



BHAVAN'S BHAGWANDAS PUROHIT VIDYA MANDIR

CURRICULUM PLAN (2023-2024)

STD. XI (COMPUTER SCIENCE)



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BHAVAN'S BHAGWANDAS PUROHIT VIDYA MANDIR, NAGPUR
CURRICULUM PLAN (2023 - 24)
SUBJECT :- Computer Science (083)
STD :- XI



MONTH	WEEKLY DATES	NO. OF PERIODS	TOPIC	SUBTOPIC	ACTIVITIES / ASSIGNMENT	LEARNING OUTCOMES / SDG's / SKILLS TO BE DEVELOPED
April – 2023	17 - 21	5	Computer Overview	Basic computer organisation: description of a computer system and mobile system,	Assignment No. 1 Presentation on : Computer and mobile system system. Software types. Operating System and its functions. Problems based on bits.	Students will be able to understand : * Concepts of Computer * Functioning of Computer * Types of softwares * Concepts of bits and bytes Learning Skill : Critical thinking and creativity skill
	24 - 29	6		CPU, memory, hard disk, I/O, battery, power.		
May-23	2 - 4	3	Computer Overview	Types of software: application, OS, utility, libraries Language of Bits: bit, byte, MB, GB, TB, and PB.	Assignment No. 2 Exercise based on Number System Conversion	Students will be able to convert the numbers in binary form.
June-2023	20 - 24	5	Computer Overview	Operating System(OS): functions of the operating system, OS user Interface		
	26 - 30	4	Data Representation	Number System: Binary, Octal, Decimal and Hexadecimal number system		
July-2023	1, 3 - 8	6	Data Representation	Conversion between number systems. Binary Addition Encoding Schemes: ASCII, ISCI	Assignment No. 3 Exercise based on Boolean laws Exercise based on Truth Tables.	Students will understand the use of Boolean Operators and verify the expression by using truth tables. Learning Skill : Critical thinking.
	10 - 15	6	Boolean Logic	Logic gates :OR, AND, NAND, NOR, XOR, NOT, Basic postulates		
	17 - 22	6	Boolean Logic	Principle of Duality, Boolean laws (Only by using Truth Table). Circuit Diagram		

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July-2023	24 - 28, 31	6	Getting Started with Python,	Introduction, Working in Python.	Assignment No. 4 Theory question based on definitions and statements. Concept of Script and Interactive mode.	Students will enhance the : * Basic Concepts of Python Programming. * Understand the concept of variables * Input and Output statements Literacy Skill : Information Literacy
PERIODIC TEST - I (04th September 2023)						
PORTION - COMPUTER OVERVIEW, DATA REPRESENTATION, BOOLEAN LOGIC, GETTING STARTED WITH PYTHON						
Aug-2023	1 - 5	5	Python Fundamental	Character Set, Tokens, Variables and assignments. Simple Input and output statements. concept of l-value and r-value, use of comments	Assignment No. 5 Exercise based on Tokens, Input output Statements.	
	7 - 12	5	Introduction of Problem Solving	Problem Solving Cycle - Analysing, Designing algorithm using flowchart and Pseudo-code.	Designing Flow Charts	Student will be able to design the flow charts based on different program.
	14, 17 - 19	4		Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types Operators and their types.	Assignment No. 6 Exercise based on Operators and Expressions for evaluating. Theory based questions on debugging	Students will be able to understand the : * Difference between Mutable and Immutable type. * Understand the concept of variables * Input and Output statements Students will be able to : * Detecting Errors * Debug the program Learning Skill : Critical thinking.
Sept-2023	21 - 26	6	Data Handling	Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan), Random module (random, randint, randrange), statistics module (mean, median, mode), Idea of debugging and Type of errors		
	28 - 29, 31	3		Expressions, statement, type conversion & input/output: precedence of operators, evaluation of expression, python statement, type conversion (explicit & implicit conversion)		
Sept-2023	1 - 2, 4 - 9	8				

