JAGANNATH INTERNATIONAL SCHOOL

MONTH-WISE SYLLABUS-2024-25
CLASS-XI

ENGLISH CORE (301)

PRESCRIBED BOOKS: HORNBILL
SNAPSHOTS (SUPPLEMENTARY READER PUBLISHED BY NCERT)

MONTH	CHAPTER	ACTIVITIES
APRIL-MAY	THE PORTRAIT OF A LADY, A PHOTOGRAPH, THE SUMMER OF BEAUTIFUL WHITE HORSE, WE'RE NOT AFRAID TO DIE...IF WE CAN BE TOGETHER, THE LABURNUM TOP, THE ADDRESS, POSTER MAKING, NOTICE WRITING, READING COMPREHENSION, INTEGRATED GRAMMAR	BRAINSTORMING CHARTS STORY MAPS
JULY	DISCOVERING TUT: THE SAGA CONTINUES, MOTHER'S DAY, NOTE MAKING, SPEECH WRITING, READING COMPREHENSION, INTEGRATED GRAMMAR	NOTE MAKING
AUG-SEP	THE VOICE OF THE RAIN, CHILDHOOD, DEBATE WRITING, READING COMPREHENSION, INTEGRATED GRAMMAR	DEBATE
OCTOBER	SILK ROAD, ADVERTISEMENTS, READING COMPREHENSION, INTEGRATED GRAMMAR, REVISION FOR MID-TERM	ADVERTISEMENTS
NOVEMBER	FATHER TO SON, ADVERTISEMENTS, READING COMPREHENSION, INTEGRATED GRAMMAR	SPEAKING SKILLS (GROUP DISCUSSIONS)
DECEMBER	BIRTH, REVISION OF WRITING SKILLS, READING COMPREHENSION, INTEGRATED GRAMMAR	EXTEMPORE
JAN-FEB	THE TALE OF MELON CITY, REVISION OF READING, WRITING AND SPEAKING SKILLS	ASSESSMENT OF SPEAKING AND LISTENING SKILLS (ASL)

PHYSICAL EDUCATION

BOOK: SARASWATI PUBLICATION

MONTH	CHAPTERS
APRIL - MAY	UNIT 1: CHANGING TRENDS AND CAREER IN PHYSICAL EDUCATION. UNIT 2: OLYMPISM
JULY	UNIT 3: YOGA UNIT 4: PHYSICAL EDUCATION AND SPORTS FOR CWSN(CHILDREN WITH SPECIAL NEEDS-DIVYANG)
AUGUST - SEPTEMBER	UNIT 5: PHYSICAL FITNESS, HEALTH AND WELLNESS UNIT 6: TEST MEASUREMENT AND EVALUATION
OCTOBER	UNIT 7: FUNDAMENTAL OF ANATOMY AND PHYSIOLOGY IN SPORTS
NOVEMBER	UNIT 8: FUNDAMENTAL OF KINESIOLOGY AND BIOMECHANICS IN SPORTS
DECEMBER	UNIT 9: PSYCHOLOGY AND SPORTS
JAN-FEB	UNIT10: TRAINING AND DOPING IN SPORTS

PSYCHOLOGY (037)

BOOK: A TEXTBOOK FOR PSYCHOLOGY (NCERT)

MONTH	CHAPTERS	ACTIVITIES
APRIL	UNIT -1 WHAT IS PSYCHOLOGY? DIGITAL CONTENT: WATCH: PSYCHOLOGIST AT WORK? HTTP://YOUTU.BE/.V3TMEN1GIG	.DISCUSSION OF CASE STUDY TO MAKE STUDENTS AWARE ABOUT IMPORTANCE OF PSYCHOLOGY .ART INTEGRATION MAKE A COLLAGE OF WHAT IS PSYCHOLOGY,ITS SCOPE AND VARIUS BRANCHES
MAY	UNIT-2 METHODS OF ENQUIRY IN PSYCHOLOGY	.SEMINAR ON IMPORTANT METHODS OF PSYCHOLOGY

