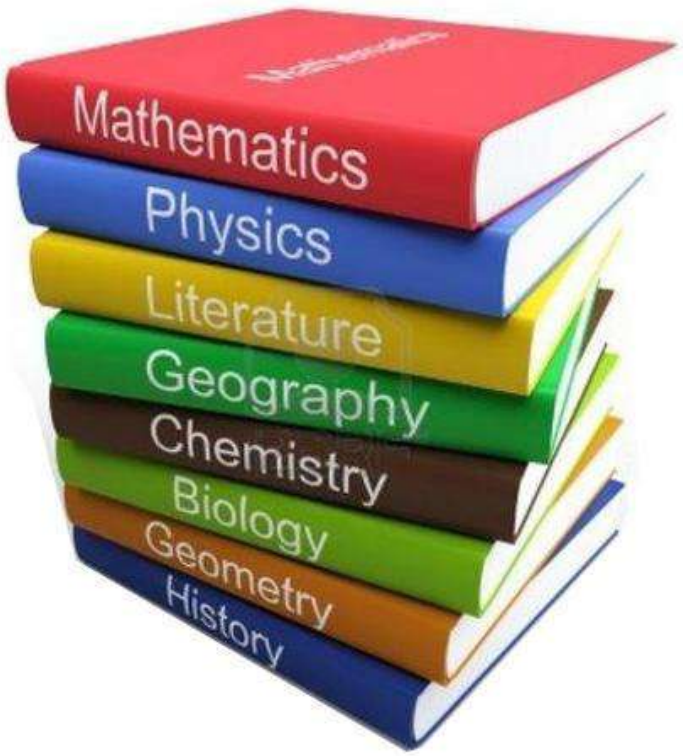
ACADEMIC PLANNER
CLASS 11
SESION 2022-23



ACADEMIC PLAN (2022-2023)

SUBJECT: MATHEMATICS

CLASS XI

One paper **Three Hours** **Max.Marks:80**

S.No.	Topic	Marks
1.	SETS AND FUNCTIONS	23
2.	ALGEBRA	25
3.	COORDINATE GEOMETRY	12
4.	CALCULUS	08
5.	STATISTICS AND PROBABILITY	12
	TOTAL	**80**
	INTERNAL ASSESSMENT	**20**

UNIT- SETS & FUNCTIONS		Weightage	No. of Periods
		23	37
MAY-JULY 2022	➢ **SETS (12 PERIODS)** TEACHING OBJECTIVES**:** The students will be i. Familiar with the terminology used with sets and venn diagrams. ii. Able to perform various operations on sets such as union, intersection, difference etc. iii. Able to apply the various operations to practical problems. SYLLABUS: Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real numbers especially intervals (with notations). Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement.	
JULY-2022	➢ **RELATIONS & FUNCTIONS (10 Periods)** TEACHING OBJECTIVES: The students will be able to i. Compute the Cartesian product of sets. ii. Define a relation. iii. Understand that function is a special type of relation. iv. Find the domain, co-domain and range of a function. v. Draw the graphs of various important functions. vi. Perform the algebraic operations on real functions. SYLLABUS: Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself (upto R x R x R).Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Sum, difference, product and quotients of functions. ➢ **TRIGONOMETRIC FUNCTIONS (15 Periods)**	

JULY-AUGUST 2022	TEACHING OBJECTIVES**:** Upon successful completion of the chapter, a student will be able to: a) Angles i. Measure angles in degrees and radians and convert from one system to the other. ii. Tell the exact radian and degree measures of the special angles. iii. Solve applied problems involving angles, arc length and radius of the circle. b) Trigonometric circle i. State the definitions of sine & cosine of any angle on the unit circle. ii. Give the values of sine and cosine at specific angles on the unit circle. iii. Define tangent, cotangent, secant & cosecant in terms of sine and cosine. iv. Determine which quadrants have positive and negative trigonometric values. v. State and use the fundamental identities relating the trigonometric functions. vi. Graph the six trigonometric functions. c) Analytical trigonometry i. State and use various trigonometric identities: addition, difference, double angle, half angle, product-to-sum, sum-to-product, etc. ii. Solve trigonometric equations. SYLLABUS: Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity sin2x + cos2x = 1, for all x. Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing sin (x±y) and cos (x±y) in terms of sinx, siny, cosx & cosy and their simple applications. Deducing identities like the following: $\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}, \cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\cot y \pm \cot x}$ $\sin\alpha \pm \sin\beta = 2\sin\frac{1}{2}(\alpha \pm \beta)\cos\frac{1}{2}(\alpha \mp \beta)$ $\cos\alpha + \cos\beta = 2\cos\frac{1}{2}(\alpha + \beta)\cos\frac{1}{2}(\alpha - \beta)$ $cos\alpha - cos\beta = -2sin\frac{1}{2}(\alpha + \beta)sin\frac{1}{2}(\alpha - \beta)$ Identities related to sin2*x*, cos2*x*, tan2 *x*, sin3*x*, cos3*x* and tan3*x*.	

UNIT- ALGEBRA		Weightage	No. of Periods
		25	40
AUGUST-2022	➢ **COMPLEX NUMBERS AND QUADRATIC EQUATIONS (06 Periods)** TEACHING OBJECTIVES: The students will be able to i. Perform basic algebraic manipulation with complex numbers. ii. Understand the geometric interpretation of complex numbers. iii. Know methods of finding the n^{th} roots of complex numbers and the solutions of simple polynomial equations. SYLLABUS: Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane.		
AUGUST-2022	➢ **LINEAR INEQUALITIES (06 Periods)** TEACHING OBJECTIVES: The students will be able to i. Give examples for inequalities. ii. Solve linear inequalities in one variable. iii. Find the graphical solution of linear inequalities in two variables. iv. Solve the system of linear inequalities in two variables. SYLLABUS: Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.		

UNIT- CALCULUS		Weightage	No. of Periods
		08	15
AUGUST-2022	➢ **LIMITS AND DERIVATIVES(15 Periods)** TEACHING OBJECTIVES: The students will be able to i. Understand and accept the intuitive idea of limits. ii. Find the limits of polynomial, rational and trigonometric functions.		

	iii. Understand the idea of derivatives of a function. iv. Find the derivatives of simple functions from first principle. v. Find derivatives using algebra of derivatives. SYLLABUS: Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relates it to scope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.	

UNIT- PROBABILITY & STATISTICS	**Weightage**	**No. of Periods**
	12	**16**

SEPTEMBER-2022	➢ **STATISTICS (08 Periods)** TEACHING OBJECTIVES: The students will be able to i. Find the range for a given data. ii. Compute the mean deviation for ungrouped data. iii. Calculate the mean deviation about mean and median for discrete and continuous frequency distributions. iv. Discuss the limitations of mean deviation. v. Find the variance and standard deviation for discrete and continuous frequency distributions. vi. Analyse a frequency distribution. vii. Compare two frequency distributions with same mean. SYLLABUS : Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped data. **END OF TERM 1**	

UNIT- ALGEBRA		Weightage	No. of Periods
		25	40
OCTOBER-2022	➢ **SEQUENCES AND SERIES(12 Periods)** TEACHING OBJECTIVES: The students will be able to i. Form a sequence. ii. Obtain the series corresponding to a sequence. iii. Recognize an arithmetic progression (A.P). iv. Find the general term and the sum of n terms of an A.P. v. Apply arithmetic mean in forming an arithmetic progression. vi. Recognize a geometric progression. vii. Find the general term and the sum to n terms of a G.P. viii. Find the geometric mean between two numbers. ix. Derive the relation between A.M and G.M. x. Deduce the sum to n terms of some special series. SYLLABUS: Sequence and Series. Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.		

UNIT- ALGEBRA		Weightage	No. of Periods
		25	40
NOVEMBER-2022	➢ **PERMUTATIONS AND COMBINATIONS(10 Periods)** TEACHING OBJECTIVES: The students will be able to i. Explain the fundamental principle of counting. ii. Compute factorials and derive the formula for ${}^{n}P_{r}$. iii. Understand the difference between permutation and combination. iv. Relation between ${}^{n}P_{r}$ and ${}^{n}C_{r}$. v. Solve practical problems based on arrangement and selection. SYLLABUS: Fundamental principle of counting. Factorial n. (n!) Permutations and combinations, derivation of Formulae for ${}^{n}P_{r}$and ${}^{n}C_{r}$ and their connections, simple applications.		

NOVEMBER-2022	➢ **BINOMIAL THEOREM(06 Periods)** TEACHING OBJECTIVES: The students will be able to i. State and prove the Binomial Theorem for positive integral values. ii. Explain the pascal's triangle. iii. Compute the value of a given number using Binomial theorem. iv. Find the general and middle terms in a binomial expansion. SYLLABUS: Historical perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, simple applications.	

UNIT- PROBABILITY & STATISTICS	**Weightage**	**No. of Periods**
	12	**16**

NOVEMBER-2022	➢ **PROBABILITY(08 Periods)** TEACHING OBJECTIVES: The students will be able to i. Explain random experiments. ii. Find the sample space. iii. Define an event. iv. Cite examples for the various types of events. v. Describe the following events: a. Complementary event, b. The event 'A or B', c. The event 'A but not B'. vi. Identify mutually exclusive events. vii. Give the exhaustive events of a random experiment. viii. Explain the axiomatic approach to probability. ix. Find probability of an event. SYLLABUS : Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.	

UNIT- COORDINATE GEOMETRY	**Weightage**	**No. of Periods**
	12	**34**

DECEMBER-2022	➢ **STRAIGHT LINES (12 Periods)** TEACHING OBJECTIVES: The students will be able to i. Find the slope of a line. ii. Test the parallelism and perpendicularity of lines in terms of their slopes. iii. Estimate the angle between two lines. iv. Examine the collinearity of three points. v. Express the equation of a line in various forms such as point slope, intercept, normal form etc. vi. Find the distance of a point from a line. vii. Compute distance between two parallel lines. SYLLABUS: Brief recall of two dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form, two-point form, intercept form, Distance of a point from a line.	
DECEMBER-2022	➢ **CONIC SECTIONS (14 Periods)** TEACHING OBJECTIVES: The students will be able to i. Explain how circle, parabola, ellipse and hyperbola form the sections of a cone. ii. Find the standard equations of circle, parabola, ellipse and hyperbola. iii. Find the length of the latus rectum of a parabola, ellipse and hyperbola. iv. Find the eccentricity of an ellipse and hyperbola. v. Solve the practical problems based on conic sections. SYLLABUS: Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.	
JANUARY-2023	➢ **INTRODUCTION TO THREE-DIMENSIONAL GEOMETRY (08 Periods)** TEACHING OBJECTIVES: The students will be able to i. Explain coordinate axes and coordinate planes in three-dimensional space.	

	ii. Find the coordinates of a point in a space. iii. Compute the distance between two points. iv. Apply the section formula in solving the problem. v. Find the mid-point of the line segment joining two points. SYLLABUS: Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points. **FEBRUARY-2023** **REVISION AND DISCUSSION OF SAMPLE PAPERS.** **FINAL TERM EXAMS.**	

POLITICAL SCIENCE (Code No. 028)(2022-23)

Rationale

At the senior secondary level, students who opt for Political Science are given an opportunity to get exposed to the diverse concepts of the discipline helping them to be a global citizen and develop skills to understand, apply and evaluate. At this level, there is a need to enable students to have the skills to engage with political processes that surround them and provide them with an understanding of the historical context that has shaped the present. The different courses expose the students to various streams of the discipline of Political Science: Political Theory, Indian Politics and International Politics. Concerns of the other two streams - Comparative Politics and Public Administration- are accommodated at different places in these courses. In introducing these streams, special care has been taken not to burden the students with the current jargon of the discipline. The basic idea here is to lay the foundations for a serious engagement with the discipline and develop competencies related to Political Science to prepare them for higher education, learning and knowledge.

Competencies and Outcomes:

1. **Indian Constitution at Work:**
   Competency: Understanding, identifying and analyzing the key features, historical processes andworking of the Constitution of India.
   Outcomes: The students will:
   Understand the historical processes and the circumstances in which the Constitution wasdrafted.
Be familiar with the diverse perspectives that guided the makers of the Indian Constitution.
   Identify key features of the Constitution and compare these to other constitutions in theworld.
Analyse the working of the Constitution in real life.

2. **Political Theory:**
   Competency: Understanding, critically evaluating and applying political theory
   Outcomes: After the course the students will:

Understand different themes and thinkers associated with the real life.
Develop the skills for logical reasoning
Meaningfully participate in the issues and concerns of political life surrounding them.

3. **Contemporary World Politics:**
   Competency: Understanding, analyzing the Contemporary World Politics
   Outcomes: After the course the students will:

Understand the contemporary world.
Understand the key political events and processes in the post-cold war era.
Analyze various global institutions, processes and events shaping their lives.

4. **Politics in India after Independence:**
   Competency: Critically evaluate and understand, analyze politics in India after Independence
   Outcomes: After the course the students will:
   Understand and analyze constitutional institutions, figures and their working in the post-independence period; political events, trends, other facts and figures and contribution of eminent personalities from the post-independence to contemporary India.
Develop their capacity to link political policies and processes with contemporary realities.
Encourage the students to understand and analyse the challenges for contemporary India.

POLITICAL SCIENCE (028)
Class XI (2022-23)

Total Marks = 100(80+20)

A. Theory **Max Marks: 80**
Time: 3 hrs.

Part A: Indian Constitution at Work

Units	Contents	Marks
1	Constitution	12
2	Election and Representation	10
3	The Legislature	
4	The Executive	08
5	The Judiciary	
6	Federalism	10
7	Local Governments	
	Total	**40**

Part B: Political Theory

Units	Contents	Marks
8	Political Theory: An Introduction	04
9	Liberty	10
10	Equality	
11	Justice	08
12	Rights	
13	Citizenship	10
14	Nationalism	
15	Secularism	08
	Total	**40**

B. Project Work: **20 Marks**

COURSE CONTENT

Part A: Indian Constitution at Work

MAY

1. Constitution **28Periods**

Constitution: Why and How, The Making of the Constitution, Fundamental Rights and Duties, DirectivePrinciples of State Policy, constitutional Amendments.

JULY

2. Election and Representation **12 Periods**

Elections and Democracy, Election System in India, Electoral Reforms.

3. Legislature **16 Periods**

Why do we need a Parliament? Unicameral / Bicameral Legislature. Functions and Power of the Parliament, Parliamentary committees. Parliamentary Officials: Speaker, Deputy Speaker, Parliamentary Secretary.

4. Executive **16 Periods**

What is an Executive? Different Types of Executive. Parliamentary Executive in India, Prime Minister andCouncil of Ministers. Permanent Executive: Bureaucracy.

AUGUST

5. Judiciary **16 Periods**

Why do we need an Independent Judiciary? Structure of the Judiciary, Judicial Review, Judicial Activism,Judicial Over-reach.

6. Federalism **14 Periods**

What is Federalism? Evolution & Growth of the Indian Federalism: Quasi Federalism, Cooperative Federalism & Competitive Federalism.

7. Local Governments **12 Periods**

Why do we need Local Governments? Growth of Local Government in India, 73rd and 74th Amendments, Working and Challenges of Local Governments.

Part B: Political Theory

SEPTEMBER

8. Political Theory: An Introduction **08 Periods**

What is Politics? Politics V/s Political Theory, Importance of Political Theory.

9. Liberty **12 Periods**

Liberty V.s Freedom, Negative and Positive Liberty.

OCTOBER

10. Equality **12 Periods**

What is Equality? Significance of Equality. Various dimensions of Equality. How can we promote Equality?

11. Justice **14 Periods**

What is Justice? Different dimensions of Justice, Distributive Justice.

NOVEMBER

12. Rights **14 Periods**

What are Rights? Where do Rights come from? Legal Rights and the State. Kinds of Rights.Human Rights.

13. Citizenship **12 Periods**

What is citizenship? Citizen and Citizenship, Citizen and Nation, Global Citizenship

DECEMBER-JANUARY

14. Nationalism **16 Periods**

Nations and Nationalism, Variants of Nationalism, Nationalism, Pluralism and Multiculturalism.

15. Secularism **18 Periods**

What is Secularism? What is Secular State? The Western and the Indian perspectives to Secularism. SalientFeatures of Indian Secularism.

FEBRUARY-MARCH
*REVISION AND FINAL EXAMINATIONS

Prescribed Books:

1. Indian Constitution at work, Class XI, Published by NCERT
2. Political Theory, Class XI, Published by NCERT
3. Reference Material available with the document

Note: The above textbooks are also available in Hindi and Urdu versions.

Question Paper Design (2022-23) POLITICAL SCIENCE (CODE NO. 028) CLASS XI TIME: 3 Hours Max. Marks: 80	
S.No.	**Competencies**
1	**Demonstrative Knowledge + Understanding** (Knowledge based simple recall questions, toknow specific facts, terms, concepts, principles or theories, identify, define, or recite, information) (Comprehension – to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase information)
2	**Knowledge / Conceptual Application** (Use abstract information in concrete situation, to apply knowledge to new situations; use given content to interpret a situation, provide anexample or solve a problem)
3	**Formulation Analysis, Evaluation and Creativity** Analysis & Synthesis- classify, compare, contrast, or differentiate between different pieces of information; organize and/or integrate unique pieces of information from a variety of sources; includes map interpretation

Project Work: 20 Marks

Details of Project Work

1. The Project work will be implemented for 20 Marks.
2. Out of 20 marks, 10 marks are to be allotted to viva voce and 10 marks for project work.
3. For class XII, the evaluation for 20 marks project work should be done jointly by the internal as well as the external examiners.
4. The project can be individual/pair/group of 4-5 each. The Project can be made on the topics given in the syllabus of a particular class.
5. The suggestive list of activities for project work is as follows: -

   Role Play, Skit, Presentation, Model, Field Survey, Mock Drills/Mock Event etc.
6. The teacher should give enough time for preparation of the Project Work. The topics for Project Work taken up by the student must be discussed by the teacher in classroom.

