	• Describe the role of consumer organizations and NGOs in protecting consumers' interests.

PROJECT WORK IN BUSINESS STUDIES (ONLY ONE PROJECT): GUIDELINES AS GIVEN IN CLASS XII CURRICULUM

Subject - Political Science (028)

Class XII (2021-22)
TERM WISE SYLLABUS

TERM- 1 **40 Marks**

Units	Contents	WEIGHTAGE (IN MARKS)
Part A: Contemporary World Politics		
1	Cold War Era and Non–aligned Movement	6
2	The End of Bipolarity	8
3	United Nations and its Organizations	6
Part B: Politics in India Since Independence		
4	Challenges of Nation-Building	08
5	Planning and Development	04
6	India's Foreign Policy	08
	Total	**40**

TERM- 2 **40 Marks**

Units	Contents	WEIGHTAGE (IN MARKS)
Part A: Contemporary World Politics		
7	New Centers of Power	08
8	South Asia and the Contemporary World	06
9	Globalization	06
Part B: Politics in India Since Independence		
10	Parties and the Party Systems in India	06
11	Democratic Resurgence	06
12	Indian Politics: Trends and Developments	08
	Total	**40**

Project Work* = 20 Marks

***See the guidelines given with the document.**

Grand Total = Term I = 40 Marks
Term II = 40 Marks
Project Work = 20 Marks

= **100 Marks**

Subject - Geography (029)

Class XII (2021-22)

Term wise Syllabus

COURSE CONTENT TERM I

MARKS : 35

		Weightage (In Marks)
Part A:	**Fundamentals of Human Geography**	**15 Marks**
Unit I:	**Human Geography:** Nature and Scope	3
Unit II:	**People** • Population - distribution, density and growth • Population change - spatial patterns and structure; determinants of population change • Human development - concept; selected indicators, international comparisons	7
Unit III:	**Human Activities** • Primary activities - concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agricultural and allied activities - some examples from selected countries	5
Part B:	**India: People and Economy**	**15 Marks**
Unit I:	**People** • Population: distribution, density and growth • Migration: International and national-Types causes and consequences	5
Unit II:	**Human Settlements** • Rural settlements - types and distribution • Urban settlements - types, distribution and functional classification	5
Unit III:	**Resources and Development** • Water resources - availability and utilization-irrigation, domestic,	5

	industrial and other uses; scarcity of water and conservation methods-rain water harvesting and watershed management	
Map Work on identification of features based on 1-5 units on the outline Political map of World.		**5**
Part C:	**Practical Work**	**15 Marks**
Unit 1:	**Processing of Data and Thematic Mapping** Processing of Data and Thematic Mapping Type and Sources of data: Primary, Secondary and other sources Tabulating and processing of data; calculation of averages, measures of central tendency	

COURSE CONTENT TERM II

MARKS : 35
Weightage (In Marks)

Part A:	**Fundamentals of Human Geography**	**15 Marks**
Unit III:	**Human Activities** • Secondary activities-concept; manufacturing: types - household, small scale, large scale; agro based and mineral based industries; people engaged in secondary activities - some examples from selected countries • Tertiary activities-concept; trade, transport and tourism; services; people engaged in tertiary activities - some examples from selected countries • Quaternary activities-concept; people engaged in quaternary activities - case study from selected countries	9
Unit IV:	**Transport and Communication** • Land transport - roads, railways; trans-continental railways • Water transport - inland waterways; major ocean routes • Air transport - Intercontinental air routes • Oil and gas pipelines • Satellite communication and cyberspace - importance and usage for geographical information; use of GPS	6
Part B:	**India: People and Economy**	**15 Marks**
Unit III:	**Resources and Development** • Mineral and energy resources - distribution of metallic (Iron ore, Copper, Bauxite, Manganese); non-metallic (Mica, Salt) minerals; conventional (Coal, Petroleum, Natural gas and Hydroelectricity) and non-conventional energy sources (solar, wind, biogas) and conservation • Planning in India - target group area planning (case study); idea of sustainable development (case study)	7
Unit IV:	**Transport and Communication** • Transport and communication-roads, railways, waterways and airways: oil and gas pipelines; Geographical information and communication networks	4
Unit V:	**Geographical Perspective on selected issues and problems**	4

	• Environmental pollution; urban-waste disposal • Urbanization, rural-urban migration; problems of slums • Land degradation	
Map work on locating and labelling of features based on above units on outline map of India.		5
Part C:	**Practical Work**	**15 Marks**
Unit 1:	**Processing of Data and Thematic Mapping** • Representation of data- construction of diagrams: Lines, bars, circles and flowchart; thematic maps; construction of dot; choropleth and isopleth maps • Data analysis and generation of diagrams, graphs and other visual diagrams using computers	

Prescribed Books:

1. Fundamentals of Human Geography, Class XII, Published by NCERT
2. India - People and Economy, Class XII, Published by NCERT
3. Practical Work in Geography, Class XII, Published by NCERT

Note: The above textbooks are also available in Hindi medium.

