NEB - GRADE XII
2081 (2024)
Computer Science
(New course)

(For the regular and grade increment students whose first two digits of registration number starts from 78, 79 and 80)

Multiple Choice Questions

Rewrite the correct option of each question in your same answer sheet.

Group 'A' [9×1=9]

1. Which one of the followings given statement correct ?
   A) Select * from enp where eopid = 103;
   B) Select from enp where eopid = 103;
   C) Select eopid where enp = 103 from emp;
   D) Select eopid where eopid = 103 and table = emp;

2. Which database system normally offers better performance for geographically dispersed users ?
   A) Centralized database system   B) Distributed database system
   C) NoSQL database system   D) Relational database system

3. Which of the following is an example of a public IPV4 address ?
   A) 192.168.1.1   B) 172.16.10.1
   C) 10.10.10.10   D) 203.0.113.10

4. What is the correct syntax for a 'for-loop' in JavaScript ?
   A) for (var i = 0; i < 5; i++) {}   B) for (i = 0; i < 5; i++) {}
   C) for (var i = 0; i < 5) {}   D) for (var i < 5; i++) {}

5. Which PHP function is commonly used to execute SQL queries on a database connection established using mysqli extension ?
   A) mysqli_query ( )   B) pdo_query ( )
   C) mysql_query ( )   D) pgsql_query ( )

6. What is the correct syntax to declare a structure in C ?
   A) struct { }   B) define struct { }
   C) struct [ ]   D) struct <name> { }

7. In C, which operator is used to get the address of a variable ?
   A) *   B) &   C) ->   D) .

8. Which OOP feature allows a class to inherit properties and behavior from another class ?
   A) Inheritance   B) Encapsulation
   C) Polymorphism   D) Abstraction

9. Which model of SDLC is characterized by a linear progression of phases from requirements gathering to maintenance ?
   A) Waterfall model   B) Agile model
   C) Spiral model   D) RAD model

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Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Time: 2 hrs.   **Full Marks: 50**

Group 'A'

Multiple Choice Questions (No. 1 to 9)will be provided after 30 minutes of starting examination. Rewrite its (MCQ) correct options (answer) in your same answer sheet.

Group 'B'

Short answer questions   [5×5=25]

10. Evaluate the advantages of DBMS compared to traditional file-based data storage systems. [5]

OR

How does Second Normal Form (2NF) differ from First Normal Form (INF), and what are the key benefits of achieving 2NF in database design ? Explain. [2+3]

11. Write a JavaScript function that checks if a number is even or odd and print the result. [1+4]

OR

What is purpose of the mysqli_connect ( ) function in PHP ? Describe its usage and parameters. [2+3]

12. Write short note on class and object in OOPs with a real-word example. [2.5+2.5]

13. How do various requirement gathering techniques help in achieving a careful grasp of user needs and system requirements during SDLC's analysis phase ? [5]

14. Give five examples of AI applications in the education. [5]

Group 'C'

Long answer questions [2×8=16]

15. How does the star network topology differ from the bus network topology in terms of its architectural layout and data transmission methodology in modern computing environments ? [8]

16. Write a C program that uses structures to represent details of five books (title, author, publisher and price) and prints them out. [8]

OR

Discuss the concept of binary file handling in C programming and explain how putw( ) and getw( ) functions facilitate binary input/output operations. Give examples. [8]

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