MAHARSHI PATANJALI VIDYA MANDIR SYLLABUS CLASS XII (23-24)



Trust yourself that you can do it and get it

SUBJECT : ENGLISH

English Core

APRIL

The Last Lesson (F)

My Mother at Sixty Six (F)

Lost Spring (F)

MAY

Deep Water (F)

The Third Level (V)

Tiger King (V)

Notice Writing (AWS)

JULY

The Rattrap (F)

Keeping Quiet (F)

Journey to the End of the Earth (V)

AUGUST

Invitations (AWS) Indigo (F) Poets and Pancakes (F) The Enemy (V)

SEPTEMBER

The Interview (F)

A Thing of Beauty (F)

ASL (Both Listening and Speaking)

OCTOBER

A Roadside Stand (F)

Replies to Invitation (AWS)

Job Application (AWS)

Report Writing (AWS)

Business Letters (AWS)

Any Other Writing Format as may be set by CBSE

NOVEMBER

Going Places (F) Aunt Jennifer' s Tigers (F) On the Face of Itl (V) Memories of Childhood (V) **DECEMBER**

English Project Work & Art Integration + Viva Voce

Revision & Discussion of Board Papers

1ST UNIT TEST: ALL CHAPTERS & AWS COMPLETED TILL May

HALF- YEARLY EXAM: EVERYTHING COMPLETED TILL SEPTEMBER

PRE- BOARDS : THE ENTIRE SYLLABUS

Abbreviations Used

(F) =. Flamingo

(V) = Vistas

(AWS) = Advanced Writing Skills

SUBJECT : STANDARD MATHEMATICS

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April	Matrices & Determinants
	Adjoint & Inverse of a Matrix
	Solution of System of Linear Equations
Мау	Relations and Functions
	Inverse Trigonometric Function
July	Continuity and Differentiability
	Differentiation
August	Application of Derivatives
	Increasing and Decreasing Functions
September	Maxima & Minima
	Indefinite Integration
October	Definite Integration & its properties
	Area Enclosed by Curves
November	Differential Equations
	Vector Algebra except scalar triple product.
	Three-D Geometry
	Linear Programming
December	Probability

I St Unit Test	Chapters covered from April to July
Half Yearly Examination	Chapters covered from April to September
Pre-Board Examination	Whole Syllabus

SUBJECT : PHYSICS

Month	Topics to be covered
April	Electrostatics (Introduction to force and field) Electrostatics
	Chapter-1: Electric Charges and Fields Electric charges, Conservation
	of charge, Coulomb's law-force between two- point charges, forces betweer
	multiple charges; superposition principle and continuous charge distribution
	Electric field, electric field due to a point charge, electric field lines, electric
	dipole, electric field due to a dipole, torque on a dipole in uniform electric
	field. Electric flux, statement of Gauss's theorem and its applications to find
	field due to infinitely long straight wire, uniformly charged infinite plane
	sheet and uniformly charged thin spherical shell (field inside and outside).
May	Chapter – 2 : Electrostatic Potential and Capacitance: Electric potential
	potential difference, electric potential due to a point charge, a dipole and
	system of charges; equipotential surfaces, electrical potential energy of a
	system of two-point charges and of electric dipole in an electrostatic field
	Conductors and insulators, free charges and bound charges inside a
	conductor. Dielectrics and electric polarization, capacitors and capacitance
	combination of capacitors in series and in parallel, capacitance of a paralle
	plate capacitor with and without dielectric medium between the plates
	energy stored in a capacitor (no derivation, formulae only).
July	Chapter-2: Electrostatic Potential and Capacitance (continued)
	Unit II: Current Electricity :
	Electric current, flow of electric charges in a metallic conductor, drif
	velocity, mobility and their relation with electric current; Ohm's law, V-
	characteristics (linear and non-linear), electrical energy and power
	electrical resistivity and conductivity, temperature dependence o
	resistance, Internal resistance of a cell, potential difference and emf of a
	cell, combination of cells in series and in parallel, Kirchhoff's rules
	Wheatstone bridge.
August	Unit II: Current Electricity (continued)
	Unit III: Magnetic Effects of Current and Magnetism
	Chapter-4: Moving Charges and Magnetism
	Concept of magnetic field, Oersted's experiment. Biot - Savart law and its
	application to current carrying circular loop. Ampere's law and its
	applications to infinitely long straight wire. Straight solenoid (only qualitative
	treatment) force on a moving charge in uniform magnetic and electric