Sub-Unit: Constitutional Amendments

As of 2021, there have been total 105 amendments of the Constitution of India.Source :

https://legislative.gov.in/amendment-acts-102-to-onwards

Unit - 2: Election and Representation Sub-Unit:

'Electoral Reforms in Indian Politics'

Electoral Reforms in the 21st Century include use of EVM [Electronic Voting Machine], VVPAT [Voter Verifiable Paper AuditTrail] and NOTA [None of the Above]. Restriction on exit polls, ceiling on election expenditure (Rs.50- 70 Lakhs forthe Lok Sabha election and Rs. 20-28 Lakhs for the Assembly election) and the use electoral bonds in election funding are some of the major reforms initiated by the Election Commission of India that have sought to bring about revolutionary changes in the electoral process and the voter behaviour in contemporary India.

Unit- 5: Judiciary

Sub-Unit: 'Judicial Over reach'

When judiciary assumes the roles and functions of the legislature and executive, thus diluting the concept of separation of powers, it becomes judicial overreach. Unrestrained activism on the part of judiciary often leads to its overreach.

We all know that Article 142 and judicial review have been put to many constructive uses but some actions like declaring the NJAC (National Judicial Appointment Commission) unconstitutional as it tried to apply checks on judicial power highlight the need for judicial restraints in the exercise of judicial review.

Unit- 6: Federalism

Sub-Unit: 'Quasi Federalism', 'Cooperative Federalism', 'Competitive Federalism'

Quasi Federalism: In the context of special features and provisions of Indian federalism we use the phrase, 'Quasi Federalism', a concept given by K. C. Wheare. Quasi federalism represents a strong centre with comparatively less strongerunits. Wheare describes the Indian case in its formative phase as a 'quasi federation – A unitary state with subsidiary federalfeatures rather thana federal state with subsidiary unitary features'.

Cooperative Federalism: Cooperative federalism is the concept which reflects the relationship between the Union and theStateswhere both come together and resolve the common problems with each other's cooperation in amicable manner thuscontributingtowards the growth of a strong federation. It shows the horizontal relationship between the Union and the Stateswhere none is placed over and above on the other. To ensure this strong relationship between the two, the Indian constitutionhas evolved and incorporated certain instruments and agencies like the Inter-State Councils, Zonal Councils, the 7th Schedule, etc.

Competitive Federalism: Competitive federalism places all states vis a vis the Union on equal and competing footing wherethebest performing states can take the maximum benefits of the resources, services and taxes. It ensures a healthy competition among states leading towards better performance and delivery which constitute important part of governance. The post- liberalisation era reflects the trend of competitive federalism where states are more autonomous, accountable andefficient in their functioning.

Class XI

Paper II: Political Theory

Unit-2: Liberty

Sub-Unit: 'Liberty vs Freedom'

We hear a lot around us that people appear to use the word liberty and freedom as synonyms of each other. But there are some fundamental differences between these two concepts that must be understood. Liberty comes from the Latin word "*libertatem*"which means "condition of a freeman". While freedom come from the English word "*freodom*" which means "state of free will". Liberty is power to act and express oneself according to one's will while freedom is the power to decideone's action. Freedom is more concrete concept than liberty which is more associated with an individual's connection withthe state rather than with other individuals and circumstances. State guarantees freedom through the liberty it grants to its citizens.

The difference between these two concepts can briefly be outlined as follows:

Liberty	Freedom
Condition of a free man	State of free will
Power to act	Power to decide
Free to do something	Free from something

The common feature between these two concepts is that both remain unconstrained, which means that their realization isfree from any constrain. Further, both follow rightful or ethical conformity in terms of their realization.

Unit-4: Justice

Sub-Unit: 'Different Dimensions of Justice'

Till now we have tried to understand what the term justice means. After considering this, we need to know different dimensions of justice which may help us in establishing a just society. Legal, social, political and economic justice are the key dimensions of justice. Here, we will try to understand these dimensions in some details.

1. **Legal Justice**: It is a narrow concept of justice which is associated with the legal system and legal procedure existing in a society. The court of law interprets the law and applies it after hearing the partners involved in a dispute. Here, justice is what administered by the court of law and the interpretation of the judge is considered to be an embodiment of justice.

2. **Political Justice**: In any democratic society political justice means providing equal political rights. Political justicestands for a free

and fair participation of people in the political sphere. Universal adult franchise is the expressionof political justice. Equality of opportunity in getting elected and in holding public offices, freedom ofexpression and association are important pillars of political justice.

3. **Social Justice**: It means to end all types of social inequalities and to provide proper opportunity to every citizen inevery sphere of life, to develop her/his personality to ensure equality of law, prohibition of discrimination, social security, provision of equal political rights, etc. The concept of social justice is based on the belief that all humanbeings are equal and no discrimination should be made on the ground of race, religion, caste, gender and place ofbirth.

4. **Economic Justice**: It means to provide equal opportunities to everyone to earn her/his livelihood. It also means to help such people who are not able to work and earn their livelihood. The basic need of every person such as food, cloth, shelter and education should be fulfilled. It stands for by assuring adequate means of livelihood to all,by making provisions for equal pay forequal work, fair distribution of resources, equal economic opportunityto all, etc.

While the concept of political justice is closely linked with the ideal of "liberty", economic and legal justice with "equality"andsocial justice with "fraternity", a just combination of all these four dimensions will help in achieving justicein life.

Unit-5: Rights

Sub-Unit: 'Human Rights'

Human rights are those rights which all human beings are entitled by virtue of being human. It is based on the principle of respect for the individual. The fundamental assumption behind the concept of human rights is that every person is amoral and rational being who deserves to be treated with dignity. Human rights are both universal and fundamental; these are universal inthe sense that they belong to all human beings irrespective of race, nationality, community, religion, gender, etc; these are also fundamental because once given, these cannot be taken back.

Although the presence of human rights can be traced to the ancient Indian philosophy and culture, the concept formally originated at the international level in 1948 with the UN Declaration of Human Rights listing 30 rights for all people across the globe.

Unit-7: Nationalism

Sub-Unit: 'Multiculturalism'

Multiculturalism in the general sense is the coexistence of people of different religions, cultural groups and communities inall countries of the globe. Originated in the 1970s with a counter-culturalism and human rights movement in opposition tothe homogenization of other cultures in favor of the white culture of America and Europe, multiculturalism broadly comprises the principles of both 'acceptance' and 'reverence'. It expects all countries of the globe to give equal acceptanceand reverence to the cultural groups. In the India context, the concept of multiculturalism is identified with the notion of "Salad Bowl", advocatedby social scientist, Ashish Nandy. It shows that different cultural groups within a nation maintaintheir identity with their respective distinct forms.

DAV PUBLIC SCHOOL, SECTOR-49, GURUGRAM

CURRICULUM FOR SESSION 2022-2023

WEB APPLICATION (SUBJECT CODE-803)

CLASS – XI

COURSE OVERVIEW:

Today the world is connected through the web socially and economically. Web development has become the best-paid career choice in the modern world. A web developer is a person/an individual/ personal who is proficient in creating web sites. Web development is the process of developing websites. The process includes coding or programming that empowers websites functionality.

OBJECTIVES OF THE COURSE:

In this course, the students will be familiarized with the web programming language & photo editing tool. Learners will be prepared to get the job in the different fields of website designing, website development and graphics designing.

The following are the main objections of the course:

To acquaint the students with the basis of networking.

To develop the understanding of the web Architecture.

To enable the students to enhance their knowledge of client-server Architecture.

To prepare the students to develop static and dynamic websites.

To familiarize the students with the web programming languages and photo editing software.

To make the students capable of publishing a website independently.

To develop the skills which will help the students to do the following:

- Graphics Designing
- Website Designing
- Website Development
- Web Applications

SALIENT FEATURES OF THE COURSE:

Web development is an emerging industry worldwide. It is developing at a very fast pace. Web application is a short term job oriented course. This course will enable the learners to understand the web development process and technique.

The importance of the course:

It helps the organization to develop their own website.
It generates job opportunities in the field of internet and web development.
Useful for promoting business and products.
It connects the individual or an organization on a web server.
It is used in all kinds of sectors i.e. education, Industry, ecommerce, Banking, Marketing, to enhance the functionalities of the organizations.

SCHEME OF UNITS

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students of Class XI opting for skill subject along with other education subjects.

The unit-wise distribution of hours and marks is given overleaf:

WEB APPLICATION (SUBJECT CODE-803)
CLASS – XI (SESSION 2022-2023)
Total Marks: 100 (Theory-60 + Practical-40)

	UNITS	NO. OF HOURS for Theory and Practical		MAX. MARKS for Theory and Practical
PART A	**Employability Skills**			
	Unit 1 : Communication Skills-III	10		2
	Unit 2 : Self-Management Skills-III	10		2
	Unit 3 : ICT Skills-III	10		2
	Unit 4 : Entrepreneurial Skills-III	15		2
	Unit 5 : Green Skills-III	05		2
	Total	**50**		**10**
PART B	**Subject Specific Skills**	**Theory**	**Practical**	**Marks**
	Unit 1: Basics of Networking and Web Architecture	10	10	10
	Unit 2: Website Development using HTML and CSS	35	50	15
	Unit 3: Multimedia Design- GIMP	20	25	10
	Unit 4: Introduction to Dynamic Websites using JavaScript	20	40	15
	Total	**85**	**125**	**50**
PART C	**Practical Work**			
	Practical Examination			15
	Practical File			10
	Viva Voce			5
	Total			**30**
PART D	**Project Work/Field Visit/ Practical File/ Student Portfolio**			10
	Total			**10**
	GRAND TOTAL	**260**		**100**

DETAILED CURRICULUM/ TOPICS FOR CLASS XI

Part-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-III	10
2.	Unit 2: Self-management Skills-III	10
3.	Unit 3: Information and Communication Technology Skills-III	10
4.	Unit 4: Entrepreneurial Skills-III	15
5.	Unit 5: Green Skills-III	05
	TOTAL DURATION	**50**

NOTE: **Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website**.

Part-B – SUBJECT SPECIFIC SKILLS

- Unit 1: Basics of Networking and Web Architecture
- Unit 2: Website Development using HTML and CSS
- Unit 3: Multimedia Design- GIMP
- Unit 4: Introduction to Dynamic Websites using JavaScript

JULY, AUGUST AND SEPTEMBER

UNIT-2: WEBSITE DEVELOPMENT USING HTML AND CSS

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	**HTML:** Students would be able to: - Understand basic concepts of website - Differentiate between static and dynamic website - Analyse static websites - Appreciate various tags in HTML - Create static website using HTML	- Concept of website, its need and purpose - Types of websites: Static and dynamic website - Languages used for website development - HTML: basic tags, formatting tags, Adding images, Lists - Embedding multimedia in Web pages - Inserting tables - Internal and External Linking - Frames, Forms	- Visit and appreciate various websites - Identify and differentiate between static and dynamic website - Web pages using different HTML tags - Creating and linking web pages - Creating small websites using frames - Create forms
2.	**Cascading Style Sheets:** Students will be able to: - appreciate advantages of cascading style sheets	- Basics of Cascading Style sheets - Advantages of CSS - External Style sheet - Internal style sheet - Inline style sheet - CSS Syntax- Selector, Property, Value - Overriding, Comments, color, background, Font, images	- Creating simple CSS - Using CSS in simple Web pages - Creating website using CSS
3.	**Publishing:** Students will be able to: - - understand requirements for publishing a website - identify different domains and domain name system	- Publishing: Introduction - Introduction to Domain Naming System (DNS) - DNS Server - Domain Space Provider - Domain Name registration process and acquiring domain space - Website Hosting - Website publishing tools - Publish a website	- View different websites and identify their domain - Register a domain with DNS Provider - Publish and host website

UNIT-4: INTRODUCTION TO DYNAMIC WEBSITES USING JAVASCRIPT

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Students would be able to: - - Analyze limitations of static websites - Understand dynamic websites and their need - Understand Basics of JavaScript - Appreciate advantages and features of JavaScript - Develop interactive web pages using JavaScript	- Limitations of static websites Dynamic websites Features of JavaScript, extension of JavaScript Syntax of JavaScript, data types, operators, variables, <script> tag, <button> Document object Creating interactive web pages using JavaScript Selection Statement using if and Switch Iterative statement: for, for/in, while, do while break and continue	- Create web pages using JavaScript - Various programs using operators, iterative statements, selection statements in JavaScript

Part-A: EMPLOYABILITY SKILLS

S. No.	Units
1.	Unit 1: Communication Skills-III
2.	Unit 2: Self-management Skills-III
3.	Unit 3: Information and Communication Technology Skills-III

SEPTEMBER – REVISION FOR TERM- 1 EXAMINATION

OCTOBER, NOVEMBER AND DECEMBER

UNIT-1: BASICS OF NETWORKING AND WEB ARCHITECTURE

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Basics of Networking and Web Architecture	- Basic network concepts - Internet, channel, Bandwidth, Data Transfer Rate - Protocols: HTTP, FTP, TCP/IP, VoIP - Types of network: PAN, LAN, MAN, WAN - Web Architecture: Types of architecture- Client Server Model, Three Tier Model, Service Oriented Architectures - Web server, Web Client - Network threats and Security measures	- Identification of network devices - Identification of types of network in school and other offices. - Demonstration of Client Server Model in actual websites.

UNIT-3: MULTIMEDIA DESIGN- GIMP

S. NO.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Students would be able to: - - Appreciate interface of GIMP - Understand and use drawing tools, selections - Appreciate different color modes - Create and edit images - Appreciate and use filters and layers - Develop skill to create and edit an image	- Gimp as a graphics tool Gimp interface, color modes, - Toolbox: selection tools, paint tools, transform, color tools, foreground, background. - Creating and editing images Filter tools like Blur, - Enhance, Distort, Light and shadow, Noise, edge - detection, artistic filters, décor, map, render, alpha etc. - Layers : creating , rearranging and masking layers	– working in GIMP window, understand Interface using drawing tools and selection tools like rectangle, intelligent scissors, ellipse etc. creating and editing images – image enhancement using different filters. creating layers, rearranging layers, using Layers to merge and create new images

Part-A: EMPLOYABILITY SKILLS

S. No.	Units
1.	Unit 4: Entrepreneurial Skills-III
2.	Unit 5: Green Skills-III

JANUARY – PROJECT WORK AND PRACTICAL EXAMINATION

REVISION OF TERM – II EXAMINATION

LIST OF EQUIPMENT AND MATERIAL:

Following is the proposed list of basic tools and equipments for conducting the practical examination. The list given below is suggestive and not an exhaustive list to be prepared by the vocational teacher so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience:

1. Desktop / Laptop
2. Printer
3. Scanner
4. Digital image Capturing Device (Digital Camera/ Webcam etc.)
5. Software- GUI Operating System, Web Browser, GIMP, Text Editor (Notepad) etc.
6. Internet Connection

NOTE: Students should be exposed to various Networks, Websites, during Field Visits.

CAREER OPPORTUNITIES:

The Web Application course raised the opportunities in all the industries worldwide. The job profiles for the web developers are: -

- Web Applications Developer
- Front End Web Developer
- Back-end web Developer
- Design and Layout analyst
- Web marketing analyst
- Senior Web analyst
- Brand Development
- E-Commerce Design and Development
- Product Designer
- Design Studio
- IT companies
- UX Designer (User Experience Designer)
- U I Designer (User Interface Designer)

VERTICAL MOBILITY:

The students can do: -

- Graduation in Multimedia and Website Designing
- Diploma in Web Designing,
- PG Diploma in Internet & Web Designing.
- Graduation and Diploma courses in E-Commerce and web Design

LIBRARY AND INFORMATION SCIENCES (Code No. 836)

JOB ROLE: LIBRARY ASSISTANT

SESSION 2022-23

CLASS XI

1. Introduction

Library & Information Science Course at Senior Secondary level will fulfill the requirement of developing necessary skills, in learners to identify, locate, evaluate and use the required information efficiently. One of the important aspects of the curriculum is to improve the education system for Library and Information Science at school level.Learning of the professional attitudes and the interpersonal and interdisciplinary skills needed to communicate and collaborate with the colleagues and the information users and to understand the above goals within the perspective of prevailing and emerging technologies,

2. Course Objectives

This course aims at training basic theories and principles of administration for effective management of public, academic, special libraries and information centers. Practical and theoretical understanding of and basic competencies required in evaluating, selecting and organizing information sources will be taught. The objectives of the course at senior secondary level are as follows:

To develop among the students:

1. The basic understanding of theory and practice of Library & Information Science;
2. Knowledge and skill to pursue the subject for higher education in future; and
3. Basic skill to work as Semi -professional in a Library, which may be considered at par with the diploma course in LIS subject.

3. Curriculum

This course is a planned sequence of instructions consisting of Units meant for developing employability and Skills competencies of students of Class XI opting for Skills subject along with general education subjects.

Theory	70 marks
Practical	30 marks
Total Marks	**100 marks**

The unit-wise distribution of periods and marks for Class XI is as follows:

	Units	No. of Periods for Theory and Practical(260Periods)		Max. Marks for Theory and Practical(100Marks)
Part A	**Employability Skills**			10
	Unit 1: Communication Skills-III	10		
	Unit 2: Self-Management Skills-III	10		
	Unit 3: Information and Communication Technology Skills-III	10		
	Unit 4: Entrepreneurial Skills-III	15		
	Unit 5: Green Skills-III	05		
	Total	**50**		**10**
Part B	**Skills**	**Theory**	**Practical**	
	Chapter 1: Library, Information and Society Role and its implications	40	10	15
	Chapter 2: Organization of Library Resources: Basics	50	10	15
	Chapter 3: Reference and Information Sources	40	10	15
	Chapter 4: Computer Applications in Libraries: Basics	40	10	15
	Total	**170**	**40**	**60**
Part C	**Practical Work**			
	Practical Examination			15
	Viva Voce			05
	Total			**20**
Part D	**Project Work/Field Visit**			
	Practical File/Student Portfolio			10
	Total			**10**
	Grand Total			**100**

4. CONTENTS

Part A: Employability Skills

Units	
1.	Communication Skills III
2.	Self-management Skills III
3.	Information and Communication Technology Skills III
4.	Entrepreneurial Skills III
5.	Green Skills III
	Detailed curriculum of Employability Skills is available separately

Part B Skills

Chapter-1: Library, Information and Society Role and its implications

Objective: the objective is to familiarize the students with the libraries, their types and their role in society. This chapter is subdivided into the following units:

Units -1: Library, Information and Society Role and its implications

Units -1: Library, Information and Society: Concepts

1. Definition, Objectives, Purpose and Role of Library in the development of modern Society
2. Concept of Trinity: Documents, Staff and users and their inter relationships.

