



Delhi Public School, Howrah

FINAL EXAMINATION(2024-2025)

CLASS – XI

Care must be taken not to write anything on the question paper. All the questions must be attempted in the correct sequence.

SUBJECT: COMPUTER SCIENCE (CODE - 083)

THEORY EXAMINATION

Time Allowed:- 3 Hours

F.M.-70

General Instructions:

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A, consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B, consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C, consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D, consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E, consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In case of MCQ, text of the correct answer should also be written.

SECTION - A

1.	Identify the dual of the Boolean expression : $P(Q+R)=P.Q + Q.R$ a) $P+(Q+R) = P.Q + Q.R$ b) $P+(Q+R) = P+Q+Q.R$ c) $P+(Q.R)=(P+Q).(Q+R)$ d) $P + (Q.R) = P+Q.R$	(1)
2.	>>> L=["Amit","Anita","Zee","Longest Word"] >>> print(max(L)) What will be the output of this snippet? a) Zee b) Longest Word c) Error d) None of the above	(1)
3.	Which of the following is an example of multiple assignment? a) X=10, Y=20 b) X=10, 20 c) X, Y = 10, 20 d) X=Y	(1)
4.	LIST = [4,5,6,4,2,8,10,34] LIST[::3]=[100,200,300] print(LIST) What will be the output of this snippet? a) [4, 4, 10] b) [100,200,300] c) [100, 5, 6, 200, 2, 8, 300, 34] d) [4,100,100,4,200,200,10,300]	(1)
5.	Find the invalid identifier from the following. a) name tab b) class c) section d) break	(1)
6.	Predict the output when the following code is executed? i = 1 while True: if i%3 == 0: break print(i) i = i+ 1 a) 1 2 b) 1 2 3 c) error d) none of the mentioned	(1)

7.	Convert (1E.8C)16 to decimal and choose the right answer: a) (30)8 b) (30.54688)10 c) (30.54688)8 d) (28.54688)10	(1)
8.	Given the dictionary empl={'name':'john','salary':10000,'age':24}. In order to add a new key: value pair 'dept':'sales', which of the following statement can be used? a) empl['dept']='sales' b) empl[dept]=sales c) empl.dept=sales d) none of these	(1)
9.	Find the value stored in ctr at the end of this code snippet: mystr="Darjeeling Tea has a strong flavour" ctr=0 for i in mystr: if i in 'aeiouAEIOU': ctr += 1 print(ctr) a) 10 b) 11 c) 12 d) 9	(1)
10.	All keywords in Python are in _____. a) Lower case b) Upper case c) Capitalized d) None of these mentioned	(1)
11.	What is the length of the tuple shown below: T = ((('a', 1), 'b', 'c'), 'd', 2), 'e', 3) a) 2 b) 4 c) 8 d) 3	(1)
12.	Hexadecimal number system is composed of--- a) 2 symbols b) 10 symbols c) 8 symbols d)16 symbols	(1)
13.	Write the output of the following code: A, B, C, D =5,6,7,8 A,B,C,D= D,C,B,A print (A,B,C,D) a) 8 5 6 7 b) 8 7 6 5 c) 5 6 7 8 d) 7 6 5 8	(1)
14.	Which of the following statement will create a list? a) L1=list() b) L1=[1,2,3,4] c) Both a and b d) None of these	(1)
15.	What is the output of the following code snippet? a=[12,15,16] del a[1] print(a) a) (12,16) b) ([12,16]) c) [12,16] d) Error	(1)
16.	Which of the following character is used to give single-line comments in Python? a) @ b) # c)! d) /*	(1)
17.	A local community is concerned about the growing amount of e-waste in their area. As an environmentally conscious citizen, what steps would you take to reduce e-waste in your community? a) Organize workshops on gadget maintenance and repair. b) Encourage residents to purchase new gadgets frequently. c) Do not establish an e-waste recycling program. d) Promote the use of eco-friendly and sustainable electronic devices.	(1)
18.	Predict the output of the expression, 3*1**3? : a) 27 b) 9 c) 3 d) 18	(1)
19.	What concept deals with safeguarding an individual's personal information when using the Internet on any device? a) Digital Security b) Digital Privacy c) Digital Rights d) Digital Responsibility	(1)
<p>Q20 and Q21 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 but R is not the correct explanation for A. (c) A is True but R is False. (d) A is false but R is True.</p>		
20.	Assertion (A) : The control unit gets program instructions from memory and executes them one after the other. Reason (R) : After the work of this instruction is completed, control unit sends signal to memory to	(1)