	fields. Force on a current-carrying conductor in a uniform magnetic field
	force between two parallel current-carrying conductors-definition of ampere
	torque experienced by a current loop in uniform magnetic field; Current loop
	as a magnetic dipole and its magnetic dipole moment, moving coi
	galvanometer- its current sensitivity and conversion to ammeter and
	voltmeter.
	Chapter–5: Magnetism and Matter
	Bar magnet, bar magnet as an equivalent solenoid (qualitative treatmen
	only), magnetic field intensity due to a magnetic dipole (bar magnet) along
	its axis and perpendicular to its axis (qualitative treatment only), torque on a
	magnetic dipole (bar magnet) in a uniform magnetic field (gualitative
	treatment only), magnetic field lines. Magnetic properties of materials- Para
	, dia- and ferro - magnetic substances with examples. Magnetization o
	materials, effect of temperature on magnetic properties. Unit IV
	Electromagnetic Induction and Alternating Currents
	Chapter-6 : Electromagnetic Induction Electromagnetic induction
	Faraday's laws induced FMF and current: Lenz's Law. Self and mutua
	induction.
September	Chapter-7 · Alternating Current
September	Chapter-7 : Alternating Current Alternating currents, peak and RMS value of alternating current/voltage
September	Chapter-7: Alternating Current Alternating currents, peak and RMS value of alternating current/voltage reactance and impedance: LCR series circuit (phasors only), resonance
September	Chapter-7: Alternating Current Alternating currents, peak and RMS value of alternating current/voltage reactance and impedance; LCR series circuit (phasors only), resonance power in AC circuits, power factor, wattless current, AC generator
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October	Ray Optics (continued) and wave optics Chapter-10: Wave Optics
	Wave optics: Wave front and Huygen's principle, reflection and refraction
	of plane wave at a plane surface using wave fronts. Proof of laws o
	reflection and refraction using Huygen's principle. Interference, Young's
	double slit experiment and expression for fringe width (No derivation final
	expression only), coherent sources and sustained interference of light
	diffraction due to a single slit, width of central maxima (qualitative treatmen
	only).
November	Waves optics (Continued), Unit VII: Dual Nature of Radiation and
	Matter Chapter-11: Dual Nature of Radiation and Matter Dual nature of
	radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's
	photoelectric equation-particle nature of light. Experimental study o
	photoelectric effect Matter waves-wave nature of particles, de-Broglie
	relation.
	Unit VIII: Atoms and Nuclei
	Chapter-12 : Atoms Alpha-particle scattering experiment; Rutherford's
	model of atom; Bohr model of hydrogen atom, Expression for radius of nth
	possible orbit, velocity and energy of electron in nth orbit, hydrogen line
	spectra (qualitative treatment only).
	Chapter-13: Nuclei Composition and size of nucleus, nuclear force Mass
	energy relation, mass defect; binding energy per nucleon and its variation
	with mass number; nuclear fission, nuclear fusion.
	Unit IX: Electronic Devices
	Chapter-14: Semiconductor Electronics: Materials, Devices and Simple
	Circuits Energy bands in conductors, semiconductors and insulators
	(qualitative ideas only) Intrinsic and extrinsic semiconductors- p and n type
	p-n junction Semiconductor diode - I-V characteristics in forward and
	reverse bias, application of junction diode -diode as a rectifier
December	Chapter-14: Semiconductor Electronics: (continued)
Unit Test - I	Unit-I Electrostatics Chapter-1: Electric Charges and Fields Chapter
	Electrostatic Potential and Canacitance

	Electrostatic Potential and Capacitance				
Half Yearly	Unit-I Electrostatics Chapter-1: Electric Charges and Fields Chapter-2				
	Electrostatic Potential and Capacitance Unit-II Current Electricity Chapter-				
	3: Current Electricity Unit-III Magnetic Effects of Current and Magnetism				
	Chapter-4: Moving Charges and Magnetism Chapter-5: Magnetism and				

	Matter	Unit-IV	Electromagnetic	Induction	and	Alternating	Currents
	Chapter-6: Electromagnetic Induction Chapter-7: Alternating Current					ent	
Pre – Board Entire CBSE curriculum of Physics (2022-23)							

Physics Practical -

Till – Half Yearly

Section – A

Section – B

- 1. Sonometer : To find the frequency of AC mains with a sonometer.
- 2. Half Deflection : To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
- 3. Metre Bridge : To find resistance of a given wire / standard resistor using metre bridge.
- 4. Ohm's law: To determine resistivity of two / three wires by plotting a graph for potential difference versus current.

Till Pre Broad

- 1. Glass Prism: To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
- 2. Convex Lens (u-v method): To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and 1/v.
- 3. Refractive Index of Unknown Liquid : To find the refractive index of a liquid using a concave mirror and a plane mirror.
- 4. Combination of Convex Mirror with Convex Lens: To find the focal length of a convex mirror, using a convex lens.

SUBJECT : CHEMISTRY

April - Solutions, Electrochemistry

May - Electrochemistry (continued), Chemical Kinetics

July - Chemical Kinetics (continued), Biomolecules, Haloalkane and haloarenes

August - Haloalkane and haloarenes ,, Alcohols, Phenol and ethers

September - Alcohol, phenol and ethers(continued), Aldehydes, Ketones and

Carboxylic Acids

October - Amines, d and f-block elements

November - Co-ordination compounds

December - Co-ordination compounds continued.

1'st Unit Test-	Solutions, Electrochemistry, Chemical kinetics.
Half yearly	Solutions, Electrochemistry, Chemical Kinetics, Biomolecules, Haloalkanes and Haloarenes Alcohols, Phenol and Ethers.
Pre Board Exams	Complete Syllabus

Chemistry Practical

Ist Term – 1. Salt Analysis - Test for Cations and anions

- 2. Core Experiments
 - a. To prepare double salt
 - b. To Identify carbohydrate, fats and proteins in a given food stuff.
 - c. To prepare a colloidal sol of starch
 - d. To separate the coloured components present in the black ink by paper chromatography and compare Rf value.
 - e. To prepare a sample of lodoform
 - f. To detect the presence of functional group in a given organic sample.