Units -2A: Types of Libraries and their role:

1. National Library
2. Academic Libraries
3. Special Libraries
4. Public Libraries

Units -2B: Changing formats of libraries: Digital, Virtual and Hybrid

Unit-3: Five Laws of Library Science and their implications.

Chapter-2: Organization of Library Resources: Basics

Unit-1: Library Classification (Theory)

1. Need, Purpose and Types
2. Concept of Main Classes
3. APUPA Pattern for arrangement of documents
4. Salient features of major schemes of Library Classification:
5. Dewey Decimal Classification (DDC) Latest Edition
6. Colon Classification (CC) Latest Edition

Unit 2: Library Cataloguing(Theory)

1. Need, Purpose and Importance
2. Items of information required for cataloguing in a document. (Book and Non Book material)
3. Salient features of Cataloguing Codes:
    1. Anglo American Cataloguing Rules (latest edition.)
    2. Classified Catalogue Code (latest edition.)
4. Forms of Library Catalogue
    1. Physical Forms of Catalogue
    2. Online Public Access Catalogue (OPAC)

Chapter-3: Reference and Information Sources

Unit -1: Reference and Information Sources

1. Definition, Need
2. Types: Primary, Secondary and Tertiary

Unit -2: Categories of Reference and Information Sources: Description and Scope

1. Encyclopedias
2. Language Dictionaries
3. Biographical Sources
4. Atlases
5. Year Books
6. Directories
7. Bibliographical tools

Chapter-4: Computer Applications in Libraries: Basics

Unit 1: Computer Hardware for a Library: Concepts

1. Desktop Computers, Server and their specifications
2. Printers and their types
3. Scanners
4. Barcode technology
5. RFID technology

6. Modem, Wi-fi Modem
7. Switches
8. Router

Unit -2: Library Automation: Concepts and Applications

1. Definition
2. Need, Purpose and Importance

Unit -3: Use of Web Based Communication systems

1. Internet, Intranet, Search engines, E-mail, Database.

5. TEACHING ACTIVITIES

The teaching and training activities have to be conducted in classroom, laboratory/ workshops and field visits. Students should be taken to field visits for interaction with experts and to expose them to the various tools, equipment, materials, procedures and operations in the workplace. Special emphasis should be laid on the occupational safety, health and hygiene during the training and field visits.

CLASSROOM ACTIVITIES

Classroom activities are an integral part of this course and interactive lecture sessions, followed by discussions should be conducted by trained vocational teachers. Vocational teachers should make effective use of a variety of instructional or teaching aids, such as audio-video materials, colour slides, charts, diagrams, models, exhibits, hand-outs, online teaching materials, etc. to transmit knowledge and impart training to the students.

PRACTICAL WORK IN LABORATORY/WORKSHOP

Practical work may include but not limited to hands-on-training, simulated training, role play, case based studies, exercises, etc. Equipment and supplies should be provided to enhance hands-on learning experience of students. Only trained personnel should teach specialized techniques. A training plan that reflects tools, equipment, materials, skills and activities to be performed by the students should be submitted by the vocational teacher to the Head of the Institution.

SKILL ASSESSMENT (PRACTICAL)

Assessment of skills by the students should be done by the assessors/examiners on the basis of practical demonstration of skills by the candidate, Practical examination allows candidates to demonstrate that they have the knowledge and understanding of performing a task. This will include hands-on practical exam and viva voce. For practical, there should be a team of two evaluators. The same team of examiners will conduct the viva voce.

Project Work (individual or group project) is a great way to assess the practical skills on a certain time period or timeline. Project work should be given on the basis of the capability of the individual to perform the tasks or activities involved in the project. Projects should be discussed in the class and the teacher should periodically monitor the progress of the project and provide feedback for improvement and innovation. Field visits should be organised as part of the project work. Field visits can be followed by a small-group work/project work. When the class returns from the field visit, each group might be asked to use the information that they have gathered to prepare presentations or reports of their observations. Project work should be assessed on the basis of practical file or student portfolio.

Viva voce allows candidates to demonstrate communication skills and content knowledge. Audio or video recording can be done at the time of viva voce. The number of external examiners would be decided as per the existing norms of the Board and these norms should be suitably adopted/adapted as per the specific requirements of the subject. Viva voce should also be conducted to obtain feedback on the student s experiences and learning during the project work/field visits.

6. ORGANISATION OF FIELD VISITS/EDUCATIONAL TOURS

In field visits, children will go outside the classroom to obtain specific information from experts or to make observations of the activities. A checklist of observations to be made by the students during the field visits should be developed by the Vocational Teachers for systematic collection of information by the students on the various aspects. Principals and Teachers should identify the different opportunities for field visits within a short distance from the school and make necessary arrangements for the visits. At least three field visits should be conducted in a year.

8. PRACTICAL GUIDLINES

1. Library Classification (Practice)
2. Library Cataloguing (Practice)
3. Educational Tour to different types of Libraries and Documentation Centres
4. Library summer training for one month (summer training) - work integrated learning.

Note: It is suggest that the practical work may include simple illustrative examples in the relevant areas.

a) For example, in Library Classification, the purpose will be to understand the representation of a subject of Main Class in a Scheme of Classification, viz. namely DDC and colon classification.

b) Also, in Library Cataloguing, the practical work should include to develop an understanding of the basic components of a book used for cataloguing purpose. It should also include training in preparing the Main Entry and Added Entries according to AACR-II.

c) The Tour should preferably be a local tour to a well-organized Library. The effort should be to make the student understand the essentials of Library functions under proper guidance. The

Tour should be organized by the school in consultation with the Head/ In-charge of the concerned Library. The students should submit a Tour Report to the teacher for evaluation.

Note: The student should be exposed to basic practice in the above fields.

Practical work in Classification should include classification of documents with Main Class and Subdivisions according to DDC. Cataloguing of Main Entry and Added Entries of Simple Books according to AACRII

Practical work in Computer Applications should include formulation of a simple query for Search and use of computers for use of internet and handling of any one Library Automation Software.

CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2022-2023

ARTIFICIAL INTELLIGENCE (SUB. CODE 843)

CLASS XI

COURSE OVERVIEW:

AI is a discipline in computer science that focuses on developing intelligent machines, machines thatcan learn and then teach themselves. These machines, then, can process vast amounts of data thanhumans can, and several times faster. However, AI can go across all disciplines to change the worldfor the better– from creating new healthcare solutions, to designing hospitals of the future, improving farming and our food supply, helping refugees acclimatize to the new environments, improving educationalresources and access, and even cleaning our oceans, air, and water supply. The potential for humansto improve the world through AI is endless, as long as we know how to use it.

OBJECTIVES OF THE COURSE:

In this course, the students will develop knowledge, skills and values to understand AI and its implications for our society and the world and to use AI to solve authentic problems, now and in the future. The students will engage with a host of multi-media online resources, as well as hands-on activities and sequence of learning experiences.

The following are the main objections of the course:

1. Develop informed citizens with an understanding of AI and the skills to think critically andknowledgeably about the implications of AI for society and the world
2. Develop engaged citizens with a rigorous understanding of how AI can be harnessed toimprove life and the world we live in
3. Stimulate interest and prepare students for further study to take up careers as AI scientistsand developers to solve complex real world problems

SCHEME OF UNITS

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students opting for skill subject along with other education subjects. The unit-wise distribution of hours and marks for class XI & XII is as follows:

CBSE | DEPARTMENT OF SKILL EDUCATION

ARTIFICIAL INTELLIGENCE (SUBJECT CODE - 843)

Class XI (Session 2022-23)

Total Marks: 100 (Theory - 50 + Practical - 50)

	UNITS	HOURS (Theory + Practical)	MAX. MARKS (Theory + Practical)
Part A	**Employability Skills**		
	Unit 1 : Communication Skills-III	10	2
	Unit 2 : Self-Management Skills-III	10	2
	Unit 3 : ICT Skills-III	10	2
	Unit 4 : Entrepreneurial Skills-III	15	2
	Unit 5 : Green Skills-III	05	2
	Total	**50**	**10**
Part B	**Subject Specific Skills**		
	To be assessed in Theory Exams		
	Unit 1: Introduction To AI	30	08
	Unit 2: AI Applications & Methodologies	30	10
	Unit 4: AI Values (Ethical Decision Making)	05	04
	Unit 5: Introduction To Storytelling	20	08
	Unit 9: Classification & Clustering	20	10
	To be assessed through Practical only		
	Unit 3: Maths For AI*	10	-
	Unit 6: Critical & Creative Thinking*	05	-
	Unit 7: Data Analysis (Computational Thinking)*	30	-
	Unit 8: Regression*	30	-
	Unit 10: AI Values (Bias Awareness)*	30	-
	Total	**210**	**40**
Part C	**Practical Work**		
	Practical Examination		40
	Viva-Voce		
	Total		**40**
Part D	**Project Work/ Field Visit/ Project/ Ideation + presentation**		10
	Viva-Voce		
	Total		**10**
	GRAND TOTAL	**260**	**100**

DETAILED CURRICULUM/ TOPICS FOR CLASS XI

PART-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-III	10
2.	Unit 2: Self-management Skills-III	10
3.	Unit 3: Information and Communication Technology Skills-III	10
4.	Unit 4: Entrepreneurial Skills-III	15
5.	Unit 5: Green Skills-III	05
	TOTAL	**50**

NOTE: **Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website**.

Part-B – SUBJECT SPECIFIC SKILLS

Level I: AI Informed (AI Foundations)	• Unit1: Introduction to AI • Unit 2: AI Applications & Methodologies • *Unit 3: Math for AI** • Unit 4: AI Values (Ethical Decision Making) • Unit 5: Introduction to Storytelling

Level 2: AI Inquired (AI Apply)	• *Unit 6: Critical & Creative Thinking** • *Unit 7: Data Analysis (Computational Thinking)** • *Unit 8: Regression** • Unit 9: Classification & Clustering • *Unit 10: AI Values (Bias Awareness)**

NOTE: *** UNITS 3, 6, 7, 8 & 10 should be assessed in Practical Examination only and should not be assessed in Theory Examination.**

DETAILED CURRICULUM/ TOPICS

LEVEL I: AI INFORMED (AI Foundations) -

JULY – AUGUST - SEPTEMPER		
UNIT	**TOPICS**	**LEARNING OUTCOMES**

Unit 1: Introduction
 	
(knowledge)
	Introduction-AI for everyone
	• What is AI?
	  ○ Kids can AI
	• History of AI
	• What is Machine Learning
	  ○ Difference between conventional programming and machine learning
	  ○ How is Machine learning related toAI?
	• What is data?
	  ○ Structured
	  ○ Unstructured
	  ○ Examples of unstructured data- text,images
	• Terminology and Related Concepts
	Intro to AI
	  ○ Machine learning
	  ○ Supervised learning (examples)
	  ○ Unsupervised learning (examples)
	  ○ Deep learning
	  ○ Reinforcement learning
	  ○ Machine Learning Techniques andTraining
	  ○ Neural Networks
	• What machine learning can and cannot do
	• More examples of what machine learningcan and cannot do
	• Jobs in AI
		Knowledge – Define AI and ML
		
		Comprehension – What are the AI products/ applications in society and how are they different from non-AI products/ applications?
		
		Evaluation – What kind of jobs may appear in the future?

Unit 2: AI Applications and Methodologies
 	
(Introduction)
 	
(Knowledge)
	Present day AI and Applications
	• Key Fields of Application in AI
	  ○ Chatbots (Natural LanguageProcessing, speech)
	  ○ Alexa, Siri and others
	  ○ Computer vision
	  ○ Weather Predictions
	  ○ Price forecast for commodities
	  ○ Self-driving cars
	• Characteristics and types of AI
	  ○ Data driven
	  ○ Autonomous systems
	  ○ Recommender systems
	  ○ Human like
		Knowledge – Where can AI be applied (like in the field of Computer vision, Speech, Text, etc.), What is deep learning?
		
		Comprehension – How AI will impact our society
		
		Analysis – How should we get ready for the AI age (future)

UNIT	TOPICS	LEARNING OUTCOMES
	• Cognitive Computing (Perception, Learning, Reasoning) Cognitive computing • Recommended deep-dive in NLP, CV, etc.* • AI and Society coursera-ai-for-everyone • The Future with AI, and AI in Action (Introduction) • Non-technical explanation of deep learning coursera-ai-for-everyone	

Unit 3: Maths for AI
(Recap)
(Knowledge)
	• Introduction to matrices (Recap)
	• Introduction to set theory (Recap)
	  ○ Introduction to data table joins
	• Simple statistical concepts
	• Visual representation of data, bar graph, histogram, frequency bins, scatter plots, etc.
	• With co-ordinates and graphs introduction to dimensionality of data
	• Simple linear equation
	  ○ Least square method of regression
		Comprehension – Linear Algebra, Statistics, Basics of Graphs and Set theory
		
		Application – Application of Math in AI
		
		Synthesis – Representing data in term of mathematical formula

Unit 1 : Employability Skills	Unit 1 : Communication Skills-III	Understand and apply communication theory. Critically think about communication processes and messages. Write effectively for a variety of contexts and audiences. Interact skillfully and ethically. Develop and deliver professional presentations.
Unit 2: Employability Skills	Unit 2 : Self-Management Skills-III	Demonstrates the skills to manage and express their emotions, thoughts, impulses and stress in effective ways. Demonstrates the skills to set, monitor, adapt, achieve and evaluate goals.
Unit 4: AI Values (Ethical decision making) (Values)	AI: Issues, Concerns and Ethical Considerations • Issues and Concerns around AI • AI and Ethical Concerns • AI and Bias • AI: Ethics, Bias, and Trust • Employment and AI	**Knowledge** – Ethics, Bias, Impacts of bias on society **Application** – Spot issue in data, Make arguments, Apply rules

Unit 5: Introduction to story telling
(Skills)
	• Storytelling: communication across the ages
	  ○ Learn why storytelling is so powerful and cross-cultural, and what this means for data storytelling
	• The Need for Storytelling
	• Story telling with data
	  ○ By the numbers: How to tell a great story with your data.
	• Conflict and Resolution
		Skill – Imagination, mapping the plot into key events increasing memory retention.
		
		Application- Helping in creating blogs, videos, and other content.

	○ Everyone wants to resolve conflict, and a good data storyteller is there to help! • Storytelling for audience ○ Your data storytelling depends on the background knowledge of your audience. • Insights from storytelling ○ Make the audience care about the data ○ Keep the audience engaged ○ Create from the end; present from the beginning ○ Start with an anecdote, end with the data ○ Build suspense, not surprise	

LEVEL 2: AI INQUIRED (AI Apply)

OCTOBER – NOVEMBER – DECEMBER - JANUARY		
UNIT	**TOPICS**	**LEARNING OUTCOMES**
Unit 6: Critical and Creative thinking (Skills)	• Design thinking framework ○ Right questioning (5W and 1H) ○ Identifying the problem to solve ○ Ideate	**Skill** – Understanding the problem and being able to express the same **Creativity** – To be able to develop/innovate from design a solution
Unit 7: Data Analysis (Computational thinking) (Skills)	• Types of structured data ○ Date and time ○ String ○ Categorical • Representation of data • Exploring Data Exploring data (Pattern recognition) ○ Cases, variables and levels of measurement ○ Data matrix and frequency table ○ Graphs and shapes of distributions ○ Mode, median and mean ○ Range, interquartile range and box plot* ○ Variance and standard deviation* ○ Z-scores* ○ Example ○ Practice exercise	**Knowledge** – Types of structured data, statistical principals – frequency tables, mean, median, mode, range, etc. **Application** – Representing data in terms of graphs, statistical models **Synthesis** – To be able to represent a simple problem in terms of numbers
Unit 8: Regression (Knowledge)	• Correlation and Regression ○ Crosstabs and scatterplots ○ Pearson's r ○ Regression - Finding the line ○ Regression - Describing the line ○ Regression - How good is the line? ○ Correlation is not causation ○ Example contingency table ○ Example Pearson's r and regression Readings ○ Correlation ○ Regression ○ Caveats and examples ○ Practice exercise Correlation and Regression ○ Explain the importance of data from above examples ○ How prediction changes with changing data?	**Knowledge** – Correlations, Regression, and other related terms **Applications** – Being able to relate data with regression and correlation. Everyday applications of these mathematical concepts.

UNIT	TOPICS	LEARNING OUTCOMES
Unit 9: Classification& Clustering (Knowledge)	• What is a classification problem? • Examples - Simple binary classification • Introduction to binary classification with logistic regression • True positives, true negatives, false positives and false negatives ○ Where we should care more with examples ○ Example- false negative of a disease detection can have different implication than false positive, one will be more physical harm and other will be mental • **Practice exercise on simple Binary Classification model**	**Knowledge** – What is classification and its types, what kind of problems may be placed under the category of a classification problem **Applications** – Where to apply classification principals **Analysis** – Impact of the application of incorrect algorithms on society
	• What is a clustering problem? • Why is it unsupervised? • Examples • **Practice exercise on simple Clustering model**	**Knowledge** – Clustering problems and its application, why is it called clustering **Application** – Application of clustering problem using standard models
Unit 10: AI Values (Bias awareness) (Values)	• AI working for good • Principles for ethical AI • Types of bias (personal /cultural • /societal) • How bias influences AI based decisions • How data driven decisions can be debiased • **Hands on exercise to Detect the Bias** (Intro to AI)	**Knowledge** – What is ethics, Impact of ethics on society, the impact of bias on AI functioning **Evaluation** – Biases in data, how to de-bias or neutralize the biased data **Application** – Finding bias in acquired dataset
Unit 3: Employability Skills	Unit 3: Information and Communication Technology Skills-III	To help students to become competent and confident users who can use the basic knowledge and skills acquired to assist them in their daily lives
Unit 4: Employability Skills	Unit 4: Entrepreneurial Skills-III	Develop and strengthen the quality of entrepreneurship. Removing unemployment. Enhancing industrial development. Developing industrially backward region. Select a project/product. Formulate the project. Understand the process and

		procedure involved in setting up small units.
Unit 5: Employability Skills	Unit 5: Green Skills-III	Green skills contribute to preserving or restoring environmental quality for sustainable future and include jobs that protect ecosystems and biodiversity, reduce energy and minimize waste and pollution.