Fundamentals of Human Geography
Class XII - Textbook I (NCERT)
Map Items for identification only on outline political map of the World.

Unit-1	Ch.-1	Nil	
Unit-2	Ch. 2 and 4	1	The largest country in each continent in terms of area
Unit-3	Ch. 5 to 8	1	Areas of subsistence gathering
	Primary Activities	2	Major areas of nomadic herding of the world
		3	Major areas of commercial livestock rearing
		4	Major areas of extensive commercial grain faming
		5	Major areas of mixed farming of the World
		6	Major areas of Mediterranean agriculture of the World
	Secondary Activities	1	Ruhr region, Silicon Valley, Appalachian region, Great lakes region
Unit - 4	Ch. 8	2	Transcontinental Railways: Terminal Stations of transcontinental railways – Trans Siberian, Trans Canadian, Tran Australian Railways
		3	Major Sea Ports: Europe: North Cape, London, Hamburg North America: Vancouver, San Francisco, New Orleans South America: Rio De Janeiro, Colon, Valparaiso Africa: Suez, Durban and Cape Town Asia: Yokohama, Shanghai, Hong Kong, Aden, Karachi, Kolkata Australia: Perth, Sydney, Melbourne
		4.	Inland Waterways: Suez Canal, Panama Canal, Rhine waterway and St. Lawrence Seaway
		5.	Major Airports: Asia: Tokyo, Beijing, Mumbai, Jedda, Aden Africa: Johannesburg & Nairobi Europe: Moscow, London, Paris, Berlin and Rome North America: Chicago, New Orleans, Mexico City South America: Buenos Aires, Santiago Australia: Darwin and Wellington
Unit - 5	Ch. 10		Mega cities of the world – Tokyo, Delhi, Shanghai, Mumbai, São Paulo

India - People and Economy
Class XII-Textbook II (NCERT)
Map Items for locating and labelling only on the outline political map of India

Units - 1 & 2	Ch. 1 to 4	• State with highest level of urbanization and lowest level of urbanization • State with higher level of population density & one state with lowest level of population density • One out migrating state • One in migrating state • Any city with more than 10 million population – Greater Mumbai, Delhi, Kolkata, Chennai, Bengaluru
Unit - 3	Ch. 6 to 9	Leading producing states of the following crops: **Mines:** • Iron-ore mines: Mayurbhanj, Bailadila, Ratnagiri, Bellary • Manganese mines: Balaghat, Shimoga • Copper mines: Hazaribagh, Singhbhum, Khetri • Bauxite mines: Katni, Bilaspur and Koraput • Coal mines: Jharia, Bokaro, Raniganj, Neyveli • Oil Refineries: Mathura, Jamnagar, Baroni Industries
Unit - 9	Ch. 10	Transport: (i) Important nodes on north south corridor, east west corridor & Golden Quadrilateral
Unit-10	Ch.12	NIL

Subject - History (027)

Class XII(2021-22)
THEMES IN INDIAN HISTORY (PART-I, II&III)

TERM I

S.NO.	THEMES	WEIGHTAGE (IN MARKS)
1.	Theme 1 - Bricks, Beads and Bones	25
2.	Theme 2 - Kings, Farmers and Towns	
3.	Theme 3 -Kinship, Caste and Class	
4.	Theme 4 -Thinkers, Beliefs and Buildings	
5.	Theme 6 - Bhakti –Sufi Traditions	15
6.	Theme 7 - An Imperial Capital: Vijayanagara	
	Total	**40**

TERM-II

S.NO	THEMES	WEIGHTAGE (IN MARKS)
7.	Theme 9 - Kings and Chronicles	10
8.	Theme 10 - Colonialism and The Countryside (HALF)pg-257-274	30
9.	Theme 11 - Rebels and the Raj	
10.	Theme 13 - Mahatma Gandhi and the Nationalist Movement	
11.	Theme 15 - Framing the Constitution	
	Total	**40**

