Sample Question Paper 2023-2024
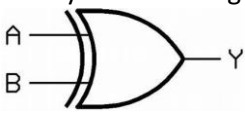## Class : XI
Subject: Computer Science(083)

Max Time:3 Hours   **Maximum Marks:70**

General Instructions:

1. This question paper contains five sections, **Sections A to E**.
2. All questions of a particular section must be attempted in the correct order.
3. SECTION A has 18 Objective Type Questions of 1 mark each.
4. SECTION B has 07 Very Short Answer Type Questions carrying 02 marks each.
5. SECTION C has 05 Short Answer Type Questions carrying 03 marks each.
6. SECTION D has 02 Questions carrying 04 marks each.
7. SECTION E has 03 Questions carrying 05 marks each.
8. All programming questions are to be answered using Python Language only

	Section A	
1.	Which of the following is an invalid identifier in Python? a. DAVSchool b. True c. Dav2nd d. Dav_school	1
2.	Pick up the system utility software from the following: a. MS Word b. Antivirus c. Ubuntu d. iOS	1
3.	Consider the following string K= "Knowledge" Which of the following will result into an error? a. K[5]= "e" b. print(K[::3]) c. print(K[7]) d. m=K[8]	1
4.	Which of the following memory types cannot store the data or information permanently? a. ROM b. Flash Memory c. RAM d. Hard Disk	1
5.	Identify the following Boolean logic gate. a. AND b. OR c. XOR d. NAND	1

6.	ASCII stands for_____
	   a. American Standard code for Interchanging Information
	   b. American Standard code for Information Interchange
	   c. American Scientific code for Interchanging Information
	   d. American Standard code for Internally Interchange
		1

7.	Select the correct output of the code:
	  tuple1=(11,22,33,44,55,66)
	  list1=list(tuple1)
	  new_list=[]
	  for i in list1:
	    if i%2==0:
	      new_list.append(i)
	  new_tuple=tuple(new_list)
	  print(new_tuple)
	    a. [22,44,66]
	    b. (22,44,66)
	    c. (11,33,55,66)
	    d. [11,33,55]
		1

8.	Which of the following issues are addressed by the Information Technology Act 2000?
	
	   a. Legal recognition of electronic documents
	   b. Redressal of grievances
	   c. Offences and contravention
	   d. Justice dispensation system for cyber crimes
	   e. Disputes settlement
	Choose the correct answer from the options given below:
	
	   i) Options a,c,d only
	   ii) Options c,d,e only
	   iii) Options b,d,e only
	   iv) Options a,c,e only
		1

9.	Which is the right way to use the function pow?
	
	   a. import math
	      print(pow.math(12,4))
	   b. import maths
	      print(maths.pow(12,4))
	   c. import math
	      print(math.pow(12,4))
	   d. from math import pow
	      print(math.pow(12,4))
		1

10.	Evaluate the following expression and identify the correct answer:
	    4 * 5 + 3**2 %7//2-3
	    a. 18
	    b. -3
	    c. 44
	    d. 25
		1

11.	Which of the following will delete the key :value pair for key = "input" in dictionary?
	D1={"output": "monitor", "input":"keyword", "hardware": "mouse","software" : "VLC"}
	    a. del D1["input"]
	    b. D1["tiger"].delete()
	    c. Delete(D1["input"])
	    d. del(D1.["input"])
		1

12.	Emily, a talented musician and songwriter, recently released her debut album titled "Harmonious Melodies." The album received widespread appreciation from fans and critics alike, and some of her songs gained popularity on various music streaming platforms. However, Emily soon noticed that a few individuals had uploaded her songs on their social media accounts and personal websites without seeking her permission.
	Identify which type of Intellectual property right is violated here
	    a. copyright Infringement
	    b. Trademark
	    c. Patent
	    d. Plagiarism
		1

13.	How can employers or advertisers use digital footprints?
	    a. To enforce online privacy laws
	    b. To identify and reward anonymous online users
	    c. To create targeted advertisements based on user interests
	    d. To limit access to online content
		1

14.	Select the correct output of the following string operations
	myString= "pynative"
	stringList=["abc", "pynative", "xyz"]
	print(stringList[1]==myString)
	print(stringList[1] is myString)
	    a. True
	       False
	    b. True
	       True
	    c. False
	       True
	    d. False
	       False
		1

15.	In a small company named TechSecure, employees are vigilant about cybersecurity practices. One day, an employee receives an email with an attachment named "Important_Company_Updates.docx" from an unknown sender. The email claims to contain essential information about recent company developments. The employee, curious to know the updates, downloads and opens the attachment. The file contained malware and corrupted the computer. Identify the malware.
	    a. Worm
	    b. Spyware
	    c. Trojan Horse
	    d. Adware
		1

16.	How can individuals contribute to proper e-waste management?
	    a. To generate more revenue from electronic devices
	    b. To reduce the number of electronic devices in use
	    c. To prevent environmental pollution and health hazards
		1

	d. To promote the use of traditional waste disposal methods.	