ACADEMIC PLANNER XI
(2022-23)

Unit I	**What is Psychology?** **MAY-JULY** *The topics in this unit are:* 1. Introduction 2. What is Psychology? • Psychology as a Discipline • Psychology as a Natural Science • Psychology as a Social Science 3. Understanding Mind and Behaviour 4. Popular Notions about the Discipline of Psychology 5. Evolution of Psychology 6. Development of Psychology in India 7. Branches of Psychology 8. Psychology and Other Disciplines 9. Psychology in Everyday Life	**27 Periods**
Unit II	**Methods of Enquiry in Psychology** **JULY-AUG** *The topics in this unit are:* 1. Introduction 2. Goals of Psychological Enquiry • Steps in Conducting Scientific Research	**32 Periods**

	• Alternative Paradigms of Research 3. Nature of Psychological Data 4. Some Important Methods in Psychology • Observational Method • Experimental Method • Correlational Research • Survey Research • Psychological Testing • Case Study 5. Analysis of Data • Quantitative Method • Qualitative Method 6. Limitations of Psychological Enquiry 7. Ethical Issues	
Unit IV	**Human Development** **AUG-SEPT** *The topics in this unit are:* 1. Introduction 2. Meaning of Development • Life-Span Perspective on Development 3. Factors Influencing Development 4. Context of Development 5. Overview of Developmental Stages • Prenatal Stage • Infancy • Childhood • Challenges of Adolescence • Adulthood and Old Age	**26 Periods**
Unit V	**Sensory, Attentional and Perceptual Processes** **SEPT** *The topics in this unit are:* 1. Introduction 2. Knowing the world 3. Nature and varieties of Stimulus 4. Sense Modalities • Functional limitation of sense organs 5. Attentional Processes • Selective Attention • Sustained Attention	**18 Periods**

	6. Perceptual Processes • Processing Approaches in Perception 7. The Perceiver 8. Principles of Perceptual Organization 9. Perception of Space, Depth and Distance • Monocular Cues and Binocular Cues 10. Perceptual Constancies 11. Illusions 12. Socio-Cultural Influences on Perception	
Unit VI	**Learning** **OCT** *The topics in this unit are:* 1. Introduction 2. Nature of Learning 3. Paradigms of Learning 4. Classical Conditioning • Determinants of Classical Conditioning 5. Operant/Instrumental Conditioning • Determinants of Operant Conditioning • Key Learning Processes 6. Observational Learning 7. Cognitive Learning 8. Verbal Learning 9. Skill Learning 10. Factors Facilitating Learning 11. Learning Disabilities	**20 Periods**
Unit VII	**Human Memory** **NOV-DEC** *The topics in this unit are:* 1. Introduction 2. Nature of memory 3. Information Processing Approach : The Stage Model 4. Memory Systems : Sensory, Short-term and Long-term Memories 5. Levels of Processing 6. Types of Long-term Memory • Declarative and Procedural; Episodic and Semantic 7. Nature and Causes of Forgetting	**19 Periods**

	• Forgetting due to Trace Decay, Interference and Retrieval Failure 8. Enhancing Memory • Mnemonics using Images and Organization	
Unit VIII	**Thinking** **DEC-JAN** *The topics in this unit are:* 1. Introduction 2. Nature of Thinking • Building Blocks of Thought 3. The Processes of Thinking 4. Problem Solving 5. Reasoning 6. Decision-making 7. Nature and Process of Creative Thinking • Nature of Creative Thinking • Process of Creative Thinking 8. Thought and Language 9. Development of Language and Language Use	**14 Periods**
Unit IX	**Motivation and Emotion** **JAN** *The topics in this unit are:* 1. Introduction 2. Nature of Motivation 3. Types of Motives • Biological Motives • Psychosocial Motives 4. Maslow's Hierarchy of Needs 5. Nature of Emotions 6. Expression of Emotions • Culture and Emotional Expression • Culture and Emotional Labeling 7. Managing Negative Emotions 8. Enhancing Positive Emotions	**14 Periods**

ACCOUNTANCY ACADEMIC PLANNER
CLASS-XI
SESSION -2022-23

Units		Periods	Marks
Part A: Financial Accounting-1			
	Unit-1: Theoretical Framework	**25**	**12**
	Unit-2: Accounting Process	**115**	**44**
Part B: Financial Accounting-II			
	Unit-3: Financial Statements of Sole Proprietorship	**60**	**24**
Part C: Project Work		**20**	**20**

S.NO	MONTH	NO OF PERIODS/UNIT	CHAPTERS	TOPICS	Remarks
1	MAY & JULY	25	Introduction to Accounting	Accounting: objectives, advantages and limitations, types of accounting information; users of accounting information and their needs.	
				Basic accounting terms: business transaction, account, capital, drawings, liability (Non - current and current); asset (Non - current; tangible and intangible assets and current assets), receipts (capital and revenue), expenditure (capital, revenue and deferred), expense, income, profits, gains and losses, purchases, purchases returns, sales, sales returns, stock, trade receivables (debtors and bills receivable), trade payables (creditors and bills payable), goods, cost, vouchers, discount - trade and cash.	
2	JULY		Theory Base of Accounting	Fundamental accounting assumptions: going concern, consistency and accrual.	
				Accounting principles: accounting entity, money measurement, accounting period, full disclosure, materiality, prudence, cost concept, matching concept and dual aspect.	
				Accounting Standards and IFRS (International Financial Reporting Standards): concept and objectives	
				Double entry system of accounting.	
				Bases of accounting - cash basis and accrual basis.	
				Introduction to GST(CGST, SGST & IGST)	
3	AUGUST & SEPTEMBER	115	Recording of Transactions	Accounting equation: analysis of transactions using accounting equation.	
				Rules of debit and credit: for assets, liabilities, capital, revenue and expenses	
				Origin of transactions- source documents (invoice, cash memo, pay in slip, cheque), preparation of vouchers - cash (debit and credit) and non cash (transfer).	
				Books of original entry: format and recording - Journal.	
				Cash Book: Simple Cash Book, Cash Book with Discount Column and Cash Book with Bank and Discount Columns, Petty Cash Book.	
				Other books: purchases book, sales book, purchases returns book, sales returns book and journal proper.	
4	OCTOBER		Preparation of Bank Reconciliation Statement, Ledger and Trial Balance.	Bank reconciliation statement- calculating bank balance at accounting date: need and preparation. Corrected cash book balance.	
				Ledger - format, posting from journal, cash book and other special purpose books, balancing of accounts.	
				Trial balance: objectives and preparation	
				(Scope: Trial Balance with balance method only)	
				Depreciation: concept need and factors affecting depreciation; methods of computation of	

			Depreciation, Provisions and Reserves	depreciation: straight line method, written down value method (excluding change in method)	
				Accounting treatment of depreciation: by charging to asset account, by creating provision for depreciation/ accumulated depreciation account, treatment of disposal of asset.	
				Provisions and reserves: concept, objectives and difference between provisions and reserves; types of reserves- revenue reserve, capital reserve, general reserve and specific reserves.	
5	**NOVEMBER & DECEMBER**		**Accounting for Bills of Exchange**	Bills of exchange and promissory note: definition, features, parties, specimen and distinction.	
				Important terms : term of bill, due date, days of grace, date of maturity, discounting of bill, endorsement of bill, bill sent for collection, dishonour of bill, noting of bill, retirement and renewal of a bill.	
				Accounting treatment of bill transactions.	
			Trial Balance and Rectification of Errors	Errors: types-errors of omission, commission, principles, and compensating; their effect on Trial Balance.	
				Detection and rectification of errors; preparation of suspense account.	
6	**DECEMBER & JANUARY**	**60**	**Financial Statements of Sole Proprietorship**	Financial Statements: objective and importance.	
				Trading and profit and loss account: gross profit, operating profit and net profit.	
				Balance Sheet: need, grouping, marshalling of assets and liabilities.	
				Adjustments in preparation of financial statements : with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation, bad debts, provision for doubtful debts, provision for discount on debtors, manager's commission, abnormal loss, goods taken for personal use and goods distributed as free samples.	
				Preparation of Trading and Profit and Loss Account and Balance Sheet of sole proprietorship.	
8	**FEBRUARY**	**REVISION**			
9	**MARCH**	**EXAMS**			

BUSINESS STUDIES ACADEMIC PLANNER
CLASS – XI
SESSION-2022-23

Units		Periods	Marks
Part A	Foundations of Business		
1	Nature and Purpose of Business	18	16
2	Forms of Business Organizations	24	
3	Public, Private and Global Enterprises	18	14
4	Business Services	18	
5	Emerging Modes of Business	10	10
6	Social Responsibility of Business and Business Ethics	12	
	Total	100	40
Part B	Finance and Trade		
7	Sources of Business Finance	30	20
8	Small Business	16	
9	Internal Trade	30	20
10	International Business	14	
	Total	90	40
	Project Work	20	20

Objectives:-

- To inculcate business attitude and develop skills among students to pursue higher education, world of work including self employment.
- To develop students with an understanding of the processes of business and its environment;
- To acquaint students with the dynamic nature and inter-dependent aspects of business;
- To develop an interest in the theory and practice of business, trade and industry;
- To familiarize students with theoretical foundations of the process of organizing and managing the operations of a business firm;
- To help students appreciate the economic and social significance of business activity and the social cost and benefits arising there from;
- To acquaint students with the practice of managing the operations and resources of business;
- To enable students to act more effectively and responsibly as consumers, employers, employees and citizens;

MONTH WISE PLAN

S.NO	MONTH	TOPICS	REMARKS
1	MAY & JULY	**PART A : Foundations of Business** ❖ **UNIT 1: Evolution and Fundamentals of Business** **Learning Objective:** To enable students … • To know the history of Commerce in India • To understand the concept and features of business & its classification into Industry & Commerce. • To understand the concept of business, profession and employment and to differentiate between them. • To appreciate the economic and social objectives of business.	

		• To examine the role of profit in business. ***CONTENT :-*** • History of Trade and Commerce in India: • Indigenous Banking System, Rise of Intermediaries, Transport, Trading Communities: Merchant Corporations, Major Trade Centers, Major Imports and Exports, Position of Indian Sub-Continent in the World Economy. • Concept and Characteristics of Business • Business, Profession and Employment- Distinctive Features • Objectives of Business- Economic & Social, Role of Profit in Business • Classification of business activities: Industry & Commerce • Industry- Types: Primary, Secondary & Tertiary meaning and subgroups . • Commerce-trade: (types-internal, external; wholesale and retail) and auxiliaries to trade; (banking, insurance, transportation, warehousing, communication, and advertising) – meaning • Business risks- Concept , Nature and Causes of business risk. ❖ **UNIT 2: Forms of Business Organizations** **Learning Objective**: To enable students understand various forms in which business activity can be organized, its features, merits & demerits. ***CONTENT :-*** • Sole Proprietorship- Concept , Merits & Limitations	

		• Partnership- Concept , Types, Merits and Limitations of partnerships & partners, registration of a partnership firm, Partnership Deed, Types of partners. • Hindu Undivided Family Business : Concept • Cooperative Societies: Concept , types , merits & limitations	
2	**JULY**	**UNIT 2: Continued -----** • Company : Concept, merits and limitations :-Private, Public and One Person Company –concept . • Formation of a company- stages and important documents used in formation of company. • Choice of form of business organization ❖ **UNIT 3: Public, Private & Global Enterprises** **Learning Objective:** To enable students to understand the features of public enterprises. ***CONTENT :-*** • Private Sector & Public Sector Enterprises –concept • Forms of public sector enterprises : features, merits and limitations of departmental undertakings, statutory corporation and Government Company • Global Enterprises – Features. • Joint ventures, Public private partnership – concept ❖ **UNIT 4: Business Services** **Learning Objectives:** To understand the various business services and its applicability in daily life.	

		CONTENT :- • Banking: types of bank accounts- savings, current, recurring, fixed deposits and multiple option deposit account. • Banking services with particular reference to Bank Draft, Bank Overdraft, Cash credit. ***Continued ----***	
3	**AUGUST**	• E-Banking meaning, Types of digital payments . • Insurance: principles, concept of life, fire, health and marine insurance • Postal Service - Mail, Registered Post, Parcel, Speed Post, Courier - meaning ❖ **UNIT 5: Emerging Modes of Business** **Learning Objective:** Enabling students analyze the utility and competitive advantage offered by e-business over traditional business • E-Business- scope and benefits • Distinguish e-business from traditional business. • Business Process Outsourcing (BPO): Concept, need and scope ❖ **UNIT 6: Social Responsibility of Business and Business Ethics** **Learning Objective:** • Enabling students understand and appreciate role of business houses as socio-economic entities. • To enable students understand responsibility of business towards various stakeholders and importance of social responsibility.	

		CONTENT :- • Concept of social responsibility • Case for social responsibility • Responsibility towards owners, investors, consumers, employees, government and community • Environment protection and business • Business Ethics - Concept and Elements	
4	**SEPTEMBER**	***REVISION FOR TERM EXAMS***	
5	**OCTOBER**	❖ **UNIT 7: Sources of Business Finance** **Learning Objective:** To bring clarity on various sources of finance available and ensuring that students know which will be the most suitable source of finance in a particular situation. ***CONTENT :-*** • Concept and importance of Business Finance • Owners' funds- equity shares, preferences share, retained earnings, Global Depository receipt (GDR), American Depository Receipt (ADR) and International Depository Receipt (IDR) – concept . • Borrowed funds: debentures and bonds, loan from financial institution and commercial banks, public deposits, trade credit . • Distinguish between owners' funds and borrowed funds. • Inter Corporate Deposits (ICD) – Concept	

		❖ **UNIT 8: Small Business and Entrepreneurship Development** **Learning Objective:** Developing an understanding of meaning & role of small business in India. ***CONTENT :-*** • Entrepreneurship Development (ED): Concept and Need. Process of Entrepreneurship Development: Start-up India Scheme, ways to fund start-up. • Intellectual Property Rights and Entrepreneurship • Small scale enterprise – Definition, Role of small business in India with special reference to rural areas. • Government schemes and agencies for small scale industries: National Small Industries Corporation (NSIC) and District Industrial Centre (DIC) with special reference to rural, backward areas.	
6	**NOVEMBER**	❖ **UNIT 9: Internal Trade** **Learning Objective:** Developing an appreciation for role of middleman in internal trade. ***CONTENT:-*** • Internal Trade - meaning and types of services rendered by a wholesaler and a retailer . • Large scale retailers- Departmental stores and Chain stores- Concept • Types of retail-trade-Itinerant and small scale fixed shops retailers • GST (Goods and Services Tax): Concept and key- features.	

		❖ **UNIT TEST -2**	
7	**DECEMBER**	❖ **<u>UNIT 10: International Business</u>** **Learning Objective:** • Creating an understanding for import export procedure • Developing an understanding of International trade benefits to nation and business firms. ***CONTENT :-*** • International trade- Concept • Benefit of international trade to the nation and business firms • Export trade – Meaning and procedure • Import Trade - Meaning and procedure • Documents involved in International Trade: indent, letter of credit, shipping order, shipping bills, mate's receipt (DA/DP) • World Trade Organization (WTO) meaning and Objectives in promoting international trade . ❖ **PROJECT WORK**	
8	**JANUARY & FEBRUARY**	❖ **REVISION FOR FINAL EXAMS**	

CHEMISTRY ACADEMIC PLANNER
CLASS XI
SESSION 2022-2023

Time:3Hours **Total Marks70**

S.NO	UNIT	PERIODS	MARKS
1	Some Basic Concepts of Chemistry	18	7
2	Structure of Atom	20	9
3	Classification of Elements and Periodicity in Properties	12	6
4	Chemical Bonding and Molecular Structure	20	7
5	Chemical Thermodynamics	23	9
6	Equilibrium	20	7
7	Redox Reactions	9	4
8	Organic Chemistry: Some basic Principles and Techniques	20	11
9	Hydrocarbons	18	10
	TOTAL	**160**	**70**

S. NO.	MONTH	UNIT	
1.	MAY/JUNE	Unit I: Some Basic Concepts of Chemistry	General Introduction: Importance and scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.
2.	JULY	Unit II: Structure of Atom	Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.
3.	JULY/AUG	Unit III: Classification of Elements and	Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -

		Periodicity in Properties 1	atomic radii, ionic radii, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100
4.	AUG	Unit IV: Chemical Bonding and Molecular Structure	Valence electrons, ionic bond, covalent bond, bond parameters, Lewis's structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.
5.	OCT	Unit VI: Chemical Thermodynamics	Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH, Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction) Introduction of entropy as a state function, Gibb's energy change for spontaneous and non- spontaneous processes, criteria for equilibrium. Third law of thermodynamics (brief introduction).
6.	OCT	Unit VII: Equilibrium	Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, hydrolysis of salts (elementary idea), buffer solution, Henderson Equation, solubility product, common ion effect (with illustrative examples).
7.	NOV	Unit VIII: Redox Reactions	Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.
8.	NOV	Unit XII: Organic Chemistry -Some Basic Principles and Techniques	General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.
9.	DEC/JAN	Unit XIII: Hydrocarbons 18 Periods Classification of	Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, the structure of double bond

		Hydrocarbons Aliphatic Hydrocarbons:	(ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, the structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water. Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of the functional group in monosubstituted benzene. Carcinogenicity and toxicity.

PRACTICALS 3 HOURS/ 30 Marks

Evaluation Scheme for Examination	Marks
Volumetric Analysis	08
Salt Analysis	08
Content Based Experiment	06
Project Work	04
Class record and viva	04
Total	**30**

PRACTICAL SYLLABUS

Total Periods: 60

Micro-chemical methods are available for several of the practical experiments, wherever possible such techniques should be used.

A. Basic Laboratory Techniques

1. Cutting glass tube and glass rod

2. Bending a glass tube

3. Drawing out a glass jet

4. Boring a cork

B. Characterization and Purification of Chemical Substances

1. Determination of melting point of an organic compound.

2. Determination of boiling point of an organic compound.

3. Crystallization of impure sample of any one of the following: Alum, Copper Sulphate, Benzoic Acid.

C. Experiments based on pH

1. Any one of the following experiments:

- Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.

