

Total number of printed pages : 3

NB/XI/CSC/1

2022

COMPUTER SCIENCE

Total marks : 70

Time : 3 hours

General instructions:

- i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
- ii) *The question paper consists of 32 questions. All questions are compulsory.*
- iii) *Marks are indicated against each question.*
- iv) *Internal choice is given in some questions.*

N.B: *Check to ensure that all pages of the question paper is complete as indicated on the top left side.*

- 1. State De Morgan's Laws. 1
- 2. Which operator is used for finding integer quotient? 1
- 3. What is a tuple? 1
- 4. What is the complexity of Bubble sort? 1
- 5. What is a Spyware? 1
- 6. Who is the creator of MySQL? 1
- 7. Explain the features of graph database. 1
- 8. What is a numeric function, in MySQL? 1
- 9. What are Keywords? 1
- 10. Convert the following into ASCII: Arjun. 1
- 11. What is plagiarism? 1
- 12. Define compilation. 1
- 13. State the features of a strong password. 2
- 14. What will be the output of the following? 2
 - a = 5
 - b = 7
 - c = 9

```
if a>b:
    if b>c:
        print (b)
    else:
        print (c)
else:
    if b>c:
        print (c)
    else:
        print (b)
```

- 15. Convert the decimal number 45 to hexadecimal. 2
- 16. What are comments in Python? What are the various types of comments? 2
- 17. Ask the user to enter 2 numbers and find the greater of the two numbers. 2
- 18. Explain the truth table of the AND gate. 2
- 19. What is the difference between CURDATE () and YEAR ()? 2
- 20. Explain trigger and infection mechanism with respect to a virus. 2
- 21. What is the difference between len () and tuple ()? 2
- 22. For a string str1, what is str1[3:]? 2
- 23. Give two points noteworthy vis-à-vis the key-value store. 2
- 24. What are the various phases of a compiler? Explain. 4
- 25. a. Ask the user to enter a number and find the factorial. 4
 Or
 b. Ask the user to enter the values of **a** and **b** and find a^b .
- 26. Explain the different functions w.r.t. a dictionary. 4
- 27. a. Describe the history of Python. 4
 Or
 b. State some of the important features of Python.
- 28. Explain the different functions vis-à-vis Python lists. 4

29. a. Write an algorithm for Bubble Sort. 4
Or

b. Sort the following arrays using selection sort: 10, 8, 4, 2, 12, 89, 1, 9

30. For the given table EMPLOYEE, write the SQL statements. 4
Table: EMPLOYEE

Employeeid	Firstname	Lastname	Salary	Dateofbirth	City
Emp001	Rajesh	Arora	10,00,000	30-08-1982	Faridabad
Emp002	Pratiksha	Malya	12,00,000	24-11-1978	Delhi
Emp003	Jitendra	Pathak	11,00,000	13-09-1980	Delhi
Emp004	Ananya	Rajput	13,50,000	05-05-1976	Delhi
Emp005	Joushua	Masih	10,70,000	31-11-1984	Noida
Emp006	Abhiraj	Jain	10,70,000	22-01-1985	Gurugram

- (i) Show the details of all the employees whose last name is 'Arora'.
- (ii) Show the details of all the employees who live in 'Noida'.
- (iii) Show the details of all the employees who have salary 10,00,000.
- (iv) Show the details of all the employees who have salary between 1000000 and 1500000.

31. a. Define Phishing. What are the various types of Phishing? 4
Or

b. What are the various methods of authentication?

32. Define Transaction. What are ACID properties of a Transaction? 4