*** Map work included in both the terms**

Project Work* = 20 Marks (10+10)

***See the guidelines given with the document.**

Grand Total = Term I = 40 Marks

Term II = 40 Marks

Project Work = 20 Marks

= **100 Marks**

Subject - Physical Education (048)

DISTRIBUTION OF SYLLABUS – CLASS XII – 2021-2022
TERM - I AND TERM - II

TERM I – THEORY MCQ BASED - 35 MARKS		TERM II – THEORY SHORT/LONG ANSWER – 35 MARKS	
***Unit No.**	**Name**	***Unit No.**	**Name**
1	Planning in Sports • Meaning & Objectives Of Planning • Various Committees & its Responsibilities (pre; during & post) • Tournament – Knock-Out, League Or Round Robin & Combination • Procedure To Draw Fixtures – Knock-Out (Bye & Seeding) & League (Staircase & Cyclic)	**3**	Yoga & Lifestyle • Asanas as preventive measures • Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, Ardh Matsyendrasana • Diabetes: Procedure, Benefits & contraindications for Bhujangasana, Paschimottasana , Pavan Muktasana, Ardh Matsyendrasana • Asthma: Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana • Hypertension: Tadasana, Vajrasana, Pavan Muktasana, Ardha Chakrasana, Bhujangasana, Sharasana
2	Sports & Nutrition • Balanced Diet & Nutrition: Macro & Micro Nutrients • Nutritive & Non-Nutritive Components Of Diet • Eating For Weight Control – A Healthy Weight, The Pitfalls of Dieting, Food	**4**	Physical Education & Sports for CWSN (Children with Special Needs - DIVYANG) • Concept of Disability & Disorder • Types of Disability, its causes & nature (cognitive disability, intellectual

	Intolerance & Food Myths		disability, physical disability) - Types of Disorder, its cause & nature (ADHD, SPD, ASD, ODD, OCD) - Disability Etiquettes - Strategies to make Physical Activities assessable for children with special need.
5	Children & Women in Sports - Motor development & factors affecting it - Exercise Guidelines at different stages of growth & Development - Common Postural Deformities - Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scoliosis and their corrective measures - Sports participation of women in India	**7**	Physiology & Injuries in Sports ● Physiological factor determining component of Physical Fitness ● Effect of exercise on Cardio Respiratory System ● Effect of exercise on Muscular System ● Sports injuries: Classification (Soft Tissue Injuries:(Abrasion, Contusion, Laceration, Incision, Sprain & Strain) Bone & Joint Injuries: (Dislocation, Fractures: Stress Fracture, Green Stick, Communated, Transverse Oblique & Impacted) Causes, Prevention& treatment ● First Aid – Aims & Objectives
6	Test & Measurement in Sports ○ Motor Fitness Test – 50 M Standing Start, 600 M Run/Walk, Sit & Reach, Partial Curl Up, Push Ups (Boys), Modified Push Ups (Girls), Standing Broad Jump, Agility – 4x10 M Shuttle Run ○ Measurement of Cardio Vascular Fitness – Harvard Step Test/Rockport Test - $\frac{\text{Duration of the Exercise in Seconds} \times 100}{5.5 \times \text{Pulse count of 1-1.5 Min after Exercise}}$	**9**	Psychology & Sports ● Personality; its definition & types – Trait & Types (Sheldon & Jung Classification) & Big Five Theory ● Motivation, its type & techniques ● Meaning, Concept & Types of Aggressions in Sports

	○ Rikli & Jones - Senior Citizen Fitness Test		
8	Biomechanics & Sports ● Meaning and Importance of Biomechanics in Sports ● Types of movements (Flexion, Extension, Abduction & Adduction) ● Newton's Law of Motion & its application in sports	**10**	Training in Sports ● Strength – Definition, types & methods of improving Strength – Isometric, Isotonic & Isokinetic ● Endurance - Definition, types & methods to develop Endurance – Continuous Training, Interval Training & Fartlek Training ● Speed – Definition, types & methods to develop Speed – Acceleration Run & Pace Run ● Flexibility – Definition, types & methods to improve flexibility ● Coordinative Abilities – Definition & types