- Comparing the pH of solutions of strong and weak acids of same concentration. Study the pH change in the titration of a strong base using universal indicator.

2. Study the pH change by common-ion in case of weak acids and weak bases.

D. Chemical Equilibrium One of the following experiments:

1. Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.

2. Study the shift in equilibrium between $[Co(H_2O)_6]^{2+}$ and chloride ions by changing the concentration of either of the ions.

E. Quantitative Estimation

1. Using a mechanical balance/electronic balance.

2. Preparation of standard solution of Oxalic acid.

3. Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid.

4. Preparation of standard solution of Sodium carbonate.

5. Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

F. Qualitative Analysis

1. Determination of one anion and one cation in a given salt

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

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

2. Detection of -Nitrogen, Sulphur, Chlorine in organic compounds.

G. PROJECTS

Scientific investigations involving laboratory testing and collecting information from other sources. A few suggested Projects

- Checking the bacterial contamination in drinking water by testing sulphide ion
- Study of the methods of purification of water
- Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).
- Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it
- Study the acidity of different samples of tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study the effect of acids and bases on the tensile strength of fibers.
- Study of acidity of fruit and vegetable juices. Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

PRESCRIBED BOOKS: 1. Chemistry Part – I, Class-XI, Published by NCERT. 2. Chemistry Part – II, Class-XI, Published by NCERT. 3. Laboratory Manual of Chemistry, Class XI Published by NCERT

Computer Science
CLASS-XI
Code No. 083
2022-23

1. Learning Outcomes

Student should be able to

a) develop basic computational thinking
b) explain and use data types
c) appreciate the notion of algorithm
d) develop a basic understanding of computer systems - architecture, operating system and cloud computing
e) explain cyber ethics, cyber safety and cybercrime
f) Understand the value of technology in societies along with consideration of gender and disability issues

2. Distribution of Marks

Unit No.	Unit Name	Marks	Periods	
			Theory	Practical
I	Computer Systems and Organisation	10	10	10
II	Computational Thinking and Programming - 1	45	80	60
III	Society, Law and Ethics	15	20	----
	Total	70	110	70

3. Unit wise Syllabus

Unit I: Computer Systems and Organisation

- Basic Computer Organisation: Introduction to computer system, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB, GB, TB, PB)
- Types of software: system software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & interpreter), application software
- Operating system (OS): functions of operating system, OS user interface
- Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth table, De Morgan's laws and logic circuits
- Number system: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems.
- Encoding schemes: ASCII, ISCII and UNICODE (UTF8, UTF32)

Unit II: Computational Thinking and Programming – 1

- Introduction to problem solving: Steps for problem solving (analysing the problem, developing an algorithm, coding, testing and debugging). representation of algorithms using flow chart and pseudo code, decomposition
- Familiarization with the basics of Python programming: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments
- Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types
- Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in)
- Expressions, statement, type conversion & input/output: precedence of operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output
- Errors: syntax errors, logical errors, runtime errors
- Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control
- Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number
- Iterative statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number etc
- Strings: introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops, built-in functions: len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split()
- Lists: introduction, indexing, list operations (concatenation, repetition, membership & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list
- Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership & slicing), built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple, suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple
- Dictionary: introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy(); suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them
- Introduction to Python modules: Importing module using 'import <module>' and using from statement, Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median, mode)

Unit III: Society, Law and Ethics

- Digital Footprints
- Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes
- Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache)
- Cyber-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime
- Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.
- Safely accessing web sites: malware, viruses, trojans, adware
- E-waste management: proper disposal of used electronic gadgets
- Indian Information Technology Act (IT Act)
- Technology & Society: Gender and disability issues while teaching and using computers

4. Practical

S.No.	Unit Name	Marks (Total=30)
1.	**Lab Test (12 marks)**	
	Python program (60% logic + 20% documentation + 20% code quality)	**12**
2.	**Report File + Viva (10 marks)**	
	Report file: Minimum 20 Python programs	**7**
	Viva voce	**3**
3.	Project (that uses most of the concepts that have been learnt) (See CS-XII for the rules regarding the projects)	**8**

5. Suggested Practical List

Python Programming

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loop.

Pattern-1	Pattern-2	Pattern-3
* ** *** **** *****	1 2 3 4 5 1 2 3 4 1 2 3 1 2 1	A AB ABC ABCD ABCDE

- Write a program to input the value of x and n and print the sum of the following series:
  - $1+x+x^2+x^3+x^4+. \ldots\ldots\ldots x^n$
  - $1-x+x^2-x^3+x^4 \ldots\ldots\ldots\ldots\ldots\ldots x^n$
  - $x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \ldots\ldots\ldots\ldots \frac{x^n}{n}$
  - $x + \frac{x^2}{2!} - \frac{x^3}{3!} + \frac{x^4}{4!} \ldots\ldots\ldots\ldots \frac{x^n}{n!}$
- Determine whether a number is a perfect number, an armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Input a list of numbers and find the smallest and largest number from the list.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have scored marks above 75.

6. Suggested Reading Material

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

CURRICULUM PLANNER FOR CLASS XI ECONOMICS (2022-23)

CODE 030

Rationale

Economics is one of the social sciences, which has great influence on every human being. As economic life and the economy go through changes, the need to ground education in children's own experience becomes essential. While doing so, it is imperative to provide them opportunities to acquire analytical skills to observe and understand the economic realities.

At senior secondary stage, the learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage, the learners are exposed to the rigor of the discipline of economics in a systematic way.

The economics courses are introduced in such a way that in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day life and also from issues, which are broader and invisible in nature. The academic skills that they learn in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

THEORY : 80 MARKS
PROJECT: 20 MARKS

S.NO	TOPICS	MARKS	PERIODS	
PART-A	***STATISTICS FOR ECONOMICS***			
1	Introduction,Collection,Organization and Presentation of Data	15	40	
2	Statistical tool and Interpretation	25	50	
		40		
PART- B	***INTRODUCTORY MICROECONOMICS***			
1	Introduction	04	10	
2	Consumer's equilibrium and Demand	15	40	
3	Producer Behaviour and Supply	15	35	
4	Forms of Market and Price Determination	06	25	
		40	**200**	
PART- C	Project work	**20**	**20**	

MONTH	UNITS	REMARKS
MAY / JUNE **Learning Objectives**	**<u>INTRODUCTORY MICRO ECONOMICS</u>** **UNIT - 1 Introduction** • Students will be able to understand the subject matter and basic concepts of Micro Economics. **Topics** • Meaning of microeconomics and macroeconomics • Positive and Normative economics • What is an economy? • Central Problems of an economy : what , how and for whom to produce? • Concepts of production possibility frontier • Opportunity cost	
Skills enhanced	Analytical Thinking	
JULY **Learning objectives**	**<u>STATISTICS FOR ECONOMICS</u>** **UNIT- 1 Introduction** • Learners will be able to understand meaning and basic concepts of statistics. • To give wider approach to student's that how	

	actually data is collected and used in further investigation. **Topics** • What is economics ? • Meaning , scope , functions and importance of statistics in economics. **UNIT – 1 Collection of Data** **Topics** • Sources of data – primary and secondary • How basic data is collected with concepts of sampling • Methods of collecting data • Census of India • National sample survey organisation	
Skills enhanced	Problem Solving , Analytical learning, Kinesthetic learning	
JULY **Learning Objectives**	**INTRODUCTORY MICRO ECONOMICS** **UNIT – 2 Theory of Demand and Elasticity Of Demand** • Learners will understand the relationship between price and quantity demanded. • It will give learners a realistic approach towards factors affecting demand and reasons behind it. **Topics** • Demand • Market Demand • Determinants pf Demand • Demand Schedule • Demand Curve and its Slope • Price Elasticity Of Demand • Measurement of Price Elasticity of Demand • Percentage Method and Total Expenditure Method	
Skills enhanced	●Comparative Analytical Thinking	
AUGUST **Learning Objectives**	**STATISTICS FOR ECONOMICS** **Ch- 3 & 4 Organisation and Presentation of Data** • Learners will be able understand the methods of classification • To understand the concept related to frequency distribution.	

	• Learners will be able to convert the raw data into tables. • Students will be able to draw diagrams and solve practical problems through it. • To understand the general rules and limitations of Diagrammatic presentation. **Topics** • Meaning and types of variables • Frequency distribution • Tabular presentation and Diagrammatic Presentation of Data • Geometric Forms (Bar diagrams & Pie diagrams) • Frequency diagrams (Histogram , Polygon & Ogive) • Arithmetic Line Graph (Time series graph)	
Skills enhanced	Presentation skills, Presentation Skills	
AUGUST **Learning Objectives**	**<u>STATISTICS FOR ECONOMICS</u>** **Measures of Central Tendency – Mean , Median and Mode** • Learners will be able to comprehend the functions and objectives of an average. • To enable students to calculate arithmetic, weighted and combined mean. • Students will be able to understand the calculation of median and mode • Students will get understanding of Graphic location of Median and mode. **Topics** • Measures of Central Tendency – Mean • Measures of Central Tendency – Median • Measures of Central Tendency – Mode	
Skills enhanced	Analytical skills, Synthesis of data , Analytical evaluation Skills, Problem Solving	
SETEMBER	**FIRST TERM EXAMS**	
OCTOBER	**<u>INTRODUCTORY MICRO ECONOMICS</u>**	

Learning Objectives	**UNIT – 2 Consumer's Equilibrium** • Students will be able to use their knowledge in pragmatic way related to consumption of commodity with the help of cardinal and ordinal approach. • **Topics** • Consumer's Equilibrium- Meaning • Marginal Utility • Law of diminishing marginal utility • Conditions of consumer's equilibrium using marginal utility analysis • Indifference curve analysis of consumer's equilibrium • The consumer's budget (budget set & budget line) • Preference of the consumer (indifference curve , indifference map) • Conditions of consumer's equilibrium	
Skills enhanced	Logical thinking , comparative and analytical skills , Logical Reasoning	
OCTOBER **Learning Objectives**	**<u>STATISTICS FOR ECONOMICS</u>** **UNIT – 3 Introduction to Index Numbers** • Students will be able to solve problems and provide interpretation for the result derived. • Learners will be able to understand the problems, uses and limitations of Index numbers. • To understand the methods of constructing Index numbers. **Topics** • Meaning • Types – wholesale price index , consumer price index and index of industrial production • Inflation and Index Numbers	
Skills enhanced	Critical and creative thinking , Critical Evaluation	
NOVEMBER **Learning Objectives**	**<u>INTRODUCTORY MICRO ECONOMICS</u>** **UNIT -3 Producer Behaviour and Supply** • To develop understanding among students	

	about factors affecting supply and producer behavior. **Topics** • Meaning of Production Function- Short Run & Long Run • Total Product , Average Product & Marginal Product • Returns to a Factor • Concept of Cost • Short Run Costs – Total Cost , Total Variable Cost & Total Fixed Cost • Average Cost , Average Fixed Cost & Average Variable Cost • Marginal Cost • Relationship among various types of costs	
Skills enhanced	Initiative and entrepreneurialism skills, Cognitive Skills	
NOVEMBER **Learning Objectives**	**STATISTICS FOR ECONOMICS** **UNIT – 3 Statistical Tools & Interpretation – Correlation** • Students will be able to find the degree of the correlation between two series. • To analyse the relationship between two variables • Students will be able to solve problems and provide interpretation for the result derived. **Topics** • Meaning and Properties • Scatter Diagram • Measures of Correlation • Karlperson's Method (two variables – ungrouped data) • Spearsman's rank correlation	
Skills enhanced	Analytical skills, Synthesis of data , Analytical Skills	
DECEMBER **Learning Objective**	**INTRODUCTORY MICRO ECONOMICS** **UNIT -3 Producer Behaviour and Supply** • To develop understanding among students about factors affecting supply and producer	

	behavior. **Topics** • Revenue – Total , Average and Marginal Revenue – Meaning and their relationships. • Producer's Equilibrium – Meaning and its conditions in terms of marginal revenue , marginal cost. • Supply – Meaning • Market Supply • Determinants of Supply • Supply Schedule • Supply Curve and its Slope • Movement along and Shifts in Supply Curve • Price Elasticity of Supply • Measurement of Price Elasticity of Supply – Percentage Method	
Skills Enhanced	Logical thinking	
JANUARY **Learning Objectives**	**<u>INTRODUCTORY MICRO ECONOMICS</u>** **UNIT -7 Forms of Market and Price Determination of Market Equilibrium and Effects of Shifts in Demand and Supply.** • To enhance the understanding of learners about different forms of market. • To explain the working of market mechanism **Topics** • Perfect Competition – Features • Determination of Market Equilibrium and Effects of Shift in Demand and Supply • Simple Applications of Demand and Supply: Price Ceiling , Price Floor.	
Skills Enhanced	Logical thinking	
FEBRUARY	**FINAL PRACTICALS, REVISION**	

Academic Plan for Class XI Geography

2022-23

RATIONALE

Geography is introduced as an elective subject at the senior secondary stage. After ten years of general education, students branch out at the beginning of this stage and are exposed to the rigors of the discipline for the first time. Being an entry point for the higher education, students choose Geography for pursuing their academic interest and, therefore, need a broader and deeper understanding of the subject. For others, geographical knowledge is useful in daily lives because it is a valuable medium for the education of young people. Its contribution lies in the content, cognitive processes, skills and values that Geography promotes and thus helps the students explore, understand and evaluate the environmental and social dimensions of the world in a better manner.

Unit	**Part-A :** **Fundamentals of Physical Geography**	**Periods** (87)	**Marks** (35)
1 2 3 4 5 6	Geography as a discipline The Earth Landforms Climate Water (Oceans) Life on Earth	04 11 20 30 10 7	30
	Map and Diagram	5	5
	Part B : **India Physical Environment**	78	35
7 8 9 10	Introduction Physiography Climate, vegetation and soil Hazards and Disasters: causes, consequences and management	04 28 28 14	30
	Map Of India	04	5
	PART C: **Practical Work**		30
1 2 3	Fundamentals of Maps Topographic and weather maps Practical record book and viva	20 30	10 15 5

Month	Unit	Number of Periods	Status of Syllabus
JULY	Part A : Fundamentals of physical geography Unit 1: Geography as a discipline	5	
Learning objective Topics	•To understand about the meaning of geography •Categorize geography •Study of geography under different sciences		
Topics	• Geography as an integrating discipline, as a science of spatial attributes. • Branches of geography, physical geography and human geography •Scope and career options		
JULY	Unit 2: The Earth Unit 3: Landforms	22	
Learning objectives	•To understand about the formation of universe •To understand about different landforms •To learn endogenic and exogenic forces		
Topics	• Origin and evolution of the Earth; Interior of the Earth • Wegener's continental drift theory and plate tectonics • Earthquakes and volcanoes: causes, types and effects • Rocks: major types of rocks and their characteristics • Geomorphic processes: Weathering, mass wasting, erosion and deposition, soil formation • Landforms and their evolution(erosional and depositional features)		
Reference book	JPH Geography		
AUGUST	Unit 4: Climate	24	

Learning Objective	To develop understanding among students about factors affecting supply and producer behaviour.		
Topics	• Atmosphere-Composition and structure; elements of weather and climate. • Insolation- angle of incidence and distribution; heat budget of the Earth- heating and cooling of atmosphere (conduction, convection, terrestrial radiation and advection); temperature- factors controlling temperature; distribution of temperature- horizontal and vertical; inversion of temperature. • Pressure- pressure belts; winds planetary, seasonal and local; air masses and fronts; tropical and extra tropical cyclones. • Precipitation- evaporation; condensation- dew, frost fog, mist and cloud; rainfall types and world distribution. • Climate and global concerns.		
AUGUST	Unit-5 Water(Oceans) PART-C (PRACTICAL WORK) Unit-1 Fundamental of maps	23	
Learning Objectives	•To understand about water resources •To explain circulation of water in oceans		
Topics	• Basics of Oceanography • Ocean- distribution of water and salinity • Movement of ocean water- waves, tides and currents; submarine reliefs. • Ocean resources and pollution. • Geo spatial data, concept of geographical data matrix, point, line, area data. • Maps-types; scale types; construction of simple linear scale, measuring distance, finding directions and use of symbols • Map projection- Latitude, longitude and time, typology, construction and properties of projection: conical with one standard parallel and Mercator's projection. (only two projections)		
Reference book	JPH Geography		
AUGUST	Unit-6 Life on the Earth	23	

Learning	•To enable students about the origin of life on		
Objective	•Earth • To understand about ecosystem		
Topics	• Biosphere- importance of plants and other organisms • bio diversity and conservation •ecosystem • ecological balance		
Reference book	JPH Geography		
SEPTEMBER	Revision and First Term Examination.	8	
Reference book	JPH Geography		
OCTOBER	PART-B INDIA- PHYSICAL ENVIRONMENT Unit-7 Introduction Unit 8 Physiography	20	
Learning Objective	•To develop the importance of India's physiographic division •To learn about physical features of India		
Topics	Unit 7 • Location • Space relations • India's place in the world Unit 8 • Structure and relief: physiographic divisions • Drainage system • Concept of river basins • Watershed • The Himalayan and the peninsular rivers		
Reference book	JPH Geography		
NOVEMBER	Unit 9 Climate, vegetation and soil	17	

Learning Objective	•To help students understand the causes of appreciation and depreciation of foreign currency. •To understand various components of Balance of Payments account.		
Topics	• Weather and climate-spatial and temporal distribution of temperature •Pressure winds and rainfall •Indian monsoon: mechanism, onset and withdrawal •Variability of rainfalls: spatial and temporal •Use of weather charts •Natural vegetation- forests types and distribution •Wildlife conservation •Biosphere reserves •Soil major types and their distribution •Soil degradation and conservation		
Refrence book	JPH Geography		
DECEMBER	PART –C Unit 2- Topographic and weather maps	21	
Learning Objective	•To enable students understand the pattern of questions and paper for board.		
Topics	• Study of topographic maps (1:50,000 or 1:25,000 survey of India maps) contour cross section and identification of landforms- slopes, hills, valley, waterfall, cliffs, distribution of settlements. •Aerial photographs: Types and Geometry- vertical aerial photographs; difference between maps and aerial photographs; photo scale determination. Identification of physical and cultural features. •Satellite imageries, stages in remote sensing data- acquisition, platform and sensors and data products(photographic and digital) •Use of weather instruments: thermometer, wet and dry bulb thermometer. Barometer, wind vane, rain gauge.		
Reference book	JPH Geography		