JULY	UNIT-4 HUMAN DEVELOPMENT	.PRESENTATION ON HUMAN DEVELOPMENTAL STAGES
AUGUST-SEPTEMBER	UNIT-5 SENSORY, ATTENTIONAL , AND PERCEPTUAL PROCESSES	.CRITICALLY EVALUATION OF THEORIES OF LEARNING
OCTOBER	UNIT-6 LEARNING	.EXPERIMENT : SENSATION AND LEARNING
NOVEMBER	UNIT-7 HUMAN MEMORY	.ACTIVITIES RELATED TO FORGETTING .EXPERIMENT: MEMORY
DECEMBER	UNIT-9 MOTIVATION AND EMOTION	.ACTIVITIES RELATED TO MOTIVATION .PROJECT
JAN-FEB	UNIT-8 THINKING AND REVISION	G.D.

ECONOMIC(030)

BOOK: MICRO ECONOMICS: Sandeep Garg (Dhanpat Rai Publications)

MONTH	CHAPTERS	ACTIVITY
APRIL	Ch-1: Introduction	• Flow chart
MAY	Ch-2: Consumer's Equilibrium	• Diagrammatic Presentation • Class test
JULY	Ch-3: Demand	• Flowchart • Diagrammatic Presentation • Class test
AUGUST	Ch-4: Elasticity of Demand	• Numerical based on method of calculating Elasticity of Demand • Diagrammatic Presentation • Learning formulas • Class test
SEPTEMBER	Revision + Project Work	
OCTOBER	Ch-5: Production Function Ch-6: Cost	• To note down the highlights of production, cost and revenue in a company • Class test
NOVEMBER	Ch-7: Revenue Ch-8: Producer's Equilibrium	• Flowchart • Diagram of Producer's Equilibrium • Class test
DECEMBER	Ch-9: Supply Ch-10: Main market forms	• Flow chart • Diagrams of Supply • Class test
JANUARY	Ch-11: Price determination and simple application	• Flow chart • Diagrammatic presentation

		• Class test
FEBRUARY	Revision	

MONTH	CHAPTERS	ACTIVITY
APRIL	Ch-1: Concept of Economics Ch-2: Meaning, Scope and Importance of Statistics	• Flowchart • Oral test
MAY	Ch-3: Collection of Data	• Flowchart • To prepare questionnaire • Class test
JULY	Ch-4: Organisation of data Ch-5: Tabular Presentation Ch-6: Diagrammatic presentation of data Ch-7: Graphic Presentation	• Flow chart • Pictorial representation of data
AUGUST	Ch-8: Measures of central tendency-Arithmetic Mean	• Flow chart • Numerical • Class test
SEPTEMBER	Revision	• Oral and written test
OCTOBER	Ch-9: Measures of central tendency-Median and Mode	• Flow chart • Prepare a chart showing formulas of means, median and mode.
NOVEMBER	Ch-10: Measures of Correlation	• Numerical • Class test
DECEMBER	Ch-11: Index Numbers	• Numerical • Class test
JANUARY	Revision	
FEBRUARY	Revision	

BOOK: Statistics for Economics: Sandeep Garg (Dhanpat Rai Publications)

POLITICAL SCIENCE

BOOKS-1: INDIAN CONSTITUTION AT WORK (NCERT)
BOOK-2: POLITICAL THEORY (NCERT)
MM: 80 + 20

MONTH	CHAPTER NAME		ACTIVITIES
	PART A: INDIAN CONSTITUTION AT WORK		
APRIL	• CHAPTER1: CONSTITUTION		• LEARN ABOUT PHILOSOPHY AND MAKING OF CONSTITUTION • READ PREAMBLE AND ANALYSE. • MAKE TIMELINE/FLOWCHART.
MAY	• CHAPTER-2: RIGHTS IN THE INDIAN CONSTITUTION • CHAPTER-3: ELECTION AND REPRESENTATION • GUIDELINES FOR PROJECT WORK		• COLLAGE –MAKING: VIOLATIONS OF RIGHTS. • PPT
JUNE	**SUMMER VACATIONS**		
JULY	• CHAPTER-4: LEGISLATURE • CHAPTER-5: EXECUTIVE • CHAPTER-6: JUDICIARY		• DISCUSSION AND DEBATE: POWERS AND FUNCTIONS OF REAL AND NOMINAL EXECUTIVE. • EXTEMPORE: Student will pick a topic from the bowl. They will start extempore by introducing themselves and about the topic.
JULY	**PERIODIC TEST-1**		
AUGUST	• CHAPTER-7-FEDERALISM • CHAPTER-8: LOCAL GOVERNMENT		• INFORMATIONAL BROCHURE: Students will design an informational brochure to share what they have learnt about the topic.

