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CUMULATIVE EXAMINATION- 2022-23

Class: XI **Max. Marks: 70**
Subject: Computer Science **Time : 3 Hours**

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 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	Fill in the blank from given options: _____ KB = 2 MB (a) 1024 (b) 2048 (c) 2000 (d) 2024	1
3	State first and second De-Morgan's Theorem.	1
4	Expand the following. (a) ISCII (b) EPROM	½ + ½
5	What is Unicode encoding system?	1
6	Which of the following is an **invalid** datatype in Python? (a) List (b) None (c) Integer (d)Real	1

7	What will be the output of following statement:
	>>> 2<3
	>>> True+4
		½ + ½

8	Which of the following statement(s) would give an error after executing the following code?
	
	S="Welcome to class XII" # Statement 1
	print(S) # Statement 2
	S="Thank you" # Statement 3
	S[0]= '@' # Statement 4
	S=S+"Thank you" # Statement 5
	
	(a) Statement 3 (b)Statement 4 (c) Statement 5 (d) Statement 4 and 5
		1

9	Choose output devices from the following: Joystick, camera, printer, Scanner, Monitor, Speaker, Plotter	1
10	What is the difference between "/" and "%" operator? Explain with example.	1
	Q11 is ASSERTION AND REASONING based questions. Mark the correct choice as Both A and R are true and R is the correct explanation for A	

	2. Both A and R are true and R is not the correct explanation for A 3. A is True but R is False 4. A is false but R is True	
11	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
12	Differentiate between single line and multiline comment.	1
13	Write down any two features of python.	1
14	Write any two utility software.	1
15	Write the Dual of : **(A + 1) . (B' + 0) .(C + D')**	1
16	Define the following : (a)Keywords (b) Identifiers	1
17	Write any two functions of operating systems.	1
18	Differentiate between syntax error and semantic error with example.	1
SECTION – B		
19	Convert the following number system. (i) $(ABC.72E)_{16}$ to $(?)_2$ (b) $(11001011)_2$ to $(?)_{10}$	2
20	Differentiate between RAM and ROM.	2
21	Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. 30=To for K in range(0, To) IF k%4==0: print (K*4) Else: print (K+3)	2
22	Write a python program to calculate simple interest after taking the principle, rate and time.	2
23	Define the following terms : (a) ASCII (b) Assembler	2
24	Find the output of following python code: x , y = 7 , 2 x , y , x = x+1 , y+3 , x+10 print(x,y)	2
25	What are Universal Gates? Write examples with their symbol and truth table.	2
SECTION – C		
26	What are functional units of computer? Explain using block diagram.	3

27	Draw the logic circuit diagram for the function f(x,y,z) = xy + xy' + x'z.	3
28	Draw the flowchart to enter age of person and check person is eligible for voting or not.	3
29	Write a python program to input a number and finds its factorial.	3

30	Change the following python code using **while loop** which produces same output as with for loop :
	for x in range(10,20):
	  if (x%2==0):
	  print(x)
		3

	SECTION - D	

31	Predict the output of the following code fragment-
	x = 1
	if x>3:
	  if x>4:
	  print("A", end='')
	  else:
	  print("B", end='')
	elif x<2:
	  if (x!=0):
	  print("C", end='')
	print("D")
		5

32	Write a python program to input a number from user to check and print whether it is a PRIME Number or not.	5
33	Write a python program to find the sum of first n odd numbers.	5
	SECTION - E	
34	Write following arithmetic expressions using operators in Python (any four): (a) $c = \frac{a+b}{2a}$ (b) $x=a^3 + b^3 + c^3$ (c) $A= \pi r(r + h)^2$ (d) $x = a^{3^4}$ (e) $E=mc^2$	4
35	What do you mean by XOR gate? Explain XOR gate, giving its truth table, expression and circuit diagram for two inputs.	4

END OF PAPER