JANUARY	Unit-10 Hazards and disasters: causes, consequences and management	16	
Learning Objective	• To learn about disasters • To understand about the causes of disaster		
Topics	• Floods, cloudbursts • Drought types and impact • Earthquakes and Tsunami • Cyclones: features and impact • Landslides		
Reference book	JPH Geography		
FEBRUARY	Revision and Final exams		

ACADEMIC PLAN (2022-23)

SUBJECT: HISTORY

CLASS: XI

MAX MARKS: 80 MARKS

PROJECT WORK: 20 MARKS

INDEX

SYLLABUS

THEME	UNITS	MARKS
1.	**Section A: Early Societies** Introduction 1. Writing and City Life	10
2.	**Section A: Empires** Introduction 3. An Empire across three continents 4. Nomadic Empires	 10 10
3.	**Section C: Changing Traditions** Introduction 6. Three orders 7. Changing cultural traditions	 10 10
4.	**Section D: Paths to Modernization** Introduction 9. Displacing Indigenous Population 10. Paths to Modernization	 10 15
4.	**Map Work**	05
	TOTAL	80
	PROJECT WORK (INTERNAL ASSESSMENT)	20
	GRAND TOTAL	100

DELETED/REMOVED CHAPTERS

S.NO	TOPIC	THEME	DELETED PORTION
1.	Early Societies	Theme 1	Complete Chapter
2.	Central Islamic lands	Theme 4	Complete Chapter
3.	Confrontation of Cultures	Theme 8	Complete Chapter
4.	Industrial Revolution	Theme 9	Complete Chapter

MONTH WISE DIVISION OF SYLLABUS

MONTH	THEMES
MAY	Introduction to World History 1. Writing and City Life: Focus: Iraq, 3rd millennium BCE (a) Growth of towns. (b) Nature of early urban societies. (c) Historians' Debate on uses of writing. Project work, Map Work

JULY	SECTION II: EMPIRES Introduction 3. An Empire across Three Continents: Timeline –circa 100 BCE to 100 CE Focus: Roman Empire, 27 BCE to 600 CE (a) Political evolution (b) Economic expansion (c) Religious-cultural foundation (d) Late Antiquity. (e) Historians' views on the institution of Slavery. . Map Work 5. Nomadic Empires Focus: the Mongol, 13th to 14th century (a) The nature of nomads. (b) Formation of empires. (c) Conquests and relations with other states. Historians' views on nomadic societies and state formation.
AUGUST	SECTION III: CHANGING TRADITIONS Introduction 6. Three Orders: Timeline- Circa 1300-1700 CE Focus: Western Europe, 13th-16th century (a) Feudal society and economy. (b) Formation of states. (c) Church and Society. (d) Historians' views on decline of feudalism. 7. Changing Cultural Traditions: Focus on Europe, 14th to 17th century. (a) New ideas and new trends in literature and arts. (b) Relationship with earlier ideas (c) The contribution of West Asia. (d) Historians' viewpoints on the validity of the notion 'European Renaissance'. Map Work

SEP	**REVISION WORK** **MID TERM EXAM** **DISCUSSION ON QUESTION PAPER,** **PROJECT WORK**
OCT	10. Displacing Indigenous People Focus on North America and Australia, I8th-20th century. (a) European colonists in North America and Australia. (b) Formation of white settler societies. (c) Displacement and repression of local people. (d) Historians' viewpoints on the impact of European settlement on indigenous population. Map Work
NOV	11. Paths to Modernization Focus on East Asia, late 19th and 20th century. (a) Militarization and economic growth in Japan. Map Work, Project Work (b) China and the Communist alternative. (c) Historians' Debate on the meaning of Modernization
DEC-MAR	PRACTICE WORK TOPIC RELATED PROBLEMS OF STUDENTS AND THEIR SOLUTIONS CHAPTER 1 TO 11: REVISION FROM SUPPORT MATERIAL AND MAP PRACTICE ANNUAL EXAMS, EVALUATION WORK AND PREPARATION OF ASSESSMENT RESULT

UT-1 SYLLABUS

MM. 30

S.NO	TOPIC
1.	Theme 1 Early societies
2.	Theme 2 writing and city life
3.	Theme 3 An Empire across 3 Continents

UT-2 SYLLABUS

MM. 30

S.NO	TOPIC
1.	Theme 7 Changing Cultural Traditions
2.	Theme 10 Displacing Indigenous People
3.	Theme 11 Paths to Modernization

TERM-1 SYLLABUS

MM. 50

S.NO	TOPIC
1.	Theme 1 Early societies
2.	Theme 2 writing and city life
3.	Theme 3 An Empire across 3 Continents
4.	Theme 5 Nomadic Empire

- **FINAL EXAM SYLLABUS WILL INCLUDE ALL THE CHAPTERS ACCORDING TO THE NEW SYLLABUS**.

SAMPLE QUESTION PAPER (2020-21)

HISTORY (027)

CLASS-XI

Time Allowed:3hrs. Max. Marks:80

	PART- A **Answer all the questions give below:**	1*20=20
1.	Which of these was the oldest Mesopotamian town? a) Uruk b) Ur c) Sumeria d) Mari	1
2.	The first known language of Mesopotamia?	1
3.	Who was responsible for the introduction of feudalism in England?	1
4.	What do you mean by cuneiform?	1
5.	Name the sea that separates Europe with Asia	1
6.	What was Christianization? a) The process by which Christianity was studied by people. b) The process by which people started opposing Christianity. c) The process by which Christianity spread among different groups and became a dominant religion.	1
7.	Who made the printing press?	1
8.	Why the various laws relating to the improvement in the working conditions of children and women could not be enforced effectively?	1
9.	Which of these factors was responsible for the 14th century crisis? a) Policy changes	1

	b) Growth of new ideas c) Environmental changes d) Both a and b	
10.	What do you understand by 'Meiji Restoration'	1
11.	Fill in the blanks: The temples of Mesopotamia were known as _____	1
12.	Fill in the blanks: The_____could not leave the estate without the permissions of their masters/lords.	1
13.	Fill in the blanks: _____painted the Sistine chapel.	1
14.	Fill in the blanks: The first railway line connected the cities of_____and _____	1
15.	Identify the following image and write its name  Or	1

		
16.	State whether True/False: Feudalism was abolished in japan in 1871 under the Meiji rule.	1
17.	State whether True/False: Water transport was not a necessary condition of early urbanization	1
18.	State whether True/False: The protestant movement was launched in Europe in 19th century.	1
19.	State whether True/False: Sharia refers to Islamic calendar	1
20.	What do you understand by the "great Australian silence"	1
	PART- B	
21.	What is the legacy of Mesopotamia to the world?	3
22.	What were the reasons for the Abbasid uprising?	3
23.	Write a short note on Sun Yat-Sen	3
	PART- C	
24.	What were crusades? What were its effects on the European life?	8
25.	Discuss the factors responsible for the decline of feudalism.	8
26.	Describe key features of renaissance.	8
27.	Briefly discuss the debates on the 'Industrial Revolution'	8
	PART- C	

28.	The Examination System Entry to the elite ruling class (about 1.1 million till 1850) had been largely through an examination. This required writing an eight-legged essay [pa-ku wen] in classical Chinese in a prescribed form. The examination was held twice every three years, at different levels and of those allowed to sit only 1-2 per cent passed the first level, usually by the age of 24, to become what was called ‘beautiful talent’. At any given	2+2+1=5

	time before 1850 there were about 526,869 civil and 212,330 military provincials (sheng-yuan) degree holders in the whole country. Since there were only 27,000 official positions, many lower-level degree holders did not have jobs. The examination acted as a barrier to the development of science and technology as it demanded only literary skills. In 1905, it was abolished as it was based on skills in classical Chinese learning that had, it was felt, no relevance for the modern world. a) Give salient features of the Chinese examination system. b) When and why was it abolished? c) What reforms were introduced in the educational system?	
29.	On the Treatment of Slaves 'Soon afterwards the City Prefect, Lucius Pedanius Secundus, was murdered by one of his slaves. After the murder, ancient custom required that every slave residing under the same roof must be executed. But a crowd gathered, eager to save so many innocent lives; and rioting began. The senate-house was besieged. Inside, there was feeling against excessive severity, but the majority opposed any change (….) [The senators] favouring execution prevailed. However, great crowds ready with stones and torches prevented the order from being carried out. Nero rebuked the population by edict, and lined with troops the whole route along which those condemned were taken for execution.' – Tacitus (55-117), historian of the early empire. a) In whose reign did the incident occur? b) Why did the slave labour decline after the 1st century? c) Was roman society a slave society? Give 2 reasons to support your answer d) How did the users of slave labour try to overcome the decline in supply?	1+1+2+1=5
30.	Paper, Geniza Records and History In the central Islamic lands, written works were widely circulated after the introduction of paper. Paper (made from linen) came from China, where the manufacturing process was a closely guarded secret. In 751, the Muslim governor of Samarqand took 20,000 Chinese invaders as prisoners, some of whom were good at making paper. For the next 100 years, Samarqand paper remained an important export item. Since Islam prohibited monopolies, paper began to be manufactured in the rest of the Islamic world. By the middle of the tenth century, it had more or less replaced papyrus, the writing material made from the inner stem of a plant that grew freely in the Nile valley. Demand for paper increased, and Abd al-Latif, a	1+2+2=5

	doctor from Baghdad (see his depiction of the ideal student on p. 98) and a resident of Egypt between 1193 and 1207, reported how Egyptian peasants robbed graves to obtain mummy wrappings made of linen to sell to paper factories. Paper also facilitated the writing of commercial and personal documents of all kinds. In 1896, a huge collection of medieval Jewish documents was discovered in a sealed room (Geniza, pronounced ghaniza) of the Ben Ezra synagogue in Fustat. The documents had been preserved thanks to the Jewish practice of not destroying any piece of writing that contained the name of God. The Geniza was found to contain over a quarter of a million manuscripts and fragments dating back as far as the mid eighth century. Most of the material dated from the tenth to the thirteenth centuries, that is, from the Fatimid, Ayyubid and early Mamluk periods. These included personal letters between merchants, family and friends, contracts, promises of dowry, sale documents, laundry lists, and other trivia. Most of the documents were written in Judaeo-Arabic, a version of Arabic written in Hebrew characters that was commonly used by Jewish communities throughout the medieval Mediterranean. The Geniza documents provide rich insights into personal and economic experiences as also into Mediterranean and Islamic culture. The documents also suggest that the business skills and commercial techniques of merchants of the medieval Islamic world were more advanced than those of their European counterparts. Goitein wrote a multi-volume history of the Mediterranean from Geniza records, and Amitav Ghosh was inspired by a Geniza letter to tell the story of an Indian slave in his book, In an Antique Land. a) What does the word 'Geniza' mean? b) What are the Geniza records? c) In what languages are the records?	
	PART- E	
31.	a) On the map of Britain, mark and locate any 2 cotton textile manufacturing areas. 	2+2=4

	b) Identify the places marked on the map of West Asia. 1. Constantinople 2. Mecca  	

ACADEMIC PLAN 2022-23
CLASS XI
ENGLISH CORE

NEW SYLLABUS:

1. **Hornbill:** English Reader published by National Council of Education Research and Training, New Delhi
   - The Portrait of a Lady (Prose)
   - A Photograph (Poem)
   - "We're Not Afraid to Die…if we can be together
   - Discovering Tut: The Saga Continues
   - The Laburnum Top (Poem)
   - The Voice of the Rain (Poem)
   - Childhood(Poem)
   - The Adventure
   - Silk Road (Prose)
   - Father to Son
2. **Snapshots:** Supplementary Reader published by National Council of Education Research and Training, NewDelhi
   - The Summer of the Beautiful White Horse (Prose)
   - The Address (Prose)
   - Mother's Day (Play)
   - Birth (Prose)
   - The Tale of Melon City

INTERNAL ASSESSMENT
Assessment of Listening Skills – 05 marks
Assessment of Speaking Skills–05 Marks
Project Work- 10 Marks

Question Paper Design 2022-23

English Core XI (CodeNo.301)

Section	Competencies	Totalmarks
Reading Skills	Conceptual understanding, decoding, Analyzing,inferring,interpreting,appreciating,literary,conventions and vocabulary, summarizing andusing appropriateformat/s.	26
Creative Writing Skills	Conceptual Understanding, application of rules, Analysis, Reasoning, appropriacy of style and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity.	23
Literature Text Books and Supplementary Reading Texts	Recalling, reasoning, appreciating literary convention, inference, analysis, creativity with fluency, Critical Thinking.	31
	TOTAL	**80**
	Assessment of Listening and Speaking Skills	**10**
	Internal Assessment • Listening • Speaking • ProjectWork	 5 5 10
	GRAND TOTAL	**100**

Syllabus Planned

UT 1
Reading
Comprehension Passage

Writing
Poster Designing

Grammar
Integrated Grammar
Editing/Omission

Literature
The Portrait of a Lady
A Photograph
The Summer of The Beautiful White Horse

TERM 1
Reading -
Unseen passage
Note Making

Writing -
Poster designing
Speech
Debate
Letter Writing:Business letters- placing order, complaint, enquiry, cancellation and extension of date

Grammar-
Integrated grammar
Tenses
Clauses
Reordering/ Transformation of sentences

Literature-
Hornbill-
• The Portrait of a Lady
• Photograph
• We're not Afraid to Die..
• Discovering Tut..
• The Laburnum Top
• The Voice of the Rain

Snapshots-
• The Summer of the Beautiful White Horse
• The Address
• Mother's Day

UT 2
Reading
Note Making

Writing
Poster Making
Classified Advertisement

Grammar
Integrated Grammar
Editing/Omission
Gap Filling(Determiners and Tenses)

Literature
Childhood
The Adventure

Term 2

Reading -
Unseen passage
Note Making

Writing -
Classified Advertisement
Poster designing
Speech
Debate

Grammar-
Integrated grammar
Clauses
Tenses
Reordering/ Transformation of Sentences

Literature-

Hornbill:
The Portrait of a Lady (Prose)
A Photograph (Poem)
"We're Not Afraid to Die… if we can be together

Discovering Tut: the Saga Continues
The Laburnum Top (Poem)
The Voice of the Rain (Poem)
Childhood (Poem)
The Adventure
Silk Road (Prose)
Father to Son

Snapshots:
The Summer of the Beautiful White Horse (Prose)
The Address (Prose)
Mother's Day (Play)
Birth (Prose)
The Tale of Melon City

MONTHLY PLAN

TERM 1

MAY AND JUNE (22 periods)

Examination Specifications 1 Period
Writing: Poster Designing 3 Periods
Learning outcome: Students are able to design effective and coherent poster with accurate content and appropriate vocabulary.
Skills enhanced: Writing skills

Hornbill: The Portrait of a Lady 4 Periods

- Character Sketch of the grandmother
- Relationship between the grandmother and the writer (3 phases)
- Village education v/s city school education
- Extrapolation: Factual description of grandmother/grandfather

Learning Outcome: Students are able to understand the changing relationships between children, parents and grandparents.

Skills enhanced: Social skills , Interpersonal Skills

Reading: Reading Comprehension 2 Periods

Learning outcome: Students are able to understand how to skim and scan the passage and make inferences based on it.
Skills enhanced: Comprehending Skills, reading skills, Analytical skills

Hornbill: A Photograph (Poem) 3 Periods

- Nostalgic Memories evoked through a photograph
- Transience of human life
- Literary Devices: alliteration, oxymoron, synecdoche

Learning Outcome: Students are able to grasp the theme and meaning of poem. They are able to read the poem with proper tone, rhyme and develop an interest in poetry. They are able to understand the mother-daughter relationship which is intense and unique.

Skills enhanced: Poetic skills, Creative Thinking skills

We're Not Afraid To Die…if We Can All Be Together 5 Periods

- Human courage in the face of adversities
- Family bonding
- Adventure and thrill
- Extrapolation: Article on 'Adversity strengthens You'

Learning Outcome: Students are able to identify problems in life and learn to face the challenges with confidence and presence of mind

Skills enhanced: Problem Solving

Snapshots-: The Summer of the Beautiful White Horse 4 Periods

- Honesty and integrity- Traits of Garoghlanian Tribe
- Character sketch of Mourad
- Extrapolation: Debate on 'Conscience keeps us on The Right Track'

Learning Outcome: Students are able to cherish the golden period of childhood and gain an attitude to become honest and trustworthy in thought and action.

Skills enhanced: Life skills

JULY (25 periods)

Writing:

- Posters 2 Periods
- Speech Writing 3 Periods

Learning Outcome: Students are able to write effective and coherent essays with accurate content and appropriate vocabulary.

Skills enhanced: Writing skills, Creative Thinking skills

Reading: Reading Comprehension 2 Periods
Note Making 4 Periods

Learning Outcome: Students are able to use the note making method to develop good notes based on classroom discussions.

Skills enhanced: Analytical Skills, Writing Skills

Writing: Letter Writing:

- Business letters- placing order, complaint, enquiry, cancellation and extension of date

  6 Periods

Learning Outcome: Students are able to organize their thoughts and express them in proper format and relevant vocabulary.

Skills Enhanced: Writing Skills, critical Thinking skills

Grammar: Integrated Grammar, Transformation 2 Periods

Learning Outcome: Students will be able to comprehend and use grammatical organization for sentences. They are able to identify errors and frame correct sentences.

Hornbill: Discovering Tut: the Saga Continues 3 Periods

- The story of king Tut and the mystery surrounding his death
- C.T. scan of his mummy and the scientific revelations thereafter
- Extrapolation: Article on 'Learning History, the scientific way'

Learning Outcome: Students are able to relate the characteristics of Literature to larger cultural and human values.

Skills enhanced: Cognitive Skills

Laburnum Top (Poem) 3 Periods

- Arrival of goldfinch
- Activity on tree
- Departing of the bird

Learning Outcome: students are able to grasp the theme and meaning of poem. They are able to read the poem with proper tone, rhyme and develop an interest in poetry.