	• CHAPTER-9: <u>CONSTITUTION AS LIVING DOCUMENT</u>		
SEPTEMBER	• REVISION FOR MID TERM EXAMINATION • **MID TERM EXAMINATION**		• PEN PAPER TEST FOR REVISION • QUIZ
	PART B: POLITICAL THEORY		
OCTOBER	• CHAPTER-1: <u>POLITICAL THEORY – AN INTRODUCTION</u> • CHAPTER-2: <u>FREEDOM</u> • CHAPTER-3- <u>EQUALITY</u>		• WHAT IS POLITICS? COLLECT POLITICAL CARTOONS FROM VARIOUS NEWSPAPERS AND DISCUSSING THE ISSUES. • RAISED COMPARISON BETWEEN LIBERTY AND FREEDOM. • PANEL DISCUSSION: Teacher will assign topics for discussion. Will make panel (students) and proceed with discussion. • DEBATE: DOES DRESS CODE CURTAIL INDIVIDUAL FREEDOM?
NOVEMBER	• CHAPTER-4: <u>SOCIAL JUSTICE</u> • CHAPTER-5: <u>RIGHTS</u>		• COLLABORATIVE LEARNING: ASSIGNING TASK FOR ACQUIRING INFORMATION ON DIFFERENT TYPES OF RIGHTS. • COMPARATIVE ANALYSIS; DIFFERENT TYPE OF RIGHTS.
DECEMBER	• CHAPTER-6: <u>CITIZENSHIP</u> • CHAPTER-7: <u>NATIONALISM</u> • PROJECT SUBMISSION		• DEBATE: SHOULD INDIA GRANT DUAL CITIZENSHIP? • DISCUSSION: NORMS OF GRANTING CITIZENSHIP PUT FORTH BY DIFFERENT COUNTRIES.

JANURARY	• CHAPTER-8: <u>SECULARISM</u> • REVISION • VIVA FOR FINAL TERM		• QUIZ
FEBRUARY/ MARCH	• REVISION FOR FINAL TERM • FINAL TERM EXAMINATION		

MATHEMATICS
BOOK: NCERT

MONTHS	CHAPTERS	ACTIVITY
APRIL	CH – 1 SETS CH – 2 RELATIONS AND FUNCTIONS	• VENN DIAGRAMS ON VARIOUS TYPES OF NUMBERS • FLOW CHARTS RELATING FAMILY MEMBERS USING TYPES OF RELATIONS
MAY	CH – 3 TRIGONOMETRIC FUNCTIONSCH – 4 COMPLEX NUMBERS AND QUADRATIC EQUATIONS	• FORMULAE CHARTS • GROUP DISCUSSION - (REAL NUMBERS VS COMPLEX NUMBERS)
JULY	CH – 5 LINEAR INEQUALITIES CH – 6 PERMUTATIONS ANDCOMBINATIONS	• WORKSHEETS
AUGUST	CH – 7 BINOMIAL THEOREM CH – 8 SEQUENCES AND SERIES	• MODEL ON PASCAL'S LAW
SEPTEMBER	CH – 9 STRAIGHT LINES CH – 10 CONIC SECTIONS	• GRAPH MAKING OF VARIOUS TYPES OF CONIC SECTIONS
OCTOBER	CH – 11 INTRODUCTION TO THREE –DIMENSIONAL GEOMETRY CH – 12 LIMITS AND DERIVATIVES	• CALCULATING DISTANCE BETWEEN TWO POINTS GRAPHICALLY AND VERIFY DISTANCE FORMULA
NOVEMBER	CH – 13 STATISTICS CH – 14 PROBABILITY	• INFOGRAPHIC MAKING ON TEMPERATURE DATA • FLASHCARDS ON TYPES OF EVENTS