	Q17 and 18 are ASSERTION AND REASONING based questions. Make the correct choice as
	     a. Both A and R are True and R is the correct explanation for A.
	     b. Both A and R are True and R is not the correct explanation for A.
	     c. A is True but R is False.
	     d. A is False but R is True.	

17.	**Assertion(A):** It is possible to have duplicate keys in a Python dictionary. **Reasoning (R):** If you attempt to add a new key-value pair with a key that already exists in the dictionary, the value associated with the existing key will be overwritten with the new value.	1
18.	**Assertion(A):** Slicing a list in python creates a new list containing the sliced elements. **Reasoning(R)**: When you slice a list in Python, it returns a new list containing the specified elements, while the original list remains unchanged.	1

Section B

19.	Four statements about interpreter and compiler are given below. Study each statement and determine which of them hold true for a compiler or for an interpreter.
	
	     a. Takes one statement at a time and execute it
	     b. Generates an error report at the end of the translation of the whole program
	     c. Stops the translation process as soon as the first error is encountered
	     d. Translates entire program in one go
	
	 OR
	
	     a. Name the two encoding schemes supported by unicode.
	     b. Arrange the following memory units in descending order:
	         KB, GB, PB, TB
		2

20.	Rewrite the following Python program after removing any/all logical and syntax error(s), underline each correction done in the code:
	
	 A = int(input("Enter First Number: "))
	 B = int(input("Enter Second Number: "))
	 Op = int(input("Enter Operator")
	 if Op = "+":
	   C = A + B
	 elseif Op == "-":
	   C = A - B
	 else
	   C = "Invalid operator entered"
	 print("Result = ",C)
		2

21.	Differentiate between implicit and explicit conversion. Illustrate with the help of an example.	2

		OR	

		Add a pair of parentheses to each of the following expression so that it evaluates to True.
		    a. 0 ==2==3
		    b. 3+4==4+5==9	

22.		(a) Expand the following terms: GPL, IPR (b) Shweta found a crumpled paper under her desk. She picked it up and opened it. It contained some text which was struck off thrice. But she could still figure out easily that the struck off text was the email ID and password of Himanshu, her classmate. What is ethically correct for Shweta to do? (i) Inform Himanshu so that he may change his password. (ii) Give the password of Himanshu's email ID to all other classmates. (iii) Use Himanshu's password to access his account.	2

23.		Do the following conversion:
		    a. $(76F)_{16}$ =>$(?)_{10}$
		    b. $(101110010.1011)_2$ => $(?)_8$
		
		 OR
		Draw the logic gate of the following expression:
		    Y=(NOT A OR B) AND (A OR NOT B)
			2

24.		What possible output(s) are expected to be displayed on screen at the time of execution of the program from the following code?
		import random
		ar=[2,3,4,5,6,7]
		minn=random.randint(1,3)
		maxn=random.randint(2,4)
		for I in range(minn,maxn+1):
		    print(ar[i],end="#")
		
		    a. 3#4#5#
		    b. 5#6#7#
		    c. 1#4#7#
		    d. 4#5#7#
		 OR
		Give the output of the following when num1=4,num2=3 and num3=2
		NOTE: Consider the initial value of num1 to be 4 for each of the following parts.
		
		    a. num1+=num2+num3
		        print(num1)
		
		    b. num1=num1**(num2+num3)
		        print(num1)
			2

	c. num1=2+9*((3*12)-8)/10
	    print(num1)
	
	d. num1=24//4//2
	    print(num1)	

25.	Write the Boolean expression for the following logic circuit shown below: 	2

SECTION C

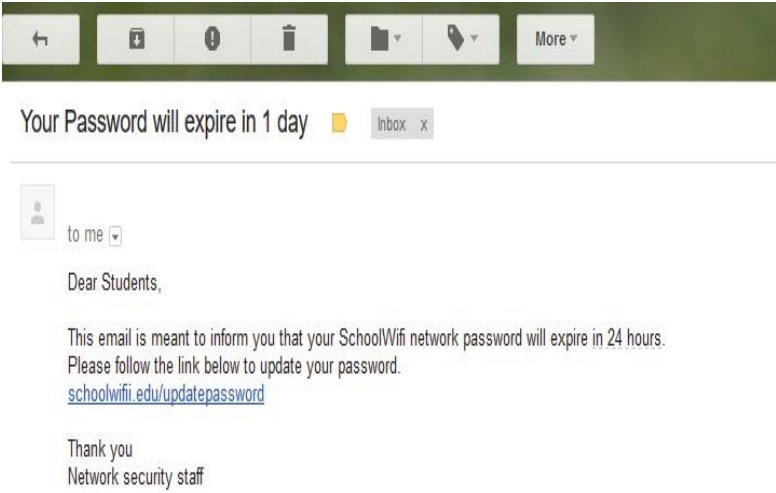| 26.	Write a Python program that accepts a string from user and display list containing indices of capital letters of the string.
	