Skills enhanced: Poetic skills, Creative Thinking skills

AUGUST (21 periods)

Skills Enhanced: Writing Skills, critical Thinking skills

Grammar: Integrated Grammar- Tenses, Clauses, Transformation, sentence reordering 4 Periods

Learning Outcome: Students will be able to comprehend and use grammatical organization for sentences. They are able to identify errors and frame correct sentences.

Skills Enhanced: Communication Skills, Writing skills

Hornbill: Hornbill: The Voice of the Rain (Poem) 4 Periods

- Personification of Rain
- Water cycle

- Cleansing and purifying effects of Rain
- Similarity between Rain and Song

Learning Outcome: Students are able to appreciate the theme and style of poem. They are able to draw a comparison between human life and nature.

Skills enhanced: Poetic Skills , Comparative Skills

Snapshots:
The Address 5 Periods

- Poignant account of a daughter's search for her mother's belongings
- Human predicament that follows war
- Significance of 'Address', the objects and the memories they evoke
- Extrapolation: Class discussion on the gruesome partition of 1947

Learning Outcome: Students are sensitized towards the havoc and destruction that wars cause and they are able to practice brotherhood.

Skills enhanced: Emotional skills, Conflict Resolution Skills

Mother's Day 5 Periods

- Role of a mother in the family
- Character of Mrs. Pearson before and after the change in her personality
- Character sketch of Mrs. Fitzgerald, Cyril and Doris
- Extrapolation: class discussion on conservative v/s modern women

Learning Outcome: Students are able to understand the mother's stereotype and her significant role in family-bonding, to empathize with her problems and seek solution.

Skills enhanced: Interpersonal and Social Skills

ALS: Learning Outcome: Students are able to enhance their Listening and Speaking ability.
3 Periods

SEPTEMBER (9 periods): Revision for First Term Examination

OCTOBER (12 periods)

Reading: Comprehension 2 Periods
Learning outcome: Students are able to understand how to skim and scan the passage and make inferences based on it.

Hornbill: Childhood (Poem) 3 Periods

- Three phases of transition from childhood to adolescence
- Rationalisation, individuality, understanding hypocrisy, self realization

Learning Outcome: Students are able to co-relate themselves with personal experience and build up empathy and sympathy with the loss and final acceptance and optimism.

Skills enhanced: Interpersonal and Social Skills

Writing: Advertisements 5 periods

Learning Outcome: Students are able to write Advertisements in an efficient and coherent manner. They are able to write without difficulty in grammar, format usage, ideas and vocabulary.

Skills enhanced: Writing skills, Creative thinking skills

ALS PROJECT PLANNING AND GUIDANCE:
Learning Outcome: Students are able to enhance their Listening and Speaking ability.
2 Periods

NOVEMBER (22 periods)

Hornbill: The Adventure 5 Periods

- The existence of different parallel worlds
- Gaitonde's experience of a parallel world
- Two theories- Catastrophic Theory and Quantum Theory

Learning Outcome: Students are able to appreciate the significance theme and title of the chapter. They enhance their vocabulary

Skills enhanced: Interpersonal Skills, Critical Thinking Skills

Silk Road 6 Periods

- Importance of silk road
- Narrator's journey to Mt. Kailash
- Hardships faced by narrator
- Extempore on "Where there is a will there is a Way"

Learning Outcome: At the end of the chapter, students will be able to analyse the understanding between the various characters. Students are sensitized about the spirit of adventure and optimism in life.Students are able to understand the key ideas in the text. They are able to analyze the history and significance of Silk Road and correlate History with Literature.

Skills enhanced: Creative Skills, Collaborative skills, Interpersonal skills

Snapshots: The Tale of Melon City 3 Periods

- The king and his governance

- The blame game
- Use of Satire, Wit and Irony

Learning outcomes: Students will be enabled to inculcate values like social-connect, trust, co-operation. They will be able to analyse situations and take appropriate decisions and avoid taking foolish decisions.

Skills enhanced: Life skills such as Decision Making skills, analytical thinking, critical thinking.

Reading: Comprehension 2 Periods
Learning outcome: Students are able to understand how to skim and scan the passage and make inferences based on it.

Note making 4 Periods
Learning Outcome: Students are able to use the note making method to develop good notes based on classroom discussions.

Skills enhanced: Writing Skills, critical thinking skills

Grammar: Integrated Grammar 2 Periods
Learning Outcome: Students will be able to comprehend and use grammatical organization for sentences. They are able to identify errors and frame correct sentences.

Skills Enhanced: Communication Skills, Writing skills

DECEMBER (21 periods)

Snapshots: Birth 5 Periods

- The father's anxiety
- The doctor's dilemma
- Sense of fulfilment
- Extrapolation: Article on 'Ten years from now, I would be...'

Learning Outcome: Students are able to understand the role of any profession and keeping the faith and trust of people through it.

Skills enhanced: Life skills such as Decision Making skills, Personal and Social Responsibility

Hornbill: Father to Son 4 Periods

- Estranged Relationship between Father and Son
- Generation Gap
- Growing Disparities between Father and Son

Learning Outcome: At the end of the chapter, students will be able to analyse the relationship between two characters. They will be able to explain the difference between the inward and

outward feelings of characters and understand the importance of communication and love between relationships.

Skills enhanced: Creative Skills, critical thinking skills, Interpersonal skills

Reading: Comprehension 2 Periods

Learning outcome: Students are able to understand how to skim and scan the passage and make inferences based on it.

Note making 3 Periods

Learning Outcome: Students are able to use the note making method to develop good notes based on classroom discussions.

Skills enhanced: Writing Skills

Grammar: Integrated Grammar, Transformation 3 Periods

Learning Outcome: Students will be able to comprehend and use grammatical organization for sentences. They are able to identify errors and frame correct sentences.

Skills Enhanced: Communication Skills, Writing skills

Writing: Debate 4 Periods

Learning Outcome: students are able to write Debate in an efficient and coherent manner. They are able to differentiate between Speech and Debate and write without difficulty in grammar, format usage, ideas and vocabulary.

Skills enhanced: Writing skills, Creative thinking skills

JANUARY (21 periods)

Revision Schedule for Final Examination

Reading	4 Periods
Writing	6 Periods
Grammar	4 Periods
Literature	7 Periods

FEBRUARY: Final Exams

QUESTION PAPER PATTERN

ENGLISH CORE CODE NO. 301
CLASS – XI (2022-23)

Section A Reading Skills

Reading Comprehension through Unseen Passage **18 Marks**

I. One unseen passage to assess comprehension, interpretation inference and vocabulary. The passage may be factual, descriptive or literary.
II. One unseen case-based passage with verbal/visual inputs like statistical data, charts etc.
Note: The combined word limit for both the passages will be 600-750.

Multiple Choice Questions / Objective Type Questions will be asked. (10+8 = 18 Marks)

III. Note Making and Summarization based on a passage of approximately 200-250 words.

i.	Note Making:		5 Marks
○	Title:	1	
○	Numbering and indenting:	1	
○	Key/glossary:	1	
○	Notes:	2	
ii.	Summary (up to 50 words):		3 Marks
○	Content:	2	
○	Expression:	1	

Section B

IV. Grammar **7 Marks**

i. Questions on Gap filling (Tenses, Clauses)

ii. Questions on re-ordering/transformation of sentences

(Total seven questions to be done out of the eight given).

V. Creative Writing Skills **16 Marks**

i. Short writing task – Classified Advertisements up to 50 words. One out of the two given questions to be answered (3 Marks: Format : 1 / Content : 1 / Expression : 1)

ii. Short writing task –Poster up to 50 words. One out of the two given questions to be answered.(3marks:Format : 1 / Content : 1 / Expression : 1)
iii. Writing a Speech in 120-150 words based on verbal / visual cues related to some contemporary/ age-appropriate topic.
iv. Writing a Debate based on visual/verbal inputs in 120-150 words. The theme should be contemporary topical issues. One out of the two given questions to be answered. (5 Marks: Format: 1 / Content: 2 / Expression: 2)

Section C

This section will have variety of assessment items including Multiple Choice Questions, Objective Type Questions, Short Answer Type Questions and Long Answer Type Questions to assess comprehension, analysis, interpretation and extrapolation beyond the text.

VI. Reference to the Context
i. One Poetry extract out of two from the book Hornbill to assess comprehension, interpretation, analysis and appreciation. (3x1=3 Marks)
ii. One Prose extract out of two from the book Hornbill to assess comprehension, interpretation, analysis and appreciation. (3x1=3 Marks)
iii. One prose extract out of two from the book Snapshots to assess comprehension, interpretation and analysis. (4x1=4 Marks)

VII. Two Short answer type question (one from Prose and one from Poetry from the book Hornbill), out of four, to be answered in 40-50 words. Questions should elicit inferential responses through critical thinking. (3x2=6 Marks)

VIII. One Short answer type question, from the book Snapshots, to be answered I n 40- 50 words. Questions should elicit inferential responses through critical thinking. Any 1 out of 2 questions to be done. (3x1=3 Marks)

IX. One Long answer type question, from Prose/Poetry Hornbill, to be answered in 120-150 words. Questions can be based on incident / theme / passage / extract / event as reference points to assess extrapolation beyond and across the text. The question will elicit analytical and evaluative response from student. Any 1 out of 2 questions to be done. (1x6=6 Marks)

X. One Long answer type question, based on the chapters from the book Snapshots to be answered in 120-150 words to assess global comprehension and extrapolation beyond the text. Questions to provide evaluative and analytical responses using incidents, events, themes as reference points.Any 1 out of 2 questions to be done. (1x6=6 Marks)

DAV PUBLIC SCHOOL, UPPAL'S SOUTHEND, SECTOR – 49, GURUGRAM

ACADEMIC PLAN (2022-2023)

SUBJECT: APPLIED MATHEMATICS

CLASS XI

One paper **Time: Three Hours** **Max.Marks:80**

No.	Units	No. of Periods	Marks
I.	Numbers, Quantification and Numerical Applications	25	09
II.	Algebra	45	15
III.	Mathematical Reasoning	15	06
IV.	Calculus	35	10
V.	Probability	25	08
VI.	Descriptive Statistics	35	12
VII	Basics of Financial Mathematics	45	15
VII I	Coordinate Geometry	15	05
	Total	**210**	**80**
	Internal Assessment		**20**

MONTHWISE DIVISION OF SYLLABUS

MAY-2022

- **ALGEBRA** **(45 Periods)**

LEARNING OUTCOMES**:** The students will be

i. Familiar with the terminology used with sets and Venn diagrams.
ii. Able to perform various operations on sets such as union, intersection, difference etc.
iii. Able to apply the various operations to practical problems.
iv. Compute the Cartesian product of sets.

v. Define a relation.
vi. Form a sequence.
vii. Obtain the series corresponding to a sequence.
viii. Recognize an arithmetic progression (A.P).
ix. Find the general term and the sum of n terms of an A.P.
x. Apply arithmetic mean in forming an arithmetic progression.
xi. Recognize a geometric progression.
xii. Find the general term and the sum to n terms of a G.P.
xiii. Find the geometric mean between two numbers.
xiv. Derive the relation between A.M and G.M.
xv. Explain the fundamental principle of counting.
xvi. Understand the difference between permutation and combination.
xvii. Relation between ${}^{n}P_{r}$ and ${}^{n}C_{r}$.
xviii. Solve practical problems based on arrangement and selection.

SKILLS ENHANCED:

1. Applying the given situations into practical problems.
2. Problem solving.
3. Logical reasoning.
4. Comprehension.
5. Analyzing the different situations and applying the formulae.
6. Problem solving.

SYLLABUS:

- Sets
- Types of sets
- Subsets
- Intervals
- Venn diagram
- Operations on Sets
- Ordered pairs
- Cartesian product of two sets
- Definition of Relation, examples pertaining to relations in the real number system
- Find domain and range of a relation
- Introduction of Sequences, Series
- Arithmetic and Geometric progression
- Relationship between AM and GM
- Applications of AP and GP
- Factorial

- Fundamental principle of counting
- Permutations
- Apply the concept of permutation to solve simple problems
- Combinations
- Apply the formula of combination to solve the related problems

JUNE/JULY-2022

- **ALGEBRA (Contd.)**
- **CALCULUS** **(35 Periods)**

LEARNING OUTCOMES: The students will be able to

i. Understand that function is a special type of relation.
ii. Find the domain, co-domain and range of a function.
iii. Draw the graphs of various important functions.
iv. Understand and accept the intuitive idea of limits.
v. Find the limits of polynomial, rational and trigonometric functions.
vi. Concept of Continuity and discontinuity of a function.
vii. Understand the idea of derivatives of a function.
viii. Find the derivatives of simple functions from first principle.
ix. Find derivatives using algebra of derivatives.

SKILLS ENHANCED:

1. Integrating and connecting.
2. Reasoning.
3. Problem solving.
4. Analytical thinking.
5. Problem solving.

SYLLABUS:

- Introducing functions
- Domain and Range of a function
- Types of functions (Polynomial function; Rational function; Logarithm function; Exponential function; Modulus function; Greatest Integer function, Signum function)
- Graphical representation of functions
- Concept of limits and continuity of a function
- Instantaneous rates of change
- Differentiation as a process of finding derivative

- Derivatives of algebraic functions using Chain rule

AUGUST-2022

- **MATHEMATICAL AND LOGICAL REASONING (15 Periods)**

LEARNING OUTCOMES**:** The students will be able to

i. Solve problems related to logical reasoning.

SKILLS ENHANCED:

1. Quantitative reasoning.

SYLLABUS:

- Problems based on logical reasoning (coding-decoding, odd man out, blood relation, syllogism etc)

- **NUMBERS, QUANTIFICATION AND NUMERICAL APPLICATIONS (25 Periods)**

LEARNING OUTCOMES**:** The students will be able to

- Understand binary numbers
- Find indices, logarithm and antilogarithm
- Understand Laws and properties of logarithms
- Solve numerical problems on averages, calendar, clock, time, work and distance, mensuration, seating arrangement

SKILLS ENHANCED:

1. Comprehension.
2. logical reasoning.
3. Problem Solving

SYLLABUS:

- Binary Numbers
- Indices, Logarithm and Antilogarithm
- Laws and properties of logarithms
- Simple applications of logarithm and antilogarithm

- Numerical problems on averages, calendar, clock, time, work and distance, mensuration, seating arrangement

SEPTEMBER-2022
TERM I EXAMS

OCTOBER-2022

- **COORDINATE GEOMETRY (15 Periods)**

LEARNING OUTCOMES: The students will be able to

i. Understand the standard forms and graphical representation of straight line and circles on two dimensional plane.

SKILLS ENHANCED:

1. Comprehension.
2. Analyzing the different situations and applying the formulae.

SYLLABUS:

- Straight Line
- Circles
- Parabola

NOVEMBER-2022

- **BASICS OF FINANCIAL MATHEMATICS (45 Periods)**

LEARNING OUTCOMES: The students will be able to

i. Compare interest rates on various types of savings.
ii. Calculate income tax.
iii. Calculate electricity and water bills.
iv. Find service surcharge using realistic data.

SKILLS ENHANCED:

1. Applying the formulae.
2. Computational skills

SYLLABUS:

- Interest and interest rates
- Accumulation with simple and compound interest. Simple and compound interest rates with equivalency
- Effective rate of interest
- Present value, net present value and future value
- Annuities, calculating value of regular annuity
- Simple applications of regular annuities (up to 3 period)
- Tax, calculation of tax and simple applications of tax calculation in Goods and service tax, Income Tax
- Bills, tariff rates, fixed charge, surcharge, service charge
- Calculation and interpretation of electricity bill, water supply bill and other supply bills

DECEMBER – 2022

- **PROBABILITY** **(30 Periods)**

LEARNING OUTCOMES: The students will be able to

i. Explain random experiments.
ii. Find the sample space.
iii. Define an event.
iv. Cite examples for the various types of events.
v. Identify mutually exclusive events, independent and dependent events.
vi. Understand Law of Total Probability
vii. Solve problems on Bayes' Theorem.

SKILLS ENHANCED:

1. Logical reasoning.
2. Comprehension.
3. Analyzing the different situations and applying the formulae.
4. Problem solving.

SYLLABUS:

- Random experiment, sample space,
- Event, Types of Event: Impossible and sure event, Independent and dependent event,

mutually exclusive and exhaustive event

- Independent and Dependent Events
- Conditional Probability
- Total Probability
- Bayes' Theorem

- **DESCRIPTIVE STATISTICS (35 Periods)**

LEARNING OUTCOMES: The students will be able to

i. Data on various scales (nominal, ordinal, interval and ratio scale)
ii. Represent and visualize the data.
iii. Find the variance and standard deviation for discrete and continuous frequency distributions.
iv. Analyse a frequency distribution.
v. Compare two frequency distributions with same mean.

SKILLS ENHANCED:

1. Observation and interpretation of data.
2. Applying the formulae.
3. Computational skills.

SYLLABUS:

- Data interpretation (dispersion, deviation, variance, skewness and kurtosis)
- Percentile rank and quartile rank
- Correlation (Pearson and Spearman method of correlation)
- Applications of descriptive statistics using real time data

JANUARY - 2023

- **DESCRIPTIVE STATISTICS (Contd.)**

FEBRUARY-2023

REVISION AND DISCUSSION OF SAMPLE PAPERS.

FINAL TERM EXAMS.