BUSINESS STUDIES
BOOK: NCERT & POONAM GANDHI

MONTHS	CHAPTERS
APRIL	PART A:

	CH – 1 NATURE AND PURPOSE OF BUSINESS
MAY	CH – 2 FORMS OF BUSINESS ORGANISATIONS
JULY	CH – 3 PRIVATE, PUBLIC AND GLOBAL ENTERPRISES CH – 5 EMERGING MODES OF BUSINESS
AUGUST	CH – 4 BUSINESS SERVICES
SEPTEMBER	CH – 6 SOCIAL RESPONSIBILITIES OF BUSINESS AND BUSINESS ETHICS
OCTOBER	PART B: CH – 9 INTERNAL TRADE CH – 10 INTERNATIONAL BUSINESS
NOVEMBER	CH – 7 SOURCES OF BUSINESS FINANCE
DECEMBER	CH – 8 SMALL BUSINESS AND ENTERPRISES

ACCOUNTANCY
BOOK: T.S. GREWAL'S

MONTHS	CHAPTERS
MONTHS	CH – 1 INTRODUCTION TO ACCOUNTING
APRIL	CH – 2 BASIC ACCOUNTING TERMS CH – 3 THEORY BASE OF ACCOUNTING, ACCOUNTING STANDARDS AND INDIAN ACCOUNTINGSTANDARDS CH – 4 BASES OF ACCOUNTING
MAY	CH – 5 ACCOUNTING EQUATION CH – 6 ACCOUNTING PROCEDURES – RULES OF DEBIT AND CREDIT CH – 7 ORIGIN OF TRANSACTIONS – SOURCE DOCUMENTS AND PREPARATION OF VOUCHERS
JULY	CH – 8 JOURNAL
AUGUST	CH – 9 LEDGER
SEPTEMBER	CH – 10 SPECIAL PURPOSE BOOKS I – CASH BOOK
OCTOBER	CH – 11 SPECIAL PURPOSE BOOKS II – OTHER BOOKS CH – 12 ACCOUNTING OF GOODS AND SERVICES TAX (GST) CH – 13 BANK RECONCILIATION STATEMENT
NOVEMBER	CH -14 TRIAL BALANCE CH – 15 DEPRECIATION CH – 16 PROVISIONS AND RESERVES

MONTH	CHAPTERS	PRACTICALS
DECEMBER	CH – 17 RECTIFICATION OF ERRORS CH – 18 FINANCIAL STATEMENTS OF SOLE PROPRIETORSHIP	
JANUARY	CH – 19 ADJUSTMENTS IN PREPARATION OF FINANCIAL STATEMENTS	

PHYSICS

BOOKS:
- NCERT PHYSICS
- MODERN'S ABC OF PHYSICS
- COMPREHENSIVE PHYSICS LAB MANUAL

MONTH	CHAPTERS	PRACTICALS
APRIL	CHAPTER-2 UNITS AND MEASUREMENT CHAPTER-3 MOTION IN A STRAIGHT LINE	➢ TO MEASURE DIAMETER OF SMALL SPHERICAL BODIES USING VERNIER CALLIPERS. ➢ TO MEASURE DIMENSIONS OF A BODY USING SCREW GAUGE.
MAY	CHAPTER-4 MOTION IN A PLANE	➢
JULY	CHAPTER-5 LAWS OF MOTION CHAPTER-6 WORK, ENERGY AND POWER	➢ TO FIND THE WEIGHT OF A GIVEN BODY USING PARALLELOGRAM LAW OF VECTORS.
AUGUST – SEPTEMBER	CHAPTER-8 GRAVITATION	➢ TO STUDY THE RELATIONSHIP BETWEEN FORCE OF LIMITING FRICTION AND NORMAL REACTION AND TO FIND THE COEFFICIENT OF FRICTION.
OCTOBER	CHAPTER-7 SYSTEM OF PARTICLES AND ROTATIONAL MOTION CHAPTER-9 MECHANICAL PROPERTIES OF SOLIDS	➢ USING A SIMPLE PENDULUM, PLOT L-T AND L-T^2 GRAPHS. HENCE FIND THE EFFECTIVE LENGTH OF A PENDULUM.
NOVEMBER	CHAPTER-10 MECHANICAL PROPERTIES OF FLUIDS	➢ TO DETERMINE THE SURFACE TENSION OF WATER BY CAPILLARY RISE METHOD.