IInd Term –

Preparation of standard solution of Mohr's salt and oxalic acid and determination of molarity of unknown KMnO₄ solution.

SUBJECT : BIOLOGY

Month	Topics to be covered
April	Unit VI - Reproduction Sexual Reproduction in Flowering Plants Human Reproduction
Мау	Reproductive Health
July	Unit VII - Genetics and Evolution Principles of Inheritance and Variations Molecular Basis of Inheritance
August	Unit X - Ecology Organisms and Populations Ecosystem Biodiversity and conservation
September	Unit VIII - Biology in Human Welfare Human Health and Disease Microbes in Human Welfare
October	Unit VII - Genetics and Evolution Evolution
November	Unit IX- Biotechnology Biotechnology: Principles and Processes Biotechnology and its Applications

Unit Test - I	Unit VI : Reproduction (Chapter 2,3,4)
Half Yearly	Chapter - 2, 3, 4, 5,6,8
Pre – Board	All chapters

Practical -

List of Experiments

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

B. Study and observer the following (Spotting):

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

- 2. Pollen germination on stigma through a permanent slide or scanning electron micrograph.
- 3. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
- 4. Meiosis in onion bud cell or grasshopper testis through permanent slides.
- 5. T.S. of blastula through permanent slides (Mammalian).
- 6. Mendelian inheritance using seeds of different colour/sizes of any plant.
- 7. Prepared pedigree charts of any one of the genetic traits such as rolling of

tongue, blood groups, ear lobes, widow's peak and colour blindness.

- 8. Controlled pollination emasculation, tagging and bagging.
- 9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause.
- 10. Models specimen showing symbolic association in root modules of leguminous plants, Cuscuta on host, lichens.
- 11. Flash cards models showing examples of homologous and analogous organs.

Month	Topics		
APRIL	.Management –Concepts, objectives and Importance		
MAY	.Nature &Significance of Management .Levels of Management .Coordination-concept &importance		
JULY	 .Principles of Management .Henry Fayol &Taylor principles of management .Business Environment-Importance &Dimensions 		
AUGUST	.Planning-Importance, Limitations, process and Types of plans .Organising-Process, Structure of organization, Types of organization .Delegation Decentralisation.Staffing-Concept & process of staffing		
SEPTEMBER	.Directing-Concept & Elements of Directing		
OCTOBER	.Controlling -Concept & steps in controlling .Financial Management, Financial planning		
NOVEMBER	.Capital Structure .Fixed &Working capital .Financial market .Stock Exchange		
DECEMBER	Marketing-concept and marketing mix		

UNIT 1	.Management –Concepts, objectives	
	and Importance	
	.Nature & Significance of Management	
	.Levels of Management	
	.Coordination-concept & importance	
Half Yearly	Management	
	Planning	
	Organising	
	Staffing	
	Business environment	
Pre Board	Full syllabus as per CBSE Board	

SUBJECT - ACCOUNTANCY

Month	Topics
APRIL	.Partnership features
	.Fixed &Fluctuating capitals
	.Profit & Loss Appropriation Account
	.Past Adjustment
MAY	.Goodwill, Methods of valuation
	.Admission of partner-Revaluation
	account, Prepration of capital &
	current account and Balance Sheet
JULY	.Capital adjustment in Admission of
	partner
	.Retirement and Death of partner
AUGUST	.Dissolution of partnership firm
	.Financial Statement Analysis
SEPTEMBER	.Comparative statements
	.Ratio Analysis
OCTOBER	.Cash Flow statement
NOVEMBER	.Accounting of Share capital
	.Accounting for debentures
DECEMBER	.Disclosure of share capital in Balance
	Sheet
	.Project Work
UNIT-1	.Partnership features
	.Fixed &Fluctuating capitals
	.Profit & Loss Appropriation Account
	.Past Adjustment
	.Goodwill, methods of valuation
	.Admission of partner-Revaluation
	account, Prepration of capital &
	current account and Balance Sheet
Half Yearly	Partnership fundamentals,
	admission of partner, retirement of
	partner, death of partner and
	dissolution of partnership firm.
Pre Board	Fuil syllabus as per CBSE Board.