	For Example, If the String is:
	'India Launched Chandrayan-3'
	Then the output should be:
	[0,6,15]
	 OR
	Write a Program to reverse and print the words starts with O
	  e.g Ubuntu is an Open Source Operating System
	  Then the output should be:
	  Ubuntu is an nepO Source gnitrepO System
		3

27.	Draw a flowchart to find the sum of all positive numbers entered by the user. As soon as user enters a negative number, stop taking in any further input from the user and display the sum.	3

28.	What will be the output of the Python code given below:
	T1= "IND-23"
	T2= ""
	I=0
	while I<len(T1):
	    if T1[I] >= "0" and T1[I]<= "9":
	      Val=int(T1[I])
	      Val=Val+1
	      T2=T2+ str(Val)
	    elif T1[I]>= "A" and T1[I]<= "Z":
	      T2=T2+T1[I+1]
	    else:
	      T2=T2+ "*"
	    I+=1
	print(T2)
		3

29.	a. Fill in the blank with the appropriate term that describes what inventors have the exclusive right to do with their inventions under a patent. Patents grant inventors the exclusive right to……………and ……………._ their inventions for a limited period, typically 20 years from the filing date. b. What are the potential consequences of oversharing personal information on social media?	3
30	Write a Python code to input electricity unit charges and calculate total electricity bill according to given condition: For units between 0-49, charge is Rs 0.50/unit. For units between 50-99, charge is Rs 0.75/unit. For units between 100-199, charge is Rs 1.20/unit. For 200 and above units, charge is Rs 1.50/unit. An additional surcharge of 20% is added to the bill in each case.	3

Section D

31.	a. How many times the values of i and j will be displayed after executing the following python code?
	i,j=5,6
	while i<20:
	  i=i+j
	  j=j-1
	  print(i,j)
	
	b. Rewrite the following for loop into its equivalent while loop
	for i in "Programming ":
	    print(i)
		2+2

32.	a. A real value can be converted to nearest integer value with the help of two built-in functions: int() and round(). In this context differentiate the above built-in functions with suitable examples. b. Write the equivalent python expressions of the following mathematical expressions (i) $f1=(a^2+b^2+c^2)^{1/2}$ (ii) $f2=p+\dfrac{q}{(r+s)^4}$	2+2

Section E

33.	a. Find the output of the following python code:
	(i) a,b,c,d=(1,2,3,4)
	        myt=(a,b,c,d)*2 +(5**2,)
	        print(len(myt)+2)
	(ii) Mystring= "programming is Fun"
	        print(Mystring[-50:10:1].endswith('in'))
	        print(Mystring.partition('m'))
	b. Write a program to count the number of lower case characters and upper case characters in a given strings.
	Example: VaSudhaiva KutumBakam
		1+2+2

| 34. | Create a dictionary named dict_1 and perform the following:
    a. dict_1 should have first five primary numbers as key and their number names as value
    b. A code to return the keys in the dictionary.
    c. To check if 7 is present or not.
    d. To retrieve the value corresponding to 5
    e. Differentiate between pop and popitem.
    f.

OR

Consider the following dictionary stateCapital:

stateCapital = {"Karnataka": "Bangalore", "Haryana":"Chandigarh", "Sikkim": "Gangtok", "Bihar":"Patna"}

Find the output of the following statements:
    a. print(stateCapital.get("Bihar"))
    b. print(stateCapital.keys())
    c. print(stateCapital.items())
    d. print(len(stateCapital))
    e. print("Maharashtra" in stateCapital) | 1*5=5 |
| 35. | Source :NCERT Computer Science Class XI

The school offers wireless facility (wifi) to the Computer Science students of Class XI. For communication, the network security staff of the school have a registered URL schoolwifi.edu. On 17 September 2017, the following email was mass distributed to all the Computer Science students of Class XI. The email claimed that the password of the students was about to expire. Instructions were given to go to URL to renew their password within 24 hours.

    a. Do you find any discrepancy in this email?
    b. What will happen if the student will click on the given URL?
    c. Write any two points to avoid such incident.
    d. Is the email an example of cyber crime? If yes, then specify which type of cyber crime is it. Justify your answer. | 1
1
1
2 |

OR

Q35 Read the passage given below and answer the questions:

Our digital footprints can be created and used with or without our knowledge. It includes websites we visits, e-mais we send , and any information we submit online etc. along with the compiler's IP address, location and other device specific details. Such data could be used for targeted advertisement or could also be misused or exploited. Thus, it is good to be aware of the data trail we might be leaving behind. This awareness should make us cautious about what we write, upload or even browse online.

  a.   What are digital foot prints?
  b.   What are two types of digital footprints?
  c.   Can a digital footprint be completely erased or deleted?
  d.   How can employers or colleges use digital footprints during the selection process?
  e.   Where are digital footprints stored?