

Computer Science (083)

Sample Paper - 4

Maximum Marks: 70

Time Allowed: 3 hours

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A has 18 questions carrying 1 mark each.
4. Section B has 07 Very Short Answer type questions carrying 2 marks each.
5. Section C has 05 Short Answer type questions carrying 3 marks each.
6. Section D has 03 Long Answer type questions carrying 5 marks each.
7. Section E has 02 questions carrying 4 marks each.
8. All programming questions are to be answered using Python Language only.

SECTION A		
1	Evaluate the following expression in Python: <code>print(17//2 * 3 + 10.0)</code> a. 34.5 b. 34.0 c. 25.0 d. 34	1
2	Which of the following is an invalid datatype in Python? a. set b. None c. int d. Real	1
3	What will be the output of the following code: <code>NumLst = [2,5,1,7]</code> <code>print(NumLst * 2)</code> a. [2,5,1,7,2,5,1,7] b. [2,5,1,7][2,5,1,7] c. [4,10,2,14] d. Error	1
4	Consider the given expression: False or not False and True Which of the following will be the correct output if the given expression is evaluated? a. None b. 1 c. False d. True	1
5	Which of the following is a function of the math Module? a. random() b. mean() c. floor() d. median()	1
6	_____ is a software with source code that anyone can inspect, modify, and enhance. a. Operating system b. Utility software c. Compiler d. Open Source	1

7	The operator 'and' is a _____ operator in Python ? a. Logical b. Relational c. Arithmetic d. Augmented	1
8	Which of the following outputs is the correct option for the code shown here ? STR='TEXT CONTENT' print(STR.strip('T')) a. EX CONEN b. EX CONTEN c. EXT CONTEN d. TEXT CONTEN	1
9	_____ is a cyber attack, also known as sniffing. a. Virus b. Phishing c. Spam d. Eavesdropping	1
10	Which of the following is a Logic Gate? a. not b. in c. between d. like	1
11	Which of the following is the correct way to make a copy of a dictionary D ? a. D1=D b. D1+=D c. D1=D.copy() d. D1=D.assign()	1
12	Which of the following operators displays the remainder with integers ? a. ** b. % c. // d. +	1
13	Which of the following is an example of system software ? a. Open office b. Windows c. Antivirus d. Firefox	1
14	Consider the following statement: Grade={10:'A', 30:'C', 20:'B'} Which of the following is the correct option to display the sorted list of the keys in the dictionary Grade in ascending order ? a. print(sort(Grade.keys())) b. print(Grade.sort()) c. print(sorted(Grade)) d. print(sort(Grade))	1

15	<p>_____ are visitors who leave inflammatory comments in public comment sections.</p> <ol style="list-style-type: none"> Cyber Trolls Hackers Digital footprints Confidentiality 	1
16	<p>What will be the output of the given code?</p> <pre>import math math.floor(26.5)</pre> <ol style="list-style-type: none"> 25 26 27 26.5 	1
	<p>Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as</p> <ol style="list-style-type: none"> A is True and R is the correct explanation for A A is True but R is not the correct explanation for A A is True but R is False A is False but R is True 	
17	<p>Assertion(A): The Python statement <code>"SPLITTED STRINGS".split("S")</code> will return <code>['PLITTED ', 'TRING']</code></p> <p>Reason (R): The <code>split()</code> method returns a list of words separated at the parameter sent.</p>	1
18	<p>Assertion (A):- The expression <code>sorted('TEXT')</code> in Python will give Error.</p> <p>Reasoning (R):- String is an immutable type in Python.</p>	1
	SECTION B	
19	<p>Rewrite the following logic using a <code>while</code> loop without making any change in the expected output:</p> <pre>L=[3] for I in range(5): L.append((I+1)*5) print(L)</pre>	2
20	<p>Rewrite the following code after removing all the syntax errors with each of the corrections underlined:</p> <pre>n=int(input("Enter number to check :: ")) for i in range (2, n//2): if n%i=0: print("Number is not prime \n") break else print("Number is prime \n')</pre>	2
21	Differentiate between copyrights and trademarks.	2