SUBJECT: COMPUTER SCIENCE			
MONTH	CHAPTER	TOPICS	
APRIL	REVISION OF PYTHON BASICS	REVISION OF PYTHON TOPICS COVERED IN CLASS XI.	
MAY	TEXT FILE HANDLING	INTRODUCTION TO FILES, TYPES OF FILES (TEXT FILE, BINARY FILE, CSV FILE), RELATIVE AND ABSOLUTE PATHS TEXT FILE: OPENING A TEXT FILE, TEXT FILE OPEN MODES (R, R+, W, W+, A, A+), CLOSING A TEXT FILE, OPENING A FILE USING WITH CLAUSE, WRITING/APPENDING DATA TO A TEXT FILE USING WRITE() AND WRITELINES(), READING FROM A TEXT FILE USING READ(), READLINE() AND READLINES(), SEEK AND TELL METHODS, MANIPULATION OF DATA IN A TEXT FILE	
JULY	BINARY FILE HANDLING	BASIC OPERATIONS ON A BINARY FILE: OPEN USING FILE OPEN MODES (RB, RB+, WB, WB+, AB, AB+), CLOSE A BINARY FILE, IMPORT PICKLE MODULE, DUMP() AND LOAD() METHOD, READ, WRITE/CREATE, SEARCH, APPEND AND UPDATE OPERATIONS IN A BINARY FILE EXCEPTION HANDLING: INTRODUCTION, HANDLING EXCEPTIONS USING TRY-EXCEPT- FINALLY BLOCKS	
	CSV FILE HANDLING	IMPORT CSV MODULE, OPEN / CLOSE CSV FILE, WRITE INTO A CSV FILE USING CSV.WRITER() AND READ FROM A CSV FILE USING CSV.READER()	
AUGUST	FUNCTIONS	TYPES OF FUNCTION (BUILT-IN FUNCTIONS, FUNCTIONS DEFINED IN MODULE, USER DEFINED FUNCTIONS), CREATING USER DEFINED FUNCTION, ARGUMENTS AND PARAMETERS, DEFAULT PARAMETERS, POSITIONAL PARAMETERS, FUNCTION RETURNING VALUE(S), FLOW OF EXECUTION, SCOPE OF A VARIABLE (GLOBAL SCOPE, LOCAL SCOPE)	

SEPTEMBER	DATA STRUCTURE	STACK, OPERATIONS ON STACK (PUSH & POP), IMPLEMENTATION OF STACK USING LIST.
	DATABASE CONCEPTS	INTRODUCTION TO DATABASE CONCEPTS AND ITS NEED
	RELATIONAL DATA MODEL	RELATION, ATTRIBUTE, TUPLE, DOMAIN, DEGREE, CARDINALITY, KEYS (CANDIDATE KEY, PRIMARY KEY, ALTERNATE KEY, FOREIGN KEY)
OCTOBER	STRUCTURED QUERY LANGUAGE – PART I	INTRODUCTION, DATA DEFINITION LANGUAGE AND DATA MANIPULATION LANGUAGE, DATA TYPE (CHAR(N), VARCHAR(N), INT, FLOAT, DATE), CONSTRAINTS (NOT NULL, UNIQUE, PRIMARY KEY), CREATE DATABASE, USE DATABASE, SHOW DATABASES, DROP DATABASE, SHOW TABLES, CREATE TABLE, DESCRIBE TABLE, ALTER TABLE (ADD AND REMOVE AN ATTRIBUTE, ADD AND REMOVE PRIMARY KEY), DROP TABLE.
NOVEMBER	STRUCTURED QUERY LANGUAGE – PART II	INSERT, DELETE, SELECT, OPERATORS (MATHEMATICAL, RELATIONAL AND LOGICAL), ALIASING, DISTINCT CLAUSE, WHERE CLAUSE, IN, BETWEEN, ORDER BY, MEANING OF NULL, IS NULL, IS NOT NULL, LIKE, UPDATE COMMAND, DELETE COMMAND, AGGREGATE FUNCTIONS (MAX, MIN, AVG, SUM, COUNT), GROUP BY, HAVING CLAUSE, JOINS: CARTESIAN PRODUCT ON TWO TABLES, EQUI-JOIN AND NATURAL JOIN
	INTERFACE OF PYTHON WITH AN SQL DATABASE.	CONNECTING SQL WITH PYTHON, PERFORMING INSERT, UPDATE, DELETE QUERIES USING CURSOR, DISPLAY DATA BY USING CONNECT(), CURSOR(), EXECUTE(), COMMIT(), FETCHONE(), FETCHALL(), ROWCOUNT, CREATING DATABASE CONNECTIVITY APPLICATIONS, USE OF %S FORMAT SPECIFIER OR FORMAT() TO PERFORM QUERIES
DECEMBER	EVOLUTION OF NETWORKING	INTRODUCTION TO COMPUTER NETWORKS, EVOLUTION OF NETWORKING (ARPANET, NSFNET, INTERNET)
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	DATA COMMUNICATION TERMINOLOGIES	CONCEPT OF COMMUNICATION, COMPONENTS OF DATA COMMUNICATION (SENDER, RECEIVER, MESSAGE, COMMUNICATION MEDIA, PROTOCOLS), MEASURING CAPACITY OF COMMUNICATION MEDIA (BANDWIDTH, DATA TRANSFER RATE), IP ADDRESS, SWITCHING TECHNIQUES (CIRCUIT SWITCHING, PACKET SWITCHING)
	TRANSMISSION MEDIA	WIRED COMMUNICATION MEDIA (TWISTED PAIR CABLE, CO-AXIAL CABLE, FIBER-OPTIC CABLE), WIRELESS MEDIA (RADIO WAVES, MICRO WAVES, INFRARED WAVES)
	NETWORK DEVICES	MODEM, ETHERNET CARD, RJ45, REPEATER, HUB, SWITCH, ROUTER, GATEWAY, WIFI CARD
	NETWORK TOPOLOGIES AND NETWORK TYPES	TYPES OF NETWORKS (PAN, LAN, MAN, WAN), NETWORKING TOPOLOGIES (BUS, STAR, TREE)
	NETWORK PROTOCOL	HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VOIP
	INTRODUCTION TO WEB SERVICES:	WWW, HYPER TEXT MARKUP LANGUAGE (HTML), EXTENSIBLE MARKUP LANGUAGE (XML), DOMAIN NAMES, URL, WEBSITE, WEB BROWSER, WEB SERVERS, WEB HOSTING
	FINAL PROJECT	
UNIT TEST – I	REVISION OF PYTHO	ON BASICS, TEXT FILE HANDING
HALF YEARLY EXAMINATION	REVISION OF PYTHON BASICS, TEXT FILE HANDING, BINARY FILE HANDLING, CSV FILE HANDLING, FUNCTIONS, DATA STRUCTURE	
PREBOARD EXAMINATION	WHOLE SYLLABUS	

