Kendriya Vidyalaya Sangathan, Chandigarh Region

Academic Plan for the Year 2021-22 (Term wise)

Class: XI **Subject:COMPUTER SCIENCE**

S. No.	Month	Name of the lesson	Teacher Resources	Learning Resources	Assessment	
1	August	**Unit I: Computer Systems and Organisation** **Basic Computer Organisation:** **Types of software** **Number system** **Encoding schemes** **Emerging trends**	basics of computer system and organisation : http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/basics%20of%20computer%20organization1.pdf BOOLEAN ALGEBRA : https://drive.google.com/file/d/15iHVHhSbQvZOFcomd15p0pDqNPjtIXQ3/view?usp=sharing	CSO : https://diksha.gov.in/play/content/do_3130767896219074561112 53?contentType=PracticeQuestionSet Number System : https://diksha.gov.in/play/content/do_3130767905954447361112 55?contentType=PracticeQuestionSet	Google form based MCQ/QUIZ on basics of computer organisation. Written test on making logical gates MCQ on number system conversions Full forms	1. https://docs.google.com/forms/d/1O7hAvsUysopXFB17Cnvgv2IxrnhUdiZr9Ei2r5SrYkE/edit?usp=sharing 2. https://docs.google.com/forms/d/1B_LQasyStDxf1QV4Vbr0gAHnBa7OEmLZdlcWqbLCxZw/edit?usp=sharing 3.
2	SEPTEMBER	**Unit 2: Computational Thinking and Programming** **Introduction to problem solving** **Familiarization with the basics of Python programming**: **Knowledge of data types, operators, Expressions**	PROBLEM SOLVING : https://diksha.gov.in/play/collection/do_31322470222920908811317?contentType=TextBook DATA HANDLING : https://python4csip.com/files/download/009%20Data%20Handling%20.pdf	https://diksha.gov.in/play/content/do_3130937111623598081170 9?contentType=PracticeQuestionSet	Assessment of students required on basic questions like Interactive mode vs Script mode Keyword vs identifier lvalue and rvalue single line vs multiline comments mutable vs immutable list/tuple/dictionary / vs // operator different types of strings and their usage in programming	https://docs.google.com/forms/d/1_4Ja7hS5NhIIeRaGkgVBBfWi5cCWakuKm73jnBrDvLo/edit?usp=sharing
3		PERIODIC TEST 1				
4	OCTOBER	**Flow of control:** ● **Conditional statements** ● **Iterative statements** ● **Strings**	FLOW OF CONTROL : http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/flow%20of%20control%2011.pdf STRING : http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/strings12.pdf	FLOW OF CONTROL : http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/flow%20of%20control%2011.pdf STRING : http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/strings12.pdf	MCQ based test on output based questions Simple programming on if MCQ based question on string slicing MCQ based questions on use of various string built-in functions Difference between for and while.	IMPORTANT QUESTIONS : What do you mean by token Elaborate? What are types of operators used in Python? What are rules for defining an identifier? What are the various types of literals in pYTHON Define implicit and explicit type conversion. How many times will the following loop get executed and what will be the final value of the variable I after execution the loop is over. I = 5 while I >= 9: I += 3
		PERIODIC TEST 2				
5	NOVEMBER	Revision and TERM 1 Examination				
6	November	**Lists:**	https://python4csip.com/files/download/013%20LISTS.pdf	https://python4csip.com/files/download/013%20LISTS.pdf	MCQ based test on output based questions Simple programming on lists MCQ based question on list	Program to print elements of a list['q','w','e','r','t','y']in separate lines along with element's both indexes (positive and negative).
7	DECEMBER	**Tuples** **Dictionary**	TUPLES : https://python4csip.com/files/download/014%20TUPLES.pdf DICTIONARY: http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/dictionary15.pdf	TUPLES : https://python4csip.com/files/download/014%20TUPLES.pdf DICTIONARY: http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/dictionary15.pdf	MCQ based test on output based questions Simple programming on tuples and dictionary MCQ based question on tuple slicing MCQ based questions on use of various tuple and dictionary built-in functions Creating a simple dictionary like students data or phone numbers dictionary etc.	How are tuples different from lists when both are sequences? How can you say that a tuple is an ordered list of objects? Can tuples be nested? What is the length of the tuples shown belows: T=((((‘a’,1),’b’,’c’),’d’,2),’e’,3) Given a tuple T(1,2,“a”,“b”). There is a list L with some elements. Replace first four elements of list with all four elements of the tuple in single statement. Print the list before and after the list is modified? How are the dictionaries different from the