	CHAPTER-11 THERMAL PROPERTIES OF MATTER CHAPTER-12 THERMODYNAMICS	
DECEMBER	CHAPTER-13 KINETIC THEORY CHAPTER-14 OSCILLATIONS CHAPTER-15 WAVES	➢ TO DETERMINE COEFFICIENT OF VISCOSITY OF A GIVEN VISCOUS LIQUID BY MEASURING THE TERMINAL VELOCITY OF A GIVEN SPHERICAL BODY. ➢ TO FIND FORCE CONSTANT OF A HELICAL SPRING BY PLOTTING GRAPH BETWEEN LOAD AND EXTENSION.

CHEMISTRY

BOOKS PRESCRIBED:
- NCERT, CHEMISTRY
- MODERN'S ABC OF CHEMISTRY
- COMPREHENSIVE LAB MANUAL

MONTH	CHAPTERS	ACTIVITIES
APRIL	UNIT-1 SOME BASIC CONCEPTS OF CHEMISTRY	-
MAY	UNIT-2 ATOMIC STRUCTURE UNIT-3 CLASSIFICATION OF ELEMENTS AND PERIODICITY IN PROPERTIES (HALF)	➢ CRYSTALLIZATION
JULY	UNIT-3 CLASSIFICATION OF ELEMENTS AND PERIODICITY IN PROPERTIES (HALF) UNIT-4 CHEMICAL BONDING & MOLECULAR STRUCTURE	➢ VOLUMETRIC ANALYSIS
AUG-SEPT	UNIT-5 THERMODYNAMICS UNIT-7 REDOX REACTIONS	➢ SALT ANALYSIS
OCTOBER	UNIT-6 CHEMICAL EQUILIBRIUM	➢ VOLUMETRIC ANALYSIS
NOVEMBER	UNIT-8 GENERAL ORGANIC CHEMISTRY	➢ SALT ANALYSIS
DECEMBER	UNIT-9 HYDROCARBONS	-

BIOLOGY

BOOKS:
- NCERT BIOLOGY
- DINESH TEXT BOOK
- COMPREHENSIVE PRACTICAL

MONTH	CHAPTERS	PRACTICALS
APRIL	UNIT- 1. UNIT-1 DIVERSITY IN THE LIVING WORLD CH-1 THE LIVING WORLD CH-2 BIOLOGICAL CLASSIFICATION CH-3 PLANT KINGDOM CH-4 ANIMAL KINGDOM	➢ STUDY AND DESCRIBE THREE LOCALLY AVAILABLE COMMON FLOWERING PLANTS ONE EACH OF THE FAMILY DESCRIBE THREE LOCALLY AVAILABLE COMMON FLOWERING PLANTS ONE EACH OF THE FAMILIES SOLANACEAE, FABACEAE AND LILIACEAE.
MAY	UNIT-II STRUCTURAL ORGANIZATION IN ANIMALS AND PLANTS CH-5 MORPHOLOGY OF FLOWERING PLANTS CH-6 ANATOMY OF FLOWERING PLANTS	➢ PREPARATION AND STUDY OF T.S DICOT AND MONOCOT ROOTS AND STEMS ➢ STUDY OF PLANT AND ANIMAL SPECIMENS. ➢ STUDY OF INFLORESCENCE ➢ STUDY OF DIFFERENT MODIFICATIONS.
JULY	CH-7 STRUCTURAL ORGANISATION IN ANIMALS UNIT -III CELL: STRUCTURE AND FUNCTIONS CH-8 CELL THE UNIT OF LIFE CH-9 BIO MOLECULES	➢ TEST FOR THE PRESENCE OF SUGAR STARCH AND PROTEINS &FATS ➢ STUDY OF DIFFERENT TISSUES THROUGH PERMANENT SLIDES.
AUGUST - SEPTEMBER	CH-10 CELL CYCLE AND CELL DIVISION UNIT-IV PLANT PHYSIOLOGY CH-11TRANSPORT IN PLANT	➢ STUDY OSMOSIS BY POTATO OSMOMETER. ➢ STUDY OF IMBIBITON.
OCTOBER	CH-12MINERAL NUTRITION	➢SEPARATION OF PLANT PIGMENTS THROUGH PAPER CHROMATOGRAPHY.