SUBJECT: COMPUTER SCIENCE (PRACTICAL)

MONTH	CHAPTER
APRIL - SEPTEMBER	 REVISION OF PYTHON BASICS TEXT FILE HANDLING BINARY FILE HANDLING CSV FILE HANDLING FUNCTIONS DATA STRUCTURES
OCTOBER - DECEMBER	 STRUCTURED QUERY LANGUAGE – PART STRUCTURED QUERY LANGUAGE – PART

MONTH	Topics	PRACTICAL
APRIL		 Read a text file line by line and display each word separated by a #.
MAY	_	 Read a text file and display the number of vowels/ consonants/ uppercase/lowercase characters in the file.
		 Remove all the lines that contain the character 'a' in a file and write it to another file.
JULY	PYTHON PROGRAMMING	 Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.
	-	 Create a binary file with roll number, name and marks. Input a roll number and update the marks.
AUGUST		 Create a CSV file by entering user-id and password, read and search the password for given user-id.
SEPTEMBER	-	 Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).
		 Write a Python program to implement a Stack using list.
		 Create a student table and insert data. Implement the following SQL commands on the student table :
	DATABASE MANAGEMENT	 ALTER table to add new attributes / modify data type / drop attribute UPDATE table to modify data ORDER BY to display data in ascending / descending order
NOVEMBER		 DELETE to remove tuple(s) GROUP BY and find the min, max, sum, count and average
		 Similar exercise for other cases. Integrate SQL with Python by importing suitable module.
DECEMBER	FINAL PROJECT	

SUBJECT - ECONOMICS

MONTH	BOOK	CHAPTERS
April	Macroeconomics	 Introduction To Macroeconomics Circular Flow Of income Measurement of N.I.
Мау	Indian Economic Development	 Introduction to Indian Economy Five Year Plans
	Macroeconomics	3) Measurement Of N.I Practice doing Numericals.
July	Macroeconomics	4) Money And Banking Meaning and supply of money, currency held by the public and net demand deposits held by commercial banks. Money creation, Central bank and its functions.
	Indian Economic Development	 3) Growth and development of Agriculture, Industry and foreign trade 4) Economic reforms since 1991
UNIT TEST-1	MACROECONOMICS	CHAPTERS 1-3
	INDIAN ECONOMIC DEVELOPMENT	CHAPTERS 1-3
August	Indian Economic Development	 5) Rural Development 6) Human Capital formation
September	Macroeconomics	5) Determination of Income and Employment
HALF YEARLY EXAMINATION	MACROECONOMICS	CHAPTERS 1- 4
	INDIAN ECONOMIC DEVELOPMENT	CHAPTERS 1-6
October	Indian Economic	7) Employment
	Macroeconomics	6) Government Budget
November	Project Work in	

	Economics	
November	Indian Economic Development	8) Environment and Sustainable Development Meaning, effects of economic development on resources and environment including global warming
	Macroeconomics	 7) Balance of Trade and Balance of Payments Meaning and components 8) Foreign exchange rate – meaning of fixed and flexible rates and manged floating
December	Indian Economic Development	9) Development Experience Of India with neighbours
	Macroeconomics	8) Foreign Exchange Rate (Continued)
DECEMBER (1 st PRE BOARD)		FULL SYLLABUS
JANUARY (2 nd PRE BOARD)		FULL SYLLABUS

SUBJECT - BIOTECHNOLOGY

TERM - I

<u>April</u>

Recombinant DNA technology

<u>May</u>

Protein structure and engineering

<u>July</u>

Genomics and bioinformatics

<u>August</u>

Microbial culture and application

September

Microbial applications and bioethics

Practicals:

- 1. Use of special equipments in biotechnology experiments.
- 2. Isolation of DNA from plant material.
- 3. Preparation of media.
- 4. Dilution of soil samples.
- 5. Pouring of media, spreading and streaking of sample on media.
- 6. Cell viability assay.
- 7. Gram staining.

Term - II

<u>October</u>

Plant cell culture and application

November

Animal cell culture and applications

Practicals:

- 1. Computer based all practicals.
- a. Studying DNA sequence comparing proteins using Gen Bank.
- b. Compositional analysis
- c. Motif analysis
- d. Complementary sequence
- e. Gen Bank.

Unit Test - I : Recombinant DNA technology

Half Yearly : Recombinant DNA technology and protein structure and engineering,

Genomics and bioinformatics.

Pre board - I : All chapters.

Pre board - II : All chapters.