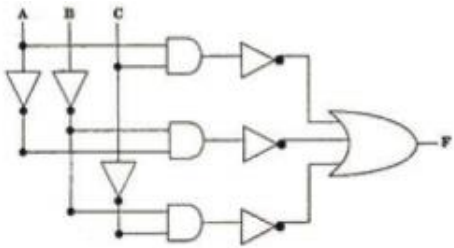
	send the next instruction in sequence to CU.	
21.	<p>Assertion (A):The information which was posted by you online can be seen by everyone who is online because internet is the world's biggest information exchange tool.</p> <p>Reason (R): Don't give or post any personal information like your name, address of the school/office / home, phone numbers, age, gender, credit card details etc.</p>	(1)
SECTION – B		
22.	<p>Write a Python Program to input a number to check whether it is a Palindrome number or not. (A Palindrome number is that which is same from both ends like – 1221221, 181)</p> <p style="text-align: center;">OR</p> <p>Consider the following identifiers: String1='rqs123' String2='World' String3='3456278'</p> <p>What are expected to be returned if the following functions are executed? a. String1.isalnum() b. String3.isalpha()</p>	(2)
23.	<p>Nitya and Ritesh are going to work on a school project based on the functionalities of Boolean Algebra but they are not able to prove a Boolean expression for the same. Help them to prove the following Boolean expression. $X'.Y+X.Y=(X'+Y).(X+Y)$</p>	(2)
24.	<p>Trisabh has written a code but his code is having errors. Rewrite the correct code and underline the corrections made.</p> <pre>250 = Number WHILE Number<=1000: if Number=>750 print (Number) Number=Number+100 else print(Number*2) Number=Number+50</pre> <p style="text-align: center;">OR</p> <p>Dinesh has written a code but his code is having errors. Rewrite the correct code and underline the corrections made.</p> <pre>X=input("Enter the number") if x%2==0: for I range(2*X): print(I) else print(X)</pre>	(2)
25.	<p>Pranesh is experiencing difficulties in simplifying Boolean expressions, which is hindering his progress in a school project. The project involves designing a model illustrating the principles of Boolean Algebra. Provide assistance in proving the validity of the following Boolean expression: $X+Y.Z=(X+Y)+(X+Z)$</p>	(2)
26.	<p>Consider the list languages and list states and give the output of the following Python statements: languages=['Hindi', 'English', 'Bengali', 'Oriya', 'Telugu', 'Marathi', 'Malayalam'] states=['Delhi', 'Kerala', 'Tamil Nadu', 'Bihar', 'Delhi'] a) min(languages) min(states) b) states=states*2</p> <p style="text-align: center;">OR</p> <p>Can you demonstrate your understanding of logic circuit diagram for the following expression? Output=$((X'.Y)+(X.Y)')$</p>	(2)
27.	What will be the output of the following code?	(2)

	<pre>tp1 = (10, 20, 30, 40, 50, 60) x = tp1[2:4] + ('A','B') print(x)</pre> <p style="text-align: center;">OR</p> <p>What will be the output of the following: s1=" gift his brother a football or a wrist watch" print(s1[15], s1[12,30], s1[-1:-16], s1.find("b"))</p>	
28.	Express the following hexadecimal number into octal number- (BA2.23C) ₁₆ =(?) ₈	(2)

SECTION – C

29.	Imagine you are a Policy Advisor to the Mayor of a large city. The Mayor has asked you to develop a comprehensive plan to mitigate the negative impacts of technology on society. Develop a policy proposal that addresses the negative impacts of technology on society.	(3)
30.	Write a Python program to input 10 numbers to store in the list and print the third largest number.	(3)
31.	<p>Consider the following tuples:</p> <pre>tuple1 = (23,1,45,67,45,9,55,45) tuple2 = (100,200)</pre> <p>Find the output of the following statements :</p> <ol style="list-style-type: none"> i. print(tuple1.index(45)) ii. print(tuple1.count(45)) iii. print(tuple1 + tuple2) 	(3)

SECTION – D

32.	Write a python program to find the sum of $1 + \frac{1}{8} + \frac{1}{27} + \dots + \frac{1}{n^3}$, where n is the number input by the user.	(4)
33.	Write a Python program to determine the winner of a class representative election. The voting data is stored in a dictionary called "Votes" where the keys are the roll numbers of the students and the values are the codes of the candidates they voted for ('a', 'b', or 'c'). The dictionary is as follows: Votes = {1:'a', 2:'a', 3:'c', 4:'a', 5:'c', 6:'b', 7:'b', 8:'b', 9:'a', 10:'c', 11:'a', 12:'b', 13:'b', 14:'c', 15:'b'}	(4)
34.	<p>Write the equivalent Boolean expression for the following circuit.</p>  <p style="text-align: center;">OR</p> <p>Design a flowchart to check an user given number is prime or not.</p>	(4)

35.	<p>Consider the following dictionary stateCapital:</p> <pre>stateCapital = {"WestBengal":"kolkata","Karnataka":"Bangalore","Meghalaya":"Shillong", "Assam":"Dispur"}</pre> <p>Find the output of the following statements:</p> <ol style="list-style-type: none"> i. print(stateCapital.get("Karnataka")) ii. print(stateCapital.keys()) iii. print(stateCapital.values()) iv. print(stateCapital.items()) 	(4)
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SECTION - E

36.	As a cybersecurity expert, you are hired by a company to educate its employees about online safety and security. One of the employees, John, is concerned about his online presence and asks you to explain what a digital footprint is and how it can impact his personal and professional life.	(3) (2)
37.	Write a program that accepts the gender, total number of years of experience, and salary from the employee and performs the following calculation: a. If the gender is M, then increase the salary by 5% and if the gender is F, then increase the salary by 6%. b. If the experience is greater than or equal to 10 years, then increase the salary by the additional point number by 10% for both M and F. OR Write a program to print the following pattern-	(5)

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4 5 6
1 2 3 4 5 6 7
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