	CH-13PHOTOSYNTHESIS CH-14RESPIRATION IN PLANTS CH-15PLANTGROWTH AND DEVELOPMENT	➢ STUDY OF DISTRIBUTION OF STOMATA FOR THE COMPARATIVE STUDY OF RATES OF TRANSPIRATION.
NOVEMBER	UNIT-V HUMAN PHYSIOLOGY CH-16DIGESTION AND ABSORPTION CH-17BREATHING AND EXCHANGE OF GASES CH-18 BODY FLUIDS AND CIRCULATION CH19EXCRETORY PRODUCTS AND THEIR ELIMINATION	➢ STUDY OF DIFFERENT HUMAN BLOOD CELLS.
DECEMBER	UNIT-V HUMAN PHYSIOLOGY CH-20 LOCOMOTION AND MOVEMENT CH-21 NEURAL CONTROL AND CO-ORDINATION CH-22CHEMICAL CO-ORDINATION AND INTEGRATION	➢ STUDY OF HUMAN SKELETON.

DECEMBER	CH-9 INTRODUCTION TO PYTHON MODULES IMPORTING MODULE USING 'IMPORT ' 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). CH-10 ERROR AND EXCEPTION HANDLING SYNTAX ERRORS, LOGICAL ERRORS, RUNTIME ERRORS	• QUIZ ON PYTHON MODULES AND ERROR HANDLING
JANUARY	CH-12 SOCIETY, LAW AND ETHICS DIGITAL FOOTPRINTS, NET ETIQUETTES, DATA PROTECTION, CYBER CRIME, CYBER SAFETY, SAFELY ACCESSING WEBSITES, E-WASTE MANAGEMENT, IT ACT, TECHNOLOGY AND SOCIETY.	• CHART MAKING ON CYBER SAFETY RULES/NETIQUETTES/DIGITAL FOOTPRINTS.
FEBRUARY	RECAPITULATION	

INFORMATIC PRACTICES(065)
Book : Preeti Arora

S.No	Month	Name of the chapter/topic to be covered	Test/ Exam
1	Apr	**Unit-2 (Computational Thinking and Programming -1)** **Chapter -2 : Getting Started with Python** Introduction to Problem solving: Introduction to problem solving: Steps for problem solving (analyzing 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 "helloworld" program, execution modes: interactive mode and script mode **Chapter-3 : Python Programming Fundamentals** Python character set, Python tokens(keyword, identifier, literal, operator, punctuator), variables, use of comments	**Class Test** **Oral Test**

		Knowledge of data types: number (integer, floating point, complex),boolean,sequence(string,list,tuple),none,mapping(d ictiona ry),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:	
2	May	**Continue ….** 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	**Class Test** **PT - 1**
3	Jul	<u>**Chapter -4 : Conditional Statement and looping Construct**</u> **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	**Class Test** **Oral Test**
4	Aug	<u>**Chapter -5 :List in Python**</u> **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	**Class Test** **Oral Test**
5	Sep	<u>**Chapter –6 : Dictionary**</u> **Dictionary:** Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted(); 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.	**Class Test** **Mid-Term**
6	Oct	<u>**UNIT- III**</u> <u>**Chapter -7 : Database concepts**</u> Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model:	**Class Test**