SUBJECT : PHYSICAL EDUCATION
Management of Sporting Events

April	Management of Sporting Events	
Мау	Management of Sporting Events	
	Children and Women in Sports	
July	Unit – II & Yoga as Preventive measure for Lifestyle Disease	
August	Physical Education & Sports for CWSN (Children with Special Needs – Divyang)	
	Sports and Nutrition	
September	Test & Measurement in Sports	
	Physiology & Injuries in Sports	
October	Biomechanics & Sports	
November	Psychology & Sports	
December	Training in Sports	

I St Unit Test	Chapters covered from April to July
Half Yearly Examination	Chapters covered from April to September
Pre-Board Examination	Whole Syllabus

पाठ्यक्रम विभाजन

विषय हिंदी

पाठ्य पुस्तकें आरोह भाग 2, वितान भाग 2, अभिव्यक्ति और माध्यम

अप्रैल - गद्य - भक्तिन

पद्य - आत्म परिचय,

मई - गद्य- बाजार दर्शन

पद्य - एक गीत

वितान - वितान - सिल्वर वैडिंग

व्याकरण पत्रकारिता

जुलाई - काले मेघा पानी दे

पद्य-पतंग, कविता के बहाने

वितान -जूझ

व्याकरण जनसंचार माध्यम रचनात्मक लेखन

फीचर लेखन, स्तंभ लेखन, समाचार लेखन

अगस्त-गद्य पहलवान की ढोलक

पद्य - बात सीधी थी पर ,कैमरे में बंद अपाहिज

कहानी का नाट्य रूपांतरण

व्याकरण रचनात्मक लेखन ,पत्र लेखन

सितंबर- गद्य पूर्व पढ़ाए गए पाठों का पुनः अभ्यास

पद्य-उषा ,बादल राग

व्याकरण -रेडियो नाटक अपठित गद्यांश ,पद्यांश ,पत्र लेखन

अक्टूबर- गद्य - पठित पाठों की पुनरावृत्ति

पद्य- कवितावली

वितान -अतीत में दबे पांव ,रचनात्मक लेखन का अभ्यास

नवंबर - गद्य शिरीष के फूल

पद्य लक्ष्मण मूर्छा और राम का विलाप

वितान-वितान- समस्त पाठों की पुनरावृत्ति

दिसंबर गद्य श्रम विभाजन और जाति प्रथा , मेरी कल्पना का आदर्श समाज

पद्य छोटा मेरा खेत ,बगुलों के पंख

प्रथम यूनिट परीक्षा

गद्य -भक्तिन , बाजार दर्शन

पद्य -आत्मपरिचय ,एक गीत

वितान -सिल्वर वेडिंग,

व्याकरण- पत्रकारिता

अर्धवार्षिक परीक्षा

गद्य- भक्तिन ,बाजार दर्शन ,काले मेघा पानी दे ,पहलवान की ढोलक

पद्य -आत्मपरिचय ,एक गीत ,पतंग ,कविता के बहाने बात सीधी थी पर, कैमरे में बंद अपाहिज ,उषा

वितान-सिल्वर वेडिंग,जूझ

व्याकरण रचनात्मक लेखन ,पत्र लेखन ,कहानी का नाट्य रूपांतरण ,रेडियो नाटक , जनसंचार माध्यम एवं पत्रकारिता, अपठित गद्यांश एवं पद्यांश

प्री बोर्ड परीक्षा

वर्ष भर पढ़ाया गया संपूर्ण पाठ्यक्रम

क्रियाकलाप

त्वरित भाषण, कविता वाचन एवं वाद-विवाद

परियोजना कार्य

लेखक ,कवि ,साहित्य एवं विभिन्न सामाजिक विषयों मे से किसी एक पर फाइल वर्क

1 लेखकों कवियों का साहित्यिक परिचय उपलब्धियां हिंदी साहित्य में योगदान

- 2 हिंदी साहित्य में प्रकृति चित्रण
- 3 विभिन्न सामाजिक समस्याएं
- 4 भक्ति कालीन हिंदी साहित्य
- 5 संचार माध्यम
- 6 भारतीय ग्रामीण जीवन शैली

SUBJECT - INFORMATION PRACTICES

MONTH	CHAPTER	TOPICS
APRIL	Unit 1: Data Handling using Pandas -I	Introduction to Python libraries- Pandas, Matplotlib. Data structures in Pandas - Series and Data Frames. Series: Creation of Series from – ndarray, dictionary, scalar value; mathematical operations; Head and Tail functions; Selection, Indexing and Slicing. Data Frames: creation - from dictionary of Series list of dictionaries. Text/CSV/files:
МАҮ		display; iteration; Operations on rows and columns: add, select, delete, rename; Head and Tail functions; Indexing using Labels, Boolean Indexing; Importing/Exporting Data between CSV files and Data Frames
JULY	Unit 1: Data Visualization	Purpose of plotting; drawing and saving following types of plots using Matplotlib – line plot, bar graph, histogram Customizing plots: adding label, title, and legend in plots.
AUGUST	Unit 2: Database Query using SQL	Math functions: POWER (), ROUND (), MOD (). Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM (). Date Functions: NOW(), DATE(), MONTH(), MONTHNAME (), YEAR(), DAY(), DAYNAME (). Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*). Querying and manipulating data using Group by, Having, Order by.
SEPTEMBER	Unit 3: Introduction to Computer Networks	Introduction to networks, Types of network: LAN, MAN, WAN. Network Devices: modem, hub, switch, repeater, router, gateway Network Topologies: Star, Bus, Tree, Mesh. Introduction to Internet, URL, WWW, and its applications- Web, email, Chat, VoIP. Website: Introduction, difference between a website and webpage, static vs dynamic web

OCTOBER		page, web server and hosting of a website. Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug- ins, cookies.
NOVEMBER	Unit 4 : Societal Impacts	Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act. E-waste: hazards and management. Awareness about health concerns related to the usage of technology.

