

(SET 1)

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CUMULATIVE TEST / HALF YEARLY EXAMINATION 2023-24

Subject: Computer Science (Theory) (083)

Class : XI

Subject

: Computer Science (083)

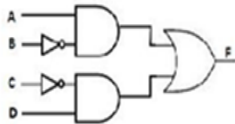
Time Allowed: 3 Hours

Maximum Marks: 70

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 01 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 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only.

SECTION A		
1.	State True or False "Python is a case sensitive language."	1
2.	Which of the following is/are valid identifier in Python? (a) #in_ (b) for (c) 1_in (d) abc_1	1
3.	When we work on any document on PC, it is stored temporarily in _____ memory (a) RAM (b) ROM (c) CPU (d) CD-ROM	1
4.	Write the output of the following code : >>>list1 = [1, 2, 3, 4, 5] >>>list1[len(list1)-1] a. 3 b. 4 c. 5 d. Error	1
5.	The octal number system base value is . (a) 2 (b) 10 (c) 8 (d) 16	1
6.	Which of the following is not an example of output device? (a) Keyboard (b) Printer (c) Monitor (d) Speaker	1
7.	_____ are reserved words and have a specific meaning to the Python interpreter. a) Keywords b) Objects c) immutable data types d) Identifiers	1
8.	What will be the output of following code: Str="HELLO" for i in Str:	1

	print(i)	
9.	Which of the following is not application software? (a) Windows 10 (b) Ms Word (c) Open office (d) Adobe Photoshop	1
10.	Is a="" statement valid or invalid.	1
11.	Which statement is correct? (a) List is immutable & String is mutable (b) List is mutable & String is immutable (c) Both are Mutable. (d) Both are Immutable	1
12.	Which of the following symbol is used in Python for single line comments line comment? (a) /* (b) */ (c) "" (d) #	1
13.	Write the output of following: list1 = [34,66,12,89,28,99] list1.sort(reverse = True) print(list1)	1
14.	Which of the following statement(s) would give an error after executing the following code? a=10 # Statement 1 b="KVS" # Statement 2 S=a+b # Statement 3 print(S) # Statement 4 (a) Statement 3 (b) Statement 4 (c) Statement 2 (d) Statement 3 and 4	1
15.	Arrange the following storage unit in ascending order of their storage capacity TB, MB, GB, PB	1
16.	Interpret the following Logic Circuit as Boolean Expression :  a. $A.B'+C'.D$ b. $AB+CD$ c. $(A+B').(C'+D)$ d. None	1
Q17 and 18 are ASSERTION AND REASONING based questions. Mark 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):- If the condition of the while loop is initially false, the body is not executed even once. Reasoning (R):- During execution of while loop, body of the loop executed only when loop condition gets true .	1

18.	Assertion(A): Python changes the data type of a variable from int to float in a mixed expression involving both type of variable. Reason(R): Type casting in any programming language is done to avoid any loss of data.	1
SECTION B		
19.	Observe the following python code carefully and find the errors in the code. Rewrite the code after removing errors (if any). Underline the corrections in rewritten correct code. <pre>age = input(Enter age) if age > = 18 print("You can cast vote") else: print ("You cannot cast vote")</pre>	2
20.	Draw the logic circuit diagram for the function $f(x,y,z) = (X'+Y) (X+Z) (Y+Z)$.	2
21.	Change the following python code using while loop which produces same output as with for loop : <pre>for x in range(5,40): if (x%2==0): print(x)</pre>	2
22.	Write any two advantages and limitations of Python.	2
23.	Differentiate between compiler and interpreter. Write any two difference	2
24.	Why RAM and ROM are two different primary memory?	2
25.	Give one example for each category of software: (i)Utility Software (ii)Operating System (iii)Spreadsheet software (iv) Database software	2
SECTION C		
26.	Write a python program to input a number and finds its factorial. Or Write a python program to print table of any number entered by user.	3
27.	Draw flowchart to check if a Number is Even or Odd.	3
28.	Define Operating System. What are important functions of operating system Explain?	3
29	State & Prove De-Morgan law using Truth table.	3

30	Write a Python program to print the following pattern. <pre> 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5 OR 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5 </pre>	3
SECTION D		
31	What is the possible output of the given code segment: <pre> L=[1,2,3,4,5] a) L.append(10) print(L) b) L.pop() print(L) c) L.remove(3) print(L) d) p=len(L) print(p) e) print(L.index(4)) </pre>	1 1 1 1 1
32	a) What will be the output of following: <pre> fifa = "Mbappe won Golden Boot" fifa.split() </pre> b) Differentiate between List & String. c) How many times this loop will executed? <pre> for i in range(20,30,2): print(i) </pre>	2 2 1
33	i. Answer the questions of –	4

	(a) $(1011101)_2 = (?)_{10}$ (b) $(729)_{10} = (?)_2$ (c) $(10111111011)_2 = (?)_8$ (d) $(457)_8 = (?)_{16}$ ii. Expand the following. (a)ISCII (b) EPROM	+ 1												
	SECTION-E													
34	What will be the output of the following code a)Msg="CompuTer" Msg1="" for i in range(0, len(Msg)): if Msg[i].isupper(): Msg1=Msg1+Msg[i].lower() elif i%2==0: Msg1=Msg1+'*' else: Msg1=Msg1+Msg[i].upper() print(Msg1) b) x="AmaZing" print(x[3:], "and", x[:2])	2 + 2												
35	Input 5 subjects marks of a student, calculate Total and percentage of a student and find the grade as per the following criteria: <table border="1"><thead><tr><th>Criteria</th><th>Grade</th></tr></thead><tbody><tr><td>percentage > 85</td><td>A</td></tr><tr><td>percentage < 85 && percentage >= 75</td><td>B</td></tr><tr><td>percentage < 75 && percentage >= 50</td><td>C</td></tr><tr><td>percentage > 30 && percentage <= 50</td><td>D</td></tr><tr><td>percentage <30</td><td>Reappear</td></tr></tbody></table>	Criteria	Grade	percentage > 85	A	percentage < 85 && percentage >= 75	B	percentage < 75 && percentage >= 50	C	percentage > 30 && percentage <= 50	D	percentage <30	Reappear	4
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