TERM I – PRACTICAL		**TERM II – PRACTICAL**	
Project File (About one sport/game of choice)	05 Marks	Project File (Yoga and General Motor Fitness Test)	05 Marks
Demonstration of Fitness Activity	05 Marks	Demonstration of Fitness Activity/Yoga	05 Marks
Viva Voce (From Project File; Fitness)	05 Marks	Viva Voce (From Project File; General Motor Fitness; Yoga)	05 Marks

***For resource material refer Class XII Physical Education Handbook available at Board's Academic website: www.cbseacademic.nic.in**

Subject - Computer Science (083)

1. Prerequisites

Computer Science- Class XI

2. Learning Outcomes

Student should be able to

a) apply the concept of function.

b) explain and use the concept of file handling.

c) use basic data structure: Stacks.

d) explain basics of computer networks.

e) use Database concepts, SQL along with connectivity between Python and SQL.

3. Distribution of Marks:

Unit No.	Unit Name	Marks	Periods	
			Theory	Practical
I	Computational Thinking and Programming - 2	40	50	25
II	Computer Networks	10	10	---
III	Database Management	20	20	15
	Total	70	80	40

Unit No	Unit Name	Term-1	Term-2
I	Computational Thinking and Programming - 2	35	5
II	Computer Networks	---	10
III	Database Management	---	20
	Total	35	35

4. Unit wise Syllabus

TERM 1:

Unit I: Computational Thinking and Programming – 2

- Revision of Python topics covered in Class XI.
- Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope)
- Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths
- Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(), seek and tell methods, manipulation of data in a text file
- Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file
- CSV file: import csv module, open / close csv file, write into a csv file using csv.writerow() and read from a csv file using csv.reader( )

TERM 2:

Unit I: Computational Thinking and Programming – 2

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

Unit II: Computer Networks

- Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)
- Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
- Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves

- Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
- Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)
- Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP
- Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting

Unit III: Database Management

- Database concepts: introduction to database concepts and its need
- Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)
- Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command

- Aggregate functions (max, min, avg, sum, count), group by, having clause, joins :Cartesian product on two tables, equi-join and natural join
- Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount, creating database connectivity applications

5. Practical

S.No		Marks (Total 30)	Term-1 (15 Marks)	Term-2 (15 Marks)
1	**Lab Test:** 1. Python program	**8**	**6**	**2**
	2. 3 SQL Queries based on one/two table(s), 2 output questions based on SQL queries	**4**	**---**	**4**
2	Report file: Term – 1 : Minimum 15 Python programs based on Term - 1 Syllabus Term – 2 : • Minimum 3 Python programs based on Term-2 Syllabus • SQL Queries – Minimum 5 sets using one table / two tables. • Minimum 2 programs based on Python - SQL connectivity.	**7**	**4**	**3**
3	Project (using concepts learnt in Classes 11 and 12) Term – 1 : Synopsis of the project to be submitted by the students (documentation only, may not submit the code during Term - 1) Term - 2 : Final coding + Viva voce (Student will be allowed to modify their Term 1 document and submit the final executable code.)	**8**	**3**	**5**
4	Viva voce	**3**	**2**	**1**

6. Suggested Practical List:

Term-1

Python Programming

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

Term-2

Python Programming

- Write a Python program to implement a stack using list.

Database Management

- Create a student table and insert data. Implement the following SQL commands on the student table:
    - ALTER table to add new attributes / modify data type / drop attribute
    - UPDATE table to modify data
    - ORDER By to display data in ascending / descending order
    - DELETE to remove tuple(s)
    - GROUP BY and find the min, max, sum, count and average
    - Joining of two tables.
- Similar exercise may be framed for other cases.
- Integrate SQL with Python by importing suitable module.

Database Management

- Create a student table and insert data. Implement the following SQL commands on the student table:
    - ALTER table to add new attributes / modify data type / drop attribute
    - UPDATE table to modify data
    - ORDER By to display data in ascending / descending order
    - DELETE to remove tuple(s)
    - GROUP BY and find the min, max, sum, count and average
- Similar exercise may be framed for other cases.
- Integrate SQL with Python by importing suitable module.

7. Suggested Reading Material

- NCERT Textbook for COMPUTER SCIENCE (Class XII)
- Support Materials on the CBSE website.

8. Project

The aim of the class project is to create something that is tangible and useful using Python file handling/ Python-SQL connectivity. This should be done in groups of two to three students and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve.

Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, of course to do some of these projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves.

The students should be sensitised to avoid plagiarism and violations of copyright issues while working on projects. Teachers should take necessary measures for this.