DECEMBER	PROJECT WORK.	
UNIT TEST – I	Data Handling using Pandas -I	
HALF YEARLY EXAMINATION	Data Handling using Pandas -I, Data Visualization	
PRE-BOARD-I	Data Handling using Pandas –I, Data Visualization, Database Query using SQL, Introduction to Computer Networks, Societal Impacts	
PRE-BOARD-II	Data Handling using Pandas –I, Data Visualization, Database Query using SQL, Introduction to Computer Networks, Societal Impacts	

SUBJECT: INFORMATICS PRACTICES (065)

MONTH	UNIT	CHAPTER
APRIL - SEPTEMBER	UNIT- 1, UNIT- 2	 Data Handling using Pandas -I Data Visualization Database Query using SQL
OCTOBER- DECEMBER	UNIT - 2, UNIT- 3 & UNIT- 4	 Introduction to Computer Networks Societal Impacts

SYLLABUS – LEGAL STUDIES

APRIL -

- a) Introduction to Contracts b) Formation of Contract c) Intention to Contract d) Consideration e) Capacity to Contract f) Consent g) Types of Contracts h) Discharge of Contract i) Remedies in case of breach
- 2. a) Concept of law of Torts b) Sources of Law of Torts c) Intentional Tort
 d) Defamation e) Negligence f) Strict Liability g) Absolute Liability
 MAY
- a) Types of Property b) Who can transfer property c) Essential of a valid transfer d) Types of Transfer- Sale, Lease, Exchange, Gift JULY
- 4. a) Meaning of Intellectual Property b) International Obligations that have shaped Indian IPR c) WIPO d) Copyright e) Patent f) Trademark g) Geographical Indication h) Design
- Structure, Hierarchy of Courts, and Legal Officers in India b) Constitution, Roles and Impartiality c) Appointments, retirement and removal of Judges d) Tribunals e) Courts and Judicial Review AUGUST
- 6. a) Adversarial and Inquisitorial Systems b) Meaning and scope of ADR
 c) Arbitration d) Mediation e) Conciliation f) Lok Adalat g) Ombudsman h) Lokpal and Lokayukta
- a) Introduction b) Initiatives under International Scenario c) Provisions under Indian Constitution d) Environment Protection Act, 1986 e) Pollution Control Boards

SEPTEMBER

- Types of Legal Entities in India a) Sole Proprietorship b) Partnership c) Limited Liability Partnership d) Private Limited company e) Public Limited Company f) One Person Company
- 9. a) Objectives of Criminal law b) Legislations for Criminal laws in India
 c) Distinction between Intention and Motive d) Stages of crime e) The Indian Evidence Act f) Admission and Confession)
 OCTOBER
- Human Rights Introduction 1. Historical Context b) Indian Constitutional framework on Human Rights and related Laws in India 1. The Preamble 2. Fundamental Rights-Part III of the Constitution 3. Directive Principles-Part IV- Articles 36-51 4. Fundamental Duties- Part IV(A)- Article 51
- 11.a) What are Quasi- Judicial Bodies? b) Various Human Rights Commissions
 1. National Human Rights Commission (NHRC) 2. National Commission for Minorities 3. National Commission for Women (NCW) a) National Commission for Scheduled Castes and Scheduled Tribes b) National Commission for Protection of Child's Rights (NCPCR) NOVEMBER
- 12.a) Introduction b) Historical Evolution of International Law c) What is International Law
- 13.d) Sources of International Law e) International Human Rights f) International Law & Municipal Law g) International Law & India h) Dispute Resolution
- 14.a) The Advocate Act,1961 b) Lawyers and Professional Ethics c) Advertising by Lawyers d) Liberalization and Globalization of legal profession e) Women and Legal Profession f) Legal Education in India, USA and UK g) Opportunities for Law Graduates

DECEMBER

15.a) Brief history of Legal services b) Free Legal Aid under Criminal law c) Legal aid by the State d) Legal Aid under the Indian Constitution e) National Legal Services Authority(NALSA) f) Legal Services Authority Act,1987 g) Legal Aid in context of social justice and Human Right

UNIT TEST - 1 -

a) Introduction to Contracts b) Formation of Contract c) Intention to Contract
d) Consideration e) Capacity to Contract f) Consent g) Types of Contracts
h) Discharge of Contract i) Remedies in case of breach

a) Concept of law of Torts b) Sources of Law of Torts c) Intentional Tort d) Defamation e) Negligence f) Strict Liability g) Absolute Liability

a) Types of Property b) Who can transfer property c) Essential of a valid transferd) Types of Transfer- Sale, Lease, Exchange, Gift

a) Meaning of Intellectual Property b) International Obligations that have shaped Indian IPR c) WIPO d) Copyright e) Patent f) Trademark g) Geographical Indication h) Design