8	JANUARY	**Sorting techniques**: Bubble and Insertion sort **Introduction to Python modules:**	SORTING TECHNIQUES : https://drive.google.com/file/d/1liHwR0prV0IcVaHnd5WxU7kF61ICRLZ9/view?usp=sharing INTRODUCTION TO PYTHON MODULES : http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/python%20modules16.pdf	SORTING TECHNIQUES : https://drive.google.com/file/d/1liHwR0prV0IcVaHnd5WxU7kF61ICRLZ9/view?usp=sharing INTRODUCTION TO PYTHON MODULES : http://python.mykvs.in/presentation/presentation2022/class%20xi/computer%20science/python%20modules16.pdf	Repeated tests on sorting programs is required MCQ based question on which modue is required to use a particular function of python.	What is sorting? Name some sorting techniques? What is the basic principle of sorting in bubble sort? Why do number of comparisons reduce in every successive iteration in bubble sort? On which basis can you determine if an algorithm is efficient or not? What is the basic principle of insertion sort? Why is insertion sort considered a better algorithm than bubble sort?
		PERIODIC TEST 3				
9	FEBRUARY	**Unit III: Society, Law and Ethics** **Digital Footprints** **Digital society and Netizen** **Data protection Cyber-crime** **Cyber safety** **Safely accessing web sites E-waste management** **Indian Information Technology Act (IT Act)**	CYBER SAFETY : https://python4csip.com/files/download/018%20CYBER%20SAFETY.pdf SAFELY ACCESSING WEBSITES : https://python4csip.com/files/download/019.%20SAFELY%20ACCESSING%20WEBSITE%20.pdf SOCIETY LAW AND ETHICS : https://python4csip.com/files/download/020.%20IPR%20AND%20PRIVACY%20LAW.pdf	CYBER SAFETY : https://python4csip.com/files/download/018%20CYBER%20SAFETY.pdf SAFELY ACCESSING WEBSITES : https://python4csip.com/files/download/019.%20SAFELY%20ACCESSING%20WEBSITE%20.pdf SOCIETY LAW AND ETHICS : https://python4csip.com/files/download/020.%20IPR%20AND%20PRIVACY%20LAW.pdf	Pen paper test on various definitions in this unit. Case study based question on the type of crime committed .	What is Cyber Safety? Why is it important? What should you do to protect your identity on Internet? How do websites track you online? What are cookies? How are they used by websites to track you? What is private browsing? Why is it considered a better way of browsing of Internet? What is confidentiality of information? How do you ensure it? What is virus? What is antivirus software? How is backup utility useful? Is it necessary to take backup of data? What is computer virus? How can it affect your computer? What are different types of threats of computer security? What type damages can be caused by viruses to your computer?
	MARCH	Revision, Project Work ,Term 2 Examination				

1. 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.
- Given two integers x and n, compute raise to power ^{n}.
- Determine whether a number is a perfect number, an armstrong number or a pali
- 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 char
- Input a string and determine whether it is a palindrome or not; convert the case o
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements
- Input a list of elements, sort them in ascending / decending order using bubble sort / insertic
- Input a number, test if a number is equal to the sum of the cubes of its digits
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Input a list of numbers and test if a number is equal to the sum of the cubes of its digits.
- Find the smallest and largest such number from the given list of numbers.
- Create a dictionary with the roll number, name and marks of n students in a class and displ

ndrome.

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acters in string.
f characters in a string.

at the odd location.
›n sort

ay the names of students who have marks above 75.