GOVERNEMENT OF KARNATAKA

KARNATAKA SCHOOL EXAMINATION AND ASSEMENT BOARD

6th CROSS, MALLESHWARAM, BENGALURU-560 003

2025-26 II PUC MODEL QUESTION PAPER- 1

SUBJECT : COMPUTER SCIENCE (41) **MAXIMUM MARKS – 70**

TIME : 03.00 HRS **No. OF QUESTIONS - 44**

PART-A

Answer ALL the questions. Each question carries ONE mark.

I. Select the correct answer from the choices given. 20 x 1 = 20

1. **The exception raised when the requested module definition is not found.**

(a) io error (b) syntax error (c) import error (d) index error

2. **The method which is used to convert python objects for writing data in a binary file**

(a) load() (b) dump( ) (c) seek( ) (d) tell( )

3. **Assertion : (A) stack follows LIFO rule.**

Reason : (R) Insertion and deletion takes place at same end

(a) A is true and R is correct reason

(b) A is true and R is not correct reason

(c) A is false and R is correct reason

(d) A is false and R is not correct reason

4. **Deque is a version of queue which allows insertion and deletion at**

(a) front end (b) rear end (c) both ends (d) not both ends

5. **In bubble sort while sorting in ascending order, which element reaches its correct position after the first pass.**

a) The smallest element

b) The middle element

c) The largest element

d) The second largest element

6. **(A) In selection sort the smallest element is selected in each pass and placed in its correct position.**

(B) In selection sort the n^{th} element is the last, and it is already in place

(a) A is true and B is false

(b) A is false and B is true

(c) A and B are true

(d) A and B are false

7. **The number of attributes in a relation is called**

(a) degree (b) cardinality (c) domain (d) tuple

8. **The most popular query language used by RDBMS is**

(a) MYSQL (b) PYTHON (c) COBOL (d) JAVA

9. **Which of the following is a string single row built in function**

(a) Length ( ) (b) Min ( ) (c) Now ( ) (d) Count ( )

10. **The operation is used to combine the selected rows of two tables at a time.**

(a) Union (b) Intersect (c) Minus (d) Product

11. **Correct expansion form of HTTP is :**

a) Hyperlink Text Transmit Protocol

b) Hyper Transfer Transmission Protocol

c) Hyper Text Transfer Protocol

d) Hypermedia Text Transmit Protocol

12. **The network topology where data can be transmitted in only one direction is**

a) Star b) Ring c) Mesh d) Bus

13. **The example for Half duplex communication mode :**

a) Radio b) Walkie-Talkie c) Television d) Telephone

14. **The communication protocol which establishes a dedicated and direct connection between two communicating devices.**

a) FTP b) SMTP c) PPP d) TCP

15. **The standalone programs that are capable of working on its own**

a) Worm b) Trojan horse c) Ransom ware d) Spy ware

II. **Fill in the blanks choosing the appropriate word/words from those given in the brackets. (insert, assert, raise, binary, max, record, attribute)**

16. The _____ statement in python is used to test an expression in the program code.
17. _____ file consists of data stored as a stream of bytes.
18. Each row of a table is called _____ .
19. _____ is a command which comes under DML.
20. _____ is an aggregate function in SQL.

PART-B

III. Answer any FOUR questions. Each question carries TWO marks. 4 x 2 = 8

21. What is prefix and postfix expression?
22. Write any two applications of queues in computer science.
23. What is collision situation and collision resolution in hashing?
24. Write the rules which are imposed on an attribute of the relation.
25. Give the difference between char and varchar data types in SQL.
26. Mention any two network devices.
27. Define data and communication.

PART – C

IV. Answer any FOUR questions. Each question carries THREE marks. 4 x 3 = 12

28. What is the need for exception handling?
29. Explain any three file opening modes in data file handling.
30. Define: a) Constant time algorithm
    b) Linear time algorithm
    c) Quadratic time algorithm
31. Write an algorithm to search an element using linear search method.
32. Briefly explain database schema, data constraint and data manipulation.
33. Explain different math single row functions used in SQL.
34. Write a note on local area network.

PART – D

V. Answer any FOUR questions. Each question carries FIVE marks. 4 x 5 = 20

35. Write the applications of stacks in programming.
36. Write an algorithm to check whether a string is palindrome or not using deque.
37. Briefly explain the working of binary search algorithm.
38. What is a key in relational database? Explain types of keys.
39. Define network topology? Explain star and bus topologies.
40. Write the properties of radio waves transmission.

41. Explain the methods of malware identification used by antivirus.

PART – E

VI. Answer any TWO questions. Each question carries FIVE marks. 2 x 5 = 10

42. Write the process to sort the following elements using insertion sort method.
80, 60, 20, 40, 50, 10

43. Consider the marks scored by students in a subject given [90, 80, 70, 95, 95, 85, 80] Calculate the statistical technique for the following:
a) Find the range of marks scored
b) Find the standard deviation of marks

44. Write appropriate SQL query for the following.

Table Name : student			
StuReg	StuName	Marks	Phone
Stu_001	Karthik	94	9845123456
Stu_002	Abhay	91	9845123457
Stu_003	Samanvitha	92	9845123458
Stu_004	Sindura	96	9845123459
Stu_005	Krithika	95	9845123460

a) Add constraint primary key for StuReg column of the above table.
b) Find average marks of all the students.
c) Add five marks for student with StuReg- Stu_001.
d) Display all the records in the order highest to lowest marks.
e) Remove all the records of the table whose marks less than 93.

(())