HALF YEARLY -

a) Introduction to Contracts b) Formation of Contract c) Intention to Contract
d) Consideration e) Capacity to Contract f) Consent g) Types of Contracts
h) Discharge of Contract i) Remedies in case of breach

a) Concept of law of Torts b) Sources of Law of Torts c) Intentional Tort d) Defamation e) Negligence f) Strict Liability g) Absolute Liability

a) Types of Property b) Who can transfer property c) Essential of a valid transferd) Types of Transfer- Sale, Lease, Exchange, Gift

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Structure, Hierarchy of Courts, and Legal Officers in India b) Constitution, Roles and Impartiality c) Appointments, retirement and removal of Judges d) Tribunals e) Courts and Judicial Review

a) Adversarial and Inquisitorial Systems b) Meaning and scope of ADR c) Arbitration d) Mediation e) Conciliation f) Lok Adalat g) Ombudsman h) Lokpal and Lokayukta

a) Introduction b) Initiatives under International Scenario c) Provisions under Indian Constitution d) Environment Protection Act, 1986 e) Pollution Control Boards

Types of Legal Entities in India a) Sole Proprietorship b) Partnership c) Limited Liability Partnership d) Private Limited company e) Public Limited Company f) One Person Company

a) Objectives of Criminal law b) Legislations for Criminal laws in India c) Distinction between Intention and Motive d) Stages of crime e) The Indian Evidence Act f) Admission and Confession)

Human Rights Introduction 1. Historical Context b) Indian Constitutional framework on Human Rights and related Laws in India 1. The Preamble 2. Fundamental Rights - Part III of the Constitution 3. Directive Principles-Part IV-Articles 36-51 4. Fundamental Duties- Part IV(A)- Article 51

a) What are Quasi- Judicial Bodies? b) Various Human Rights Commissions 1. National Human Rights Commission (NHRC) 2. National Commission for Minorities 3. National Commission for Women (NCW) a) National Commission for Scheduled Castes and Scheduled Tribes b) National Commission for Protection of Child's Rights (NCPCR)

a) Introduction b) Historical Evolution of International Law c) What is International Law

d) Sources of International Law e) International Human Rights f) International Law & Municipal Law g) International Law & India h) Dispute Resolution

FINAL – ENTIRE SYLLABUS

SUE	BJECT - H	ISTORY
MONTH	BOOK	CHAPTERS
April	1	1. Bricks, Beads, and Bones
Мау	1	2. Kings, Farmers, and Towns
	1	3. Kingship, Caste and class
July	1	4. Thinkers, Beliefs and buildings
	2	5. Through the eyes of Travellers
August	2	6. Bhakti-Sufi Traditions
UNIT TEST - 1	1	Chap 1 and 2
August	2	7. An Imperial Capital: Vijayanagar
September	2	8. Peasants, Zamindars and the Sate
HALF YEARLY EXAMINATION		CHAPTERS 1-7
October	3	10. Colonialism and the countryside
	Project Work in History	
November	3	11. Rebels and the Raj
		13. Mahatma Gandhi and the National Movement
December	3	15. Framing the constitution
DECEMBER (1 st PRE BOARD)		FULL SYLLABUS
JANUARY (2 nd PRE BOARD)		FULL SYLLABUS

SUBJECT : PSYCHOLOGY

MONTH		
April	Chapter -1 Variations in Psychological Attributes: Intelligence	Practical-1 Intelligence: Progressive Matrices
Мау	Chapter - 2 Self and Personality	Introduction to the Case Study
UNIT TEST-1		CHAPTERS 1-2
July	Chapter - 3 Meeting Life Challenges	Practical- 2
August	Chapter- 4 Psychological Disorders	Case – Study
September	Chapter- 5 Therapeutic Approaches	Practical - 3
HALF YEARLY EXAMINATION		CHAPTERS 1-5
October	Chapter-6 Attitude and Social Cognition	Practical - 4
November	Chapter- 7 Social Influence and Group Processes	Practical - 5 Case Study
December	Full Syllabus	Pre-Board - 1
January	Full Syllabus	Pre -Board -2

Applied Mathematics

April	Matrices & Determinants
	Inverse of a Matrix
	Solution of system of simultaneous equations
Мау	Numbers, Quantification & Numerical Applications.
July	Calculus (Differentiation and its applications)
August	Maxima and Minima , Increasing /Decreasing Function
September	Indefinite Integration
October	Definite Integrals as area under the curve
	Application of Integration
November	Differential Equations and its applications ,
	Inferential Statistics
	Index Numbers and Time Based Data
December	Probability Distribution
	Financial Mathematics
	Linear Programming

I st Unit Test	Chapters covered from April to July
Half Yearly Examination	Chapters covered from April to September
Pre-Board Examination	Whole Syllabus

SEWA

April	
May	1.Digitalisation and Innovation
	2.Global Health
July	Outdoor Photography (conseptual) with one page
	writeup
August	Paper Envlop big size.
September	Plant Sapling with writeup
October	
November	Newspaper Made Product Best out of Waste
December	
