Bajaj College of Science, Wardha

Practice Sheet During Lockdown

B.Sc. Sem II

Subject: Computer Science

Unit - I

Long answer type questions:

1. Define a class. How is it created? Demonstrate it with an example.
2. Write a C++ program to count the number of objects of a certain class.
3. Describe the following characteristics of OOP.
    i. Encapsulation
    ii. Polymorphism
    iii. Inheritance
4. What are static members? Explain with an example.
5. List and explain various access specifiers available in C++.
6. How we do outside member function inline? Demonstrate it with example.
7. Write a program C++ to find the greatest of three numbers using class.
8. Design a class to represent a bank account. Including following members.

    Data members:

    * Name of depositor
    * Account number
    * Type of account
    * Balance amount in the account

    Member functions:

    * To assign initial values
    * To deposit an amount
    * To withdraw an amount after checking balance
    * To display name and balance.

9. Write a program in C++ to design your own class and access the members using object of that class.
10. Write a C++ program to print entered number is prime or not using class.

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Short answer type questions:

1. List features of OOP?
2. What are object? How they are created?
3. What do you mean by polymorphism?
4. Define encapsulation?
5. What is abstraction?
6. What do you mean by data hiding? How does it accomplish?
7. Write syntax of accessing member function inside as well as outside the class.
8. When do we declare a member of a class as static?
9. How runtime polymorphism is achieved in C++?
10. What are uses of it static?

Unit - II

Long answer type questions:

1. Define constructors. How are they different from member functions?
2. Write a program in C++ to demonstrate multiple constructors in a class.
3. Write a program to demonstrate copy Constructor.
4. Write a program to demonstrate the order in which constructor and destructor are executed.
5. What is parameterized constructor? Write a program to demonstrate it.
6. Write a program to demonstrate pointers to object.
7. Define 'this' pointer, with an example, indicate the steps involved in referring to members of the invoking object.
8. Explain the features of new and delete.
9. What is the use of operator overloading? Write a program to overload unary '-' operator.
10. Write a program to demonstrate array of objects.

Short answer type questions:

1. Why we need constructor?
2. List any five characteristics of constructor.

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3. List types of constructor.

4. What do you mean by copy initialization?

5. Why we need destructor?

6. List the operator that cannot overload in C++.

7. What is 'this' pointer?

8. List important of destructor.

9. Why we need to overload an operator.

10. List operators that cannot be overloaded.

Unit - III

Long answer type questions:

1. Explain different types of inheritance with block diagram.

2. Define inheritance? How to inherit a base class as protected? Explain it in multiple base classes.

3. Write a program for multiple base class inheritance.

4. Design three classes' student, test, result, where result is inherited from test and test is inherited from student. Write possible function and initialized the value.

5. How to implementing dynamic polymorphism? Explain with an example.

6. Define a Virtual function? Why do we need Virtual function? Demonstrate it with an example

7. What is Abstract class? Demonstrate it with example.

8. What do you mean by an Exception? How to handle an exception in C++?

9. Explain the term uncaught exception in detail.

10. Explain the term memory allocation failure with example.

Short answer type questions:

1. When do we use protected visibility specifier to class members?

2. What is pure virtual function?

3. What do you mean by abstract class?

4. What is virtual base class?

5. When do we make a class virtual?

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6. When do we make a virtual function 'pure'?

7. List any five rules of virtual function.

8. List of Exception in C++.

9. What do you mean by fault tolerance?

10. List any five rules for handling an Exception successfully.

Unit - IV

Long answer type questions:

1. What is a system? State the characteristics of a system.

2. State and explain the various elements of a system with well labelled diagram.

3. Write a short note on system models.

4. Describe MIS with a suitable example.

5. What is a DSS and TPS? Differentiate between DSS and TPS.

6. Explain in detail the various phases of SDLC along with a neat and well labelled diagram.

7. Explain the Prototyping Model with well labelled diagram. What are its advantages and disadvantages?

8. What is a Systems Analyst? Explain the tasks and roles of a System Analyst. What are the skills required for System Analyst?

9. What is Feasibility Analysis? Explain various steps of Feasibility Analysis.

10. Explain any two data collection techniques.

Short answer type questions:

1. Define open and closed system.

2. What are the advantages of an interview technique?

3. Draw symbols of DFD.

4. What is a data dictionary?

5. Describe the advantages of structured English.

6. State the use of brain storming.

7. What is a SOP?

8. Enlist the types of questions used in questionnaires.

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9. What is a decision table?

10. Draw any one decision tree diagram.

Unit – V

Long answer type questions:

1. What is System Design? State its use.

2. Explain Input Data.

3. Write a short note on online data entry.

4. Explain Output Data.

5. State and explain **six** principles of good Form Design.

6. Explain different type of codes.

7. What is a System Tolerance?

8. Write a short note on Implementation phase.

9. Describe Operational Training activities.

10. Describe various change strategies.

Short answer type questions:

1. Define three types of outputs.

2. Enlist various output media.

3. Enlist three primary classifications for printed forms.

4. Give one example of Dewey code system and explain it.

5. Define changeover.

6. What are job aids?

7. State the use of documentation.

8. Enlist various activities under training phase.

9. Define user documentation.

10. Define review.

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Unit – VI

Long answer type questions:

1. Write a note on various Change Strategies.
2. What are the various components of a Review Plan?
3. What is System Testing? Why it is important?
4. What activities are involved in Test Plan?
5. Differentiate between Static and Dynamic Testing.
6. Differentiate between alpha and beta testing.
7. Explain various metrics for software size estimation.
8. Define Risk. What is Risk Management? Explain types of risk in Risk Management.
9. Explain various activities involved in SCM.
10. Explain s/w maintenance process models and estimation of maintenance cost.

Short answer type questions:

1. Enlist four phases of testing.
2. State the use of unit testing.
3. Define stress testing.
4. For what purpose acceptance test are used?
5. Define WBS.
6. Write full form for PERT and KLOC.
7. Define function point.
8. List the names of project estimation techniques.
9. Write a short note on ISO 9000.
10. Define reverse engineering.

For any queries, feel free to contact us on E-mail/ Whats App No.:

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