22	<p>Write the output of the Python code given below:</p> <pre>L=[123,155,"b",128,160,"A"] for R in range(1,len(L)): if not(str(L[R]).isalpha()) and L[R]%10==12: L[R]= L[R+1] elif str(L[R]).isalpha(): L[R]=ord(L[R])+2 else: print(L[R],end=" ") print() print(L)</pre>	2
23	<p>Write the results of the following:</p> <p>a. <code>print(6 * 15 - 2 // 7 - 2 * 3)</code> b. <code>print(12 * 3 + 43 - 2 + 5 % 2)</code></p>	2
24	<p>Write the output of the Python code given below:</p> <pre>D=('SUN','MON','TUE','WED','THU','FRI','SAT') L=D[1:len(D)-1] print('#'.join(L))</pre> <p style="text-align: center;">OR</p> <p>Write the output of the Python code given below:</p> <pre>D={'Grapes':50,'Mango':70,'Banana':20} print(sorted(D))</pre>	2
25	<p>Draw a logic circuit equivalent for the following Boolean Expression: $A' + B' + C'$</p> <p style="text-align: center;">OR</p> <p>Draw a logic circuit equivalent for the following Boolean Expression: $(A' . B') + C'$</p>	2
SECTION C		
26	<p>What is Data Protection? Give any two ways to protect your data online.</p> <p>OR</p> <p>Define the following terms :</p> <p>a) Ransomware b) Cyber Crime</p>	3
27	<p>Give any three basic rules of netiquette to avoid damaging your online as well as offline relationships.</p>	3
28	<p>Differentiate between <code>split()</code> and <code>partition()</code> in Python. Give suitable examples of each.</p>	3
29	<p>Write a Python code to accept a number and display its factors. The process should continue till the user wants.</p> <p>For Example</p> <pre>Enter N: 10 Factors: 1,2,5,10</pre>	3

30	<p>Write a python program to create a dictionary STUDENT containing StudentNames as keys and corresponding Marks as values. The program should create a list STUD, of those StudentNames for which Marks is less than 33.</p> <p>OR</p> <p>Write a Python code to accept a string from the user , find and display the counts of special characters, alphabets and digits present in it.</p>	3
SECTION D		
31	<p>Write a Python code to</p> <ul style="list-style-type: none"> • Input 10 integers into a list NUM. • Display all the multiple of 5 from the list NUM • Display the highest and lowest integer from the the list NUM • Display the list NUM in the ascending order. 	5
32	<p>Write a Python code to</p> <ul style="list-style-type: none"> • Input Name of 5 subjects in the tuple SUB • Input the Marks of these 5 subject in a list MARKS • Create a dictionary RECORD and store the SUB as KEY with MARKS as VALUE in the dictionary RECORD. • Display the Dictionary RECORD. 	5
33	<p>Convert the following from one number system to another (show the complete working) :</p> <p>a. $(512)_{10} = (\quad)_2$</p> <p>b. $(10010111)_2 = (\quad)_{10}$</p> <p>c. $(451)_8 = (\quad)_{16}$</p> <p>d. $(111001101)_2 = (\quad)_8$</p> <p>e. $(175)_{10} = (\quad)_8$</p>	5
SECTION E		
34	<p>Write single line Python commands to perform each of the following operations: QUOTE="Life is beautiful"</p> <ul style="list-style-type: none"> • Display the length of the string QUOTE. • Display the reverse of the string QUOTE. • Display the count of 'i' from the string QUOTE • Display the substring 'beauti' from the string QUOTE. 	4
35	<p>Write a python code to accept values of X as float and N as int, find and display the sum of following series:</p> <p>(a) $1 + 4 + 7 + \dots$ upto N</p> <p>(b) $1/X^1 + 1/X^2 + 1/X^3 \dots$ upto Nth Terms</p>	4