	SYLLABUS : Events; occurrence of events, ‘not’, ‘and’ and ‘or’ events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of ‘not’, ‘and’ and ‘or’ events. **FEBRUARY-2023** **REVISION AND DISCUSSION OF SAMPLE PAPERS.** **FINAL TERM EXAMS.**	

Class XI (FINEARTS)
PLAN 2022-23

CLASS-XI (THEORY) (2022-23) **Theory Paper 30 Marks**

		Periods	Marks
History of Indian Art			
1	Pre-Historic rock paintings and art of Indus Valley	24	10
2	Buddhist, Jain and Hindu Art	24	10
3	Temple Sculptures, Bronzes and Artistic aspects of Indo-Islamic architecture	24	10
			30

CLASS-XI (2022-23) (PRACTICAL)

One Practical Paper 70 Marks

Time: 6 Hours (3+3)

	Content	Periods	Marks
Unit wise Weightage Units			
1	Nature and Object Study	50	25
2	Painting Composition	50	25
3	Portfolio Assessment	48	20
			70

Class XI (FINEARTS)
PLAN 2022-23

APRIL '22

S.NO.	WEEK/DATE	BASE	MEDIUM/OUANTITY	TOPIC/DESCRIPTION
1.	Week1(26AP-30 APR)	Sketch file	Pencil shading(atleast 4 compositions)	Sketches of still life (objects like glass,jug,pencil,etc).(img1) Still life –objects kept in a compostion(img2)
2.	Week2(-3MAY-7MAY)	Half imperial sheet	Water colour/1 A2 size	**UNIT-1 (THEORY)** compositions on daily life ,etc,(includes human anatomy)(img 3)

MONTH-MAY'22

S.no	WEEK/DATE	BASE	MEDIUM/QUANTITY	TOPIC/DESCRIPTION
1.	WEEK1(10-14MAY)	SKETCH FILE	PENCIL(2B,4B,6B,8B)/ 10 SKETCHES/CARTRIDGE SHEET -1	NATURE STUDY -Sketches of trees,plants,flowers,etc.(img 1,2) Class should be done in garden area.
2.	WEEK2(17-21MAY)	Cartridge sheets(half imperial)	Pencil colour-2 Ink-2	FOILAGE STUDY-Draw different type of plants ,trees and plants with pencil colours,etc.(img 3) Class in outdoors
3.	Week3(24-28MAY)	A2	Poster colours/2	STILL LIFE COMPOSITION

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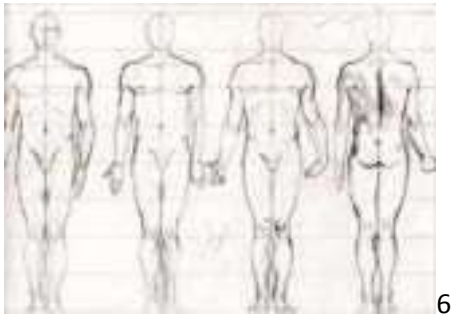
2 

3 

4 

5 

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Class XI (FINEARTS)
PLAN 2022-23

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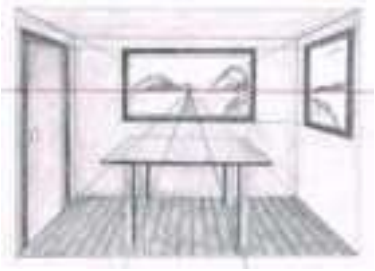
MONTH-JUNE'22

- REVISE UNIT 1
- MAKE SKETCHES OF DAILY LIFE(HUMAN FIGURE,NATURE,ETC)-40 SKETCHES IN ANY MEDIUM.
- MAKE A PAINTING ON ANY TOPIC IN ACRYLIC COLOURS ON PAPER.

MONTH –JULY'22

UNIT TEST 1- UNIT 1 IN SYLLABUS FOR UT

S.NO	WEEK/DATE	BASE	MEDIUM/QUANTITY	TOPIC/DESCRIPTION
1.	Week1(1july -9july)	Half imperial cartridge sheet	Water colour-1 Oil pastel -2	STILL LIFE COMPOSITION UNIT-2(THEORY)
2.	Week2(12july-16july)	Half imperial	Pencil ,scale/atleast 2 drawings	Perspective drawing-one point perscpective of a room,one birds eye view compostion,one worms eye view compostion,railway station scene.(img 3,4,5)
3.	Week3(19july-23juy)	A2	Poster colours/atleast 5	Still life compostions in monochrome and colour.(img 6)
4.	Week4(26-30july)	Art file/half imperial	Pencil shading/atleast 2	HUMAN FIGURE COMPOSITION

1  2  3 

Class XI (FINEARTS)
PLAN 2022-23

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MONTH-AUGUST'22

Sno.	WEEK/DATE	BASE	MEDIUM/QUANTITY	TOPIC/DESCRIPTION
1.	Week1(2-6aug)	Canvas(18x20)	Acrylic colour/1	any famous artist painting with human figures in it.(paul gaugin)(img1)
2.	Week2(9-13aug)	Half imperial	Poster colours/1	Folk art of india/madhubani painting(img2)
3.	Week3(16-20aug)	Half imperial	Oil pastel/pencil color 2 art works	Memory painting-Use your imagination and make painting from memory .
4.	Week4(23-27AUG)	Art file	Pencil shading/10-15 sketches	Anatomy drawing-different activities of humans in sketching.

Class XI (FINEARTS)
PLAN 2022-23

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MONTH –SEPTEMBER'22

S.NO.	WEEK/DATE	BASE	MEDIUM /QUANTITY	TOPIC/DESCRIPTION
1.	Week1(1-9 SEP)	NOTEBOOK	THEORY	Unit -3(temple sculptures,bronzes,and artistic aspects of indo-islamic architecture.
2.	Week2(13-17sep)	Sketch file	Pencil shading/atleast 4	Still life cloth study-only different types of drapes in pencil shading.(img 1)
3.	Week3(20-24sep)	Half imperial	Pencil shading,oil pastel colors/atleast 4	Vegetables and fruits study.(img2)
4.	Week4(27-30sep)	A2	WATER COLOR	STILL LIFE COMPOSITION

1  2 

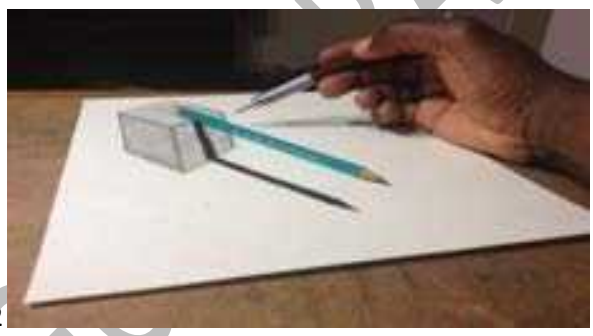
Class XI (FINEARTS)
PLAN 2022-23

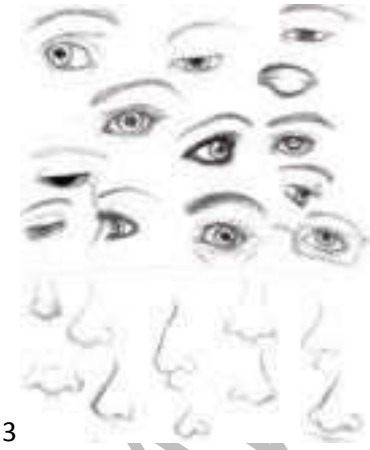
MONTH- OCTOBER'22

UNIT TEST 2 –UNIT 2 IN SYLLABUS FOR UT

S.NO.	WEEK/DATE	BASE	MEDIUM/QUANTITY	TOPIC/DESCRIPTION
1.	WEEK1(4-8OCT)	CANVAS(18X24)	OIL COLOUR/1	Landscape composition(img1)
2.	WEEK2	Half imperial	Any medium which student like to do./2	Painting composition from memory.
3.	WEEK3	Half imperial	Pencil shading/atleast 5	Three dimensional objects shading.(img2)
4.	WEEK4	Art file	Pencil shading	Face study(ears,eyes,nose,lips,etc)(img3)

1 

2 



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MONTH –NOVEMBER '22

SNO.	WEEK/DATE	BASE	MEDIUM/QUANTITY	TOPIC /DESCRIPTION
1.	WEEK1	ART FILE	PENCIL COLOUR	Object study,furniture study.(img1)
2.	Week2	Art file	Pen and ink	Sketching ,daily life
3.	Week 3	Half imperial	Pencil shading/atleast 2	Still life composition-objects kept in front in art room.
4.	Week4	Sketch file	Pencil shading	Hand and foot study-sketches of hands and foot of people .(img2)

Class XI (FINEARTS)
PLAN 2022-23

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MONTH-DECEMBER'22

UNIT TEST 3-UNIT 2 & 3 SYLLABUS FOR UT

SNO.	WEEK/DATE	BASE	MEDIUM/OUANTITY	TOPIC/DESCRIPTION
1.	WEEK1	HALF IMPERIAL	POSTER COLOURS/2	PAINTING COMPOSITION(human figures included)-topic given by teacher.
2.	Week2	-	THEORY	COMPLETE SYLLABUS
3.	Week3	-	PORTFOLIO	PREPARING PORTFOLIO WITH BEAUTIFUL ART WORKS.TAKE HELP FROM TEACHER TO MAKE IT BEAUTIFUL.
4.	Week4	HALF IMPERIAL	BLACK AND WHITE ANY MEDIUM/2	ANY ABSTRACT COMPOSTION IN BLACK AND WHITE COLOUR.(img 1)

1 

MONTH-JANUARY'23

SNO.	WEEK/DATE	BASE	MEDIUM/QUANTITY	TOPIC/DESCRIPTION
1.	WEEK1(15-	Canvas(	Acrylic colour/1	Any famous artist painting

Class XI (FINEARTS)
PLAN 2022-23

	19jan)	18x24)		
2.	Week2(21-25jan)	-	-	Learn names of few artists and their works.,tints and tones,primary ,secondary and tertiary colours .(prepare for viva)(img1)
3.	Week 3(28-2feb)	Full imperial	Any colour medium	Paintings –abstract and realistic on any topic.

1

DAV PUBLIC SCHOOL UPPAL'S SOUTHEND SECTOR 49 GURUGRAM
ACADEMIC PLAN CLASS XI (2022-23)
SUBJECT: Physical Education (048)
COURSE STRUCTURE (THEORY)

Time: 3 Hours M.M.: 70 marks

UNIT NO.	NAME OF THE UNIT	MARKS
Unit I	Changing trends and career in physical education	6
Unit II	Olympism	5
Unit III	Yoga	7
Unit IV	Physical education and sports for CWSN	8
Unit V	Physical fitness, health and wellness	6
Unit VI	Test, measurement and evaluation	7
Unit VII	Fundamentals of anatomy and physiology in sports	7
Unit VIII	Fundamentals of Kinesiology and Biomechanics in sports	9
Unit IX	Psychology and Sports	6
Unit X	Training and Doping in sports	9

PHYSICAL EDUCATION (048)

CLASS XI (2022-23)
ANNUAL PALNNER

MONTH	CHAPTER	CONTENTS	NO OF PERIODS REQUIRED (1 PERIOD=50 MIN)
JULY	UNIT 1 CHANGING TRENDS IN CAREERS OF PHYSICAL EDUCATION	● CONCEPT OF PHYSICAL EDUCATION ● AIMS AND OBJECTIVES OF PHYSICAL EDUCATION ● CHANGING TRENDS IN SPORTS: PLAYING SURFACE, WEARABLE GEARS AND SPORTS EQUIPMENT, TECHNOLOGICAL ADVANCEMENTS ● CAREER OPTIONS OF PHYSICAL EDUCATION ● KHELO INDIA AND FIT INDIA PROGRAMME **TEACHING OBJECTIVES** ● **CAREERS IN PHYSICAL EDUCATION**	6
JULY	UNIT 2 OLYMPISM	● ANCIENT AND MODERN OLYMPICS ● OLYMPISM- CONEPT AND OLYMPIC VALUES ● OLYMPIC SYMBOLS, MOTTO, FLAG, OATH AND ANTHEM ● OLYMPIC MOVEMENT STRUCTURE: IOC, NOC, IFS AND OTHER MEMBERS **TEACHING OBJECTIVES** ● **HISTORICAL DEVELOPMENT IN OLYMPICS** ● **FORMATION AND WORKING OF IOC AND IOA**	7
	UNIT 5 PHYSICAL FITNES, HEALTH AND WELLNESS	● MEANING AND IMPORTANCE OF PHYSICAL FITNESS,HEALTH AND WELLNESS ● COMPONENTS/ DIMENSIONS OF PHYSICAL FITNESS AND WELLNESS ● TRADITIONAL SPORTS AND REGIONAL GAMES FOR PROMOTING WELLNESS **TEACHING OBJECTIVES** ● **STRENGTH, SPEED, FLEXIBILITY, ENDURANCE ETC**	5

AUGUST	UNIT 4 PHYSICAL EDUCATION AND SPORTS FOR CWSN	• CONCEPT OF DISABILITY AND DISORDER • TYPES OF DISABILITY, ITS CAUSES AND NATURE • AIMS AND OBJECTIVES OF ADAPTIVE PHYSICAL EDUCATION • ROLE OF VARIOUS PROFESSIONALS FOR CHILDREN WITH SPECIAL NEEDS (COUNSELOR, OCCUPATIONAL THERAPIST, PHYSIOTHERAPIST, PHYSICAL EDUCATION TEACHER, SPEECH THERAPIST AND SPECIAL EDUCATOR) **TEACHING OBJECTIVES** • **TYPES OF DISABILITIES** • **ROLE OF VARIOUS PROFESSIONAL FOR THE DEVELOPMENT OF CWSN**	6
	UNIT 3 YOGA	MEANING AND IMPORTANCE OF YOGA INTRODUCTION OF ASHTANG YOGA INTRODUCTION OF YOGIC KRIYAS **TEACHING OBJECTIVES** • **ASHTANG YOGA**	6
	UNIT 6 TEST MEASDUREMENT AND EVALUATION	• CONCEPT OF TEST MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION • CLASSIFICATION OF TEST IN PHYSICAL EDUCATION AND SPORTS • TEST ADMINISTRATIONS GUIDELINES IN PHYSICAL EDUCATION AND SPORTS **TEACHING OBJECTIVES** • **IMPORTANCE OF TEST MEASUREMENT AND EVALUATION**	6
OCTOBER	UNIT 7 FUNDAMENTALS OF ANATOMY AND PHYSIOLOGY IN SPORTS	• DEFINITION AND IMPROTANCE OF ANATOMY AND PHYSIOLOGY • FUNCTIONS OF SKELETON SYSTEM, CLASSIFICATION OF BONES AND TYPES OF JOINTS • FUNCTION AND STRUCTURE OF CIRCULATORY SYSTEM AND HEART • FUNCTION AND STRUCTURE OF RESPIRATORY SYSTEM **TEACHING OBJECTIVES** • **BASIC KNOWLEDGE OF ANATOMY AND PHYSIOLOGY**	7
	UNIT 8 FUNDAMENTALS OF BIOMECHANICS AND KINESIOLOGY IN SPORTS	• DEFINITITION AND IMPORTANCE OF BIOMECHANICS AND KINESIOLOGY IN SPORTS • PRINCIPLES OF BIOMECHANICS • TYPES OF BODY MOVEMENT	

		● AXIS AND PLANES: CONCEPT AND APPLICATION IN BODY MOVEMENTS **TEACHING OBJECTIVES** ● **BASIC KNOWLEDGE OF BIOMECHANICS AND KINESIOLOGY.**	8
	UNIT 9 PSYCHOLOGY AND SPORTS	● DEFINITION AND IMPORTANCE OF PSYCHOLOGY IN PHYSICAL EDUCATION AND SPORTS ● ADOLESENTS PROBLEMS AND THEIR MANAGEMENT ● TEAM COHESION AND SPORTS **TEACHING OBJECTIVES** ● **PROBLEMS AND MANAGEMENT OF ADOLESCENTS**	5
NOVEMBER	UNIT 10 TRAINING AND DOPING IN SPORTS	● CONCEPT AND PRINCIPLES OF SPORTS TRAINING ● TRAINING LOAD, OVERLOAD, ADAPTATION AND RECOVERY ● CONCEPT OF DOPING AND ITS DISADVANTAGES **TEACHING OBJECTIVES** ● **TRAINING PRINCIPLES** ● **CONCEPT OF DOPING**	7

DAV PUBLIC SCHOOL, UPPAL'S SOUTHEND, SECTOR 49, GURUGRAM
CLASS XI (PHYSICS)

Academic plan for 2022-2023

UNIT	NAME OF UNIT	WEIGHTAGE
1. **2.** **3.**	Physical World and Measurement Kinematics Laws of Motion	**23**
4. **5.** **6.**	Work, Energy and Power Motion of system of particles and Rigid Body Gravitation	**17**
7. **8.** **9.**	Properties of bulk matter Thermodynamics Behavior of perfect gas and kinetic theory of gases	**20**
10.	Oscillations and Waves	**10**
TOTAL		**70**

MONTH	CHAPTER	
May	Units and Measurements	Remarks
No of Teaching Days: 05	**Units and Measurements:** Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures.	

MONTH	CHAPTER	
July	Units and Measurements Motion in a Straight Line Motion in a Plane	Remarks
No of Teaching Days: 25	**Units and Measurements:** Dimensions of physical quantities, dimensional analysis and its applications. **Motion in a Straight Line** Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non- uniform motion, and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical treatment). **Motion in a Plane** Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform accelerationprojectile motion, uniform circular motion.	
MONTH	**CHAPTER**	
August	**Laws of Motion** **Work, Energy and Power**	Remarks
No of Teaching Days: 21	**Laws of Motion** Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road). **Work, Energy and Power** Work done by a constant force and a variable force; kinetic energy, workenergy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces: non- conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.	

SEPTEMBER TERM EXAMINATION

MONTH	CHAPTER	
October	**Motion of System of Particles and Rigid Body**	
No of Teaching Days: 12	**Unit V: Motion of System of Particles and Rigid Body** Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of mass of a rigid body; centre of mass of a uniform rod. Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation).	
MONTH	**CHAPTER**	
November	**Gravitation** **Mechanical Properties of Solids** **Mechanical Properties of Fluids**	
No of Teaching Days: 22	**Gravitation** Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential, escape velocity, orbital velocity of a satellite. **Mechanical Properties of Solids** Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy. **Mechanical Properties of Fluids** Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications. Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise	
MONTH	**CHAPTER**	
December	**Thermal Properties of Matter** **Thermodynamics** **Oscillations**	

No of Teaching Days: 22	**Thermal Properties of Matter** Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law . **Thermodynamics** Thermal equilibrium and definition of temperature zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state -isothermal, adiabatic, reversible, irreversible, and cyclic processes. **Oscillations** Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their application. Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.	

MONTH	**CHAPTER**	
January	**Waves** **Kinetic Theory**	
No of Teaching Days: 23	**Waves** Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats **Kinetic Theory** Equation of state of a perfect gas, work done in compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.	

MONTH	**CHAPTER**
February	**Revision** **Discussion of Sample Question Paper**