Paper ID : 70098 Total Pages : 2

BCA (Semester-III) Examination, 2022

(Session 2020-23)

OBJECT ORIENTED PROGRAMMING USING C++

[Paper Code : BC-303]

Time : Three Hours] [Maximum Marks : 80

Note : Candidates are required to give their answers in their own words as far as practicable. The questions are of equal value. Attempt **any five** questions.

1. What is Object Oriented Progamming? Discuss the evaluation of C++.

2. What is class and object in C++? Write a C++ program to demonstrate the concept of class and object.

3. What is static data member and member function? Write a C++ program to demonstrate the concept of data member and member function.

4. What is Constructor? Discuss the types of constructor.

. Write a C++ program to find area of a rectangle using constructor.

5. What is Polymorphism? Explain the types of poiymorphism. Distinguish between late binding Vs. early binding.

6. What is hybrid inheritance in C++? Write a C++ program to demonstrate the concept of hybrid inheritance.

7. Explain dynamic memory allocation in C++. Write a C++ program to sort n given number using dynamic memory allocation.

8. Write a C++ program to overload any one special operator with suitable example.

9. Explain file handling in C++. Write a C++ program to create a binary file and display the contents of a binary file.

10. Write notes on **any two** of the following :

(a) Command Line Arguments

(b) Destructors

(c) Pure Virtual Function

(d) Abstract Class

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Paper ID : 70099 Total Pages : 4

BCA (Semester-III) Examination, 2022

(Session 2020-23)

NUMERICAL METHODOLOGY

[Paper Code : BC-304]

Time : Three Hours] **[Maximum Marks : 80**

Note : Candidates are required to give their answers in their own words as far as practicable. Answer **any five** questions. Each question is of **equal** value.

1. Using Trapejoidal rule evaluate

$$\int_0^1 \frac{dx}{1+x^2} \text{ using, } h = \frac{1}{4}$$

2. Construct a Backward different table

$$f(1) = 4, f(3) = 12, f(4) = 18, f(5) = 36.$$

Find the value of $\nabla^4 f(5)$.

3. Find the first term of the series whose second and subsequent terms are 8, 3, 0, –1, 0.

4. Apply Gauss Jordan method to solve the equations :

$$x + y + z = 9$$

$$2x - 3y + 4z = 13$$

$$3x + 4y + 5z = 40$$

5. Solve the system of equations :

$$2x + 3y + z = 9$$

$$x + 2y + 3z = 6$$

$$3x + y + 2z = 8$$

By using LU decomposition method.

6. Find the real root of the equation $x^3 - 2x - 5 = 0$ by the method of false position correct to three decimal places.

7. Compute $f'''(15)$ given :

x	2	4	9	13	16	21	29
f(x)	57	1345	66340	402052	1118209	4287844	21242820

8. Prove that :

$$\delta = \Delta(1+\Delta)^{-1/2} = \nabla(1-\nabla)^{-1/2}$$

9. Prove that :

$$\Delta \cdot \nabla = \Delta - \nabla = \delta^2$$

10. Use Gauss elimination method to solve the following system of equations :

$$2x + y + z = 10$$

$$3x + 2y + 3z = 18$$

$$x + 4y + 9z = 16$$

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BCA (Semester-III) Examination, 2022

(Session 2020-23)

DATABASE MANAGEMENT SYSTEM

[Paper Code : BC-302]

Time : Three Hours] [Maximum Marks : 80

Note : Candidates are required to give their answers in their own words as far as practicable. The questions are of equl value. Attempt **any five** questions.

1. Elaborate the three level architecture of database system.

2. What is DBMS? What are its advantages and disadvantages? Explain.

3. What do you understand by Relational Model of database system? Elaborate the major characteristics of relational database management system.

4. What is Distributed Database System? Discuss the advantages and disadvantages of distributed database system.

5. Differentiate between the following :

(a) Data Definition Language and Data Manipulation Language

(b) Generalization and Aggregation

6. Why there is a need of database recovery? Discuss in detail Log-Based Recovery Scheme.

7. Compare relational, network and hierarchical models in detail.

8. Explain the concept of concurrency management with the help of an example.

9. (a) How database security is implemented?

(b) Discuss the responsibilities of DBA.

10. Write notes on the following :

(a) Concurrency Control

(b) Data Integrity

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Paper ID : 70096 Total Pages : 2

BCA (Semester-III) Examination, 2022

(Session 2020-23)

FUNDAMENTAL OF MANAGEMENT AND BUSINESS ACCOUNTING

[Paper Code : BC-301]

Time : Three Hours] [Maximum Marks : 80

Note : Candidates are required to give their answers in their own words as far as practicable. Attempt **any five** questions. Each question carries equal marks.

1. Management is considered to be an Art and Science both. Explain with example.

2. How management is evolved as a separate discipline?

3. What is Controlling? Elaborate steps involved in controlling process.

4. Explain Organisational Behaviour. What is the necessity and importance of studying organisational behaviour?

5. What do you understand by Communication? Write essential elements of Communication Process.

6. What is Accounting? Discuss the concept of Accounting.

7. Define Double Entry System. Discuss one advantage of it.

8. What is Account? Discuss different types of accounts with examples.

9. Differentiate between Trial Balance and Balance Sheet.

10. Write short notes on the following :

(a) Liabilities

(b) Real Account

(c) Planning

(d) Management

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