S.No	Month	Name of the chapter/topic to be covered	Test/ Exam
		Concept of domain, tuple, relation, candidate key, primary key, alternate key **Chapter – 8 :Structured Query Language** Advantages of using Structured Query Language, Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL, creating a database using MySQL, Data Types **Data Definition:** CREATE DATABASE, CREATE TABLE, DROP, ALTER Data Query: SELECT, FROM, WHERE with relational operators, BETWEEN, logical operators, IS NULL, IS NOT NULL **Data Manipulation:** INSERT, DELETE, UPDATE	
7	Nov	Continue … **Data Query:** SELECT, FROM, WHERE with relational operators, BETWEEN, logical operators, IS NULL, IS NOT NULL Data Manipulation: INSERT, DELETE,UPDATE	PT-2
8	Dec	**Unit-1** **Chapter 1-Computer Systems** Introduction to computer and computing: evolution of computing devices, components of a computer system and their interconnections, Input/output devices. Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns. Software: purpose and types–system and application software, generic and specific purpose software. **UNIT – IV** **Chapter – 9 : Emerging Trends** Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.	
9	Jan	Revision, Practical File and Project File Collection	

COMPUTER SCIENCE(083)
Book : Preeti Arora

S.No	Month	Name of the chapter/topic to be covered	Test/ Exam
1	Apr	**Unit-2 (Computational Thinking and Programming -1)** **Chapter -3 : Getting Started with Python** Introduction to Problem solving: Introduction to problem solving: Steps for problem solving (analyzing 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:	**Class Test** **Oral Test**

		Introduction to Python, features of Python, executing a simple "helloworld" program, execution modes: interactive mode and script mode **Chapter-4 : Python Programming Fundamentals** Python character set, Python tokens(keyword, identifier, literal, operator, punctuator), variables, use of comments Knowledge of data types: number (integer, floating point, complex),boolean,sequence(string,list,tuple),none,mapping(dictiona ry),mutable and immutable data types Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, isnot),membership operators(in, notin) Expressions, statement, type conversion & input/output:	
2	**May**	**Continue ….** 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	**Class Test** **PT - 1**
3	**Jul**	**Chapter -5 : Conditional Statement and looping Construct** **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 **Chapter – 6 : Strings in Python** 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(),ends with() ,startswith(), isalnum (), isalpha (), isdigit (), islower (), isupper (), isspace (), lstrip (), rstrip (),strip(), replace(),join(), partition(),split()	**Class Test** **Oral Test**
4	**Aug**	**Chapter -7 :List in Python** **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	**Class Test** **Oral Test**

5	Sep	**Chapter –8 : Tuples and Dictionary** **Tuples**- introduction, indexing, tuple operations (concatenation,repetition,membership&slicing), built-infunctions: len(),tuple(),count(), index(), sorted(), min(), max(), sum(); tuple assignment, nestedtuple, 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	**Class Test** **Mid-Term**
6	Oct	**Dictionary:** Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted(); 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. **Chapter 9- Introduction to Python modules** Importing module using 'import ' 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()).	**Class Test**
7	Nov	**Unit III:** **Chapter 10 : Society, Law and Ethics** Digital Footprints Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes Data Protection: Intellectual property rights (copyright, patent , trademark), violation of IPR(plagiarism, copyright infringement, trademark infringement), open source software and licensing (Creative Commons, GPL and Apache) Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying Cyber safety: safely browsing the web, identity protection, confidentiality Malware: viruses, trojans, adware E-waste management: proper disposal of used electronic gadgets. Information Technology Act (IT Act) Technology and society: Gender and disability issues while teaching and using computers	**PT-2**
8	Dec	**Unit-1** **Chapter 1-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, DeMorgan's laws and logic circuits Number system: Binary, Octal, Decimal and Hexadecimal number system;	

		conversion between number systems. Encodingschemes: ASCII,ISCIIand UNICODE(UTF8,UTF32)	
9	**Jan**	Revision, Practical File and Project File Collection	