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Sept-2023	11 - 16	5	Flow of Control	Types of statement, Statement flow control, Program logic development tools (Flowchart). Conditional Statements : If statement , If.. Else , If.. Elif , Nested If	Assignment No. 8 Theory question based on definitions and drawing flow charts for a given problem. * Programs based on selection statements. * Output finding question * Error Detection	Students will be able to draw the flowcharts, write pseudo codes. Students will be able to understand: * Conditional Statements * Program Based on simple if, if- else, if- elif - else statement. Learning Skill : Critical thinking.
HALF YEARLY EXAMINATION						
PORITION - UPTO FLOW OF CONTROL (NESTED IF STATEMENT) - 09th October 2023						
Oct-2023	16-20	6	Flow of Control	Iterative statements: Range function	Assignment No. 9 *Theory question based on drawing flow charts for a given problem and programs based on loop. * Output finding question * Error Detection	Students will be able to understand : * Concept of loops in Python program. * Detecting Errors * Output Finding Learning Skill : Critical thinking.
	25-28	3		For loop, While loop,		
	30 - 31	2		loop else statement , Nested Loop		
Nov-2023	1 - 4	4	Flow of Control	Jump statement (break, continue, pass)	Assignment No. 10 Application based question on Strings.	Students will be able to understand the concept of strings in python..
	6 - 9	3	String Manipulation	Introduction, traversing and string operations (+, *, in and not in)		
	23 - 25	3	String Manipulation	String indexing - Forward and backward. String slicing -		

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Nov-2023	28 - 30	3	String Manipulation	String built-in functions/methods-len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(),rstrip(), strip(), replace(), join(), partition(), split()		
DEC - 2023	1 - 2	2	List Manipulation	Introduction, indexing, list operations (concatenation, repetition)		
	4 - 9	5		Membership and slicing, traversing a list using loops	Assignment No. 11 Output finding question * Error Detection	Student will be able to find the output or detect the errors from the application based program on List.
	11 - 16	6		built-in functions/methods-len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists,	Assignment No. 12 Programs based on list functions and method Program based on Searching and counting the frequency of elements in List	Students will be able to understand the concept of Searching in Python. Learning Skill : Creativity
	18 - 23	6		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.		
	26-30	5	Tuples	Introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods - len(), tuple(), count(), index(), sorted(), min(), max(), sum();		
PERIODIC TEST - II (11th December 2023) PORTION - FLOW OF CONTROL (LOOP, NESTED LOOP, STRING MANIPULATION)						

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January - 2024	1 - 6	6	Tuples	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.	Assignment No. 13 Finding the maximum, minimum, mean; counting the frequency of elements in a tuple.	Students will be able to understand the concept of Tuples in Python.
	8 - 13	6		Introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary		
	16 - 20	5	Dictionaries	built-in functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted();	Assignment No. 14 Create a dictionary with names of Emp, their salary & access them Output / Error finding questions on dictionary	Students will be able to understand the concept of Dictionary in Python.
	23 - 25, 27	4		Suggested programs: count the number of times a character appears in a given string using a dictionary		
	29 - 31	3		create a dictionary with names of employees, their salary and access them.		
PERIODIC TEST - III (29th Jan-2024) PORTION - LIST, TUPLES AND DICTIONARIES						

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February-2024	1 - 3	3	Cyber Safety	Cyber safety: safely browsing the web, identity protection, confidentiality Social networks, cyber trolls and bullying, Appropriate usage of social networks: spread of rumours, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules.	Assignment No. 15 Theory based question onf Social Networking, Presentation of Social Networking, Cyber Safety, Data Security, Law and ethics.	Students will be able to understand the concept of Web Terminologies. Different ways to handle the web sites safely and also understand the way to secure the data. Life Skill : Social
	5 - 10	6	Online Access and Computer Security	Safely accessing web sites: adware, malware, viruses, Trojans, Digital Footprints • Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes		
	12 - 17	5	Society Law and Ethics	Intellectual property rights, plagiarism, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. • Privacy laws, fraud; cyber-crime-phishing, illegal downloads, child pornography, scams; cyber forensics, IT Act, 2000.	Assignment No. 16 Theory based question on Digital Footprints, IPR, Cyber Crime and Technology and Society.	Students will be able to understand the concept of Digital Footprint, IPR, Cyber Crime, E-waste Management. Life Skill : Social
20 - 24	5	• Technology and society: • understanding of societal issues and cultural changes induced by technology. • E-waste management: proper disposal of used electronic gadgets. • Identity theft, unique ids and biometrics. • Gender and disability issues				

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February-2024	26 - 29	3	Project Topic selection and Mini Project	Games Programming Project	Mini Project: Form a group of 2/3 students and assign a project based on game programming.	Students will be able to understand the concept of Project Making (Menu Driven Program) Literacy : Collaboration
Annual Promotion Examination (March-2024)						
March - 2024						

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