Subject - Painting (049)

Theory: Term-I 15 Marks, and Term-II 15 Marks **Total: 30 Marks**

Unit wise Weightage

Term	Unit1(a)	Content	Periods	Marks
I	1	The Rajasthani and Pahari Schools of Miniature Painting	18	8
	2	The Mughal and Deccan Schools of Miniature Painting	18	7
II	3	The Bengal School of Painting	18	8
	4	Indian National flag and the Modern Trends in IndianArt	18	7
			72	30

Unit-1	**The Rajasthani and Pahari Schools of Miniature Painting** (16th Century A.D. to 19th Century A.D.) A brief introduction to Indian Miniature Schools: Western- Indian, Pala, Rajasthani, Mughal, Central India, Deccan and Pahari.	**18 Periods**

(a) The Rajasthani School:

1. Origin and Development
2. Sub-Schools-Mewar, Bundi, Jodhpur, Bikaner, Kishangarh and Jaipur
3. Main features of the Rajasthani School
4. Appreciation of the following Rajasthani paintings

Title	Painter	Sub-School
Maru-Ragini	Sahibdin	Mewar
Chaugan Players	Dana	Jodhpur
Krishna on swing	Nuruddin	Bikaner
Radha (Bani- Thani)	Nihal Chand	Kishangarh
Bharat Meets Rama at Chitrakuta	Guman	Jaipur

(b)The Pahari School:

1. Origin anddevelopment
2. Sub-Schools-Basohli, Guler, Kangra, Chamba andGarhwal
3. Main features of the PahariSchool
4. Appreciation of the following Pahari paintings:

Title	Painter	Sub-School
Krishna with Gopis	Manaku	Basohli
Nand, Yashoda and Krishna with Kinsmen Going to Vrindavana	Nainsukh	Kangra

Unit 2

The Mughal and Deccan Schools of Miniature Painting 18 Periods
(16th Century AD to 19th Century A.D.)

(a) The Mughal School

1. Origin and development
2. Main features of the Mughal School
3. Appreciation of the following Mughal Paintings:

Title	**Painter**
Krishna Lifting Mount Govardhana	Miskin
Falcon on a Bird-Rest	Ustad Mansoor
Kabirand Raidas	Ustad Faquirullah Khan
Marriage Procession of Dara Shukoh	Haji Madni

(b) The Deccan School

1. Origin and development
2. Main features of the Deccan School
3. Appreciation of the following Deccan paintings:

Title	Painter	Sub-School
Hazrat Nizamuddin Auliya and Amir Khusro	Unknown	Hyderabad
Chand Bibi Playing Polo (Chaugan)	Unknown	Gol Konda

Term-II

Unit 3	**The Bengal School of Painting and the Modern trends in Indian Art** (About the beginning to mid of the 20th Centuary)	**18 Periods**
(i)	National Flag of India and the Symbolic significance of its forms and the colours.	
(ii)	Introduction to the Bengal School of Painting (i) Origin and development of the Bengal School ofPainting (ii) Main features of the Bengal School ofPainting	

(iii)	Appreciation of the following paintings of the Bengal school: (i) Journey's End – Abanindranath Tagore (ii) Shiv and Sati- Nandla Bose (iii) (Radhika - M.A.R.Chughtai (iv) Meghdoot - Ram Gopal Vijaivargiya Contribution of Indian artists in the struggle for National Freedom Movement.	
Unit-4	**Indian National Flag and the Modern Trends in Indian Art** Appreciation of the following contemporary (Modern) Indian Art	
(i)	**Paintings:** (i) Rama Vanquishing the Pride of the Ocean – Raja Ravi Varma (ii) Mother and child – Jamini Roy (iii) Haldi Grinders - Amrita Sher Gill (iv) Mother Teresa - M.F.Husain	
(ii)	**Graphic - prints:** (i) Children – Somnath Hore (ii) Devi – Jyoti Bhatt (iii) Of Walls - AnupamSud (iv) Man, Woman and Tree - K. Laxma Goud	
(iii)	**Sculptures:** (i) Triumph of Labour - D. P. Roychowdhury (ii) Santhal Family - RamkinkarVaij (iii) Cries Un - heard – Amar Nath Sehgal (iv) Ganesha - P.V. Janaki Ram	

The names of artists and titles of their artworks as listed above are only suggestive and in no way exhaustive. Teachers and students should expand this according to their own resources. However, the questions will be set from the above mentioned artworks only.