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Reg. No. : ....

Name : ....

II Semester B.C.A. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, April 2023
(2019 Admission Onwards)
Core Course
2B03BCA : OBJECT ORIENTED PROGRAMMING USING C++

Time : 3 Hours

Max. Marks : 40

PART – A
Short Answer

Answer **all** questions.

(6×1=6)

1. While overloading binary operators using member function, it requires _____ argument/s.

2. How many parameters does a default constructor require ?

3. _____ header file is used for manipulators.

4. _____ operator is used to dynamically allocate space for array in memory.

5. A _____ is an example of run time polymorphism which does not have any body.

6. When a base class is privately inherited by a derived class public members of the base class become _____ of the derived class.

PART – B
Short Essay

Answer **any 6** questions.

(6×2=12)

7. What are symbolic constants ?

8. What do you mean by nested if statements ?

9. Distinguish between formal parameter and actual parameter.

10. What is the primary use of destructors ? Give an example.

11. What is the syntax for implementing a class as virtual base class ?

12. What is a pure virtual function ?

13. Define setw( ) and setprecision( ) manipulator functions.

14. What is file input stream and output stream ?

PART – C
Essay

Answer **any 4** questions.   (4×3=12)

15. What is an array ? How arrays are implemented in C++ ?

16. Explain call by reference and call by value type of parameter passing.

17. Explain static keyword. What are the characteristics of static data members ?

18. Illustrate the difference between unary operator overloading and binary operator overloading.

19. Explain tellg( ) and tellp( ) with an example.

20. What is hybrid inheritance ? List the ambiguities of hybrid inheritance.

PART – D
Long Essay

Answer **any two** questions.   (2×5=10)

21. Explain the concepts of object oriented programming.

22. Write a program using class concept to enter details of 10 students and calculate the pass percentage using a friend function.

23. What is a file mode ? Describe the various file mode options available.

24. What is a constructor ? Which are the different types of constructors available in C++ ? Explain with examples.

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SECTION – A

1. **One** Word Answer :   (8×0.5=4)

   a) _____ is used for single line comments and _____ is used for multiple line comments.

   b) The difference between delete and delete [] in C++ is _____

   c) _____ symbol is used to declare the preprocessor directives in C++.

   d) _____ is the smallest individual unit in a program.

   e) Default constructor has _____ arguments.

   f) A class whose objects cannot be created is known as _____

   g) In CPP, members of a class are _____ by default.

   h) Strings are nothing but _____ arrays.

SECTION – B

Write short notes on **any seven** of the following questions :   (7×2=14)

2. What are the rules to make a member function as Inline ?

3. Explain Objects and Classes.

4. Write the syntax of Constants with example.

5. Write any two use of scope resolution operator.

6. Distinguish between formal parameter and actual parameter.

7. How many object arguments must be given for member functions for binary operator overloading ? Why ?

8. What do you mean by a base class and derived class ?

9. What is the purpose of this pointer ?

10. What is a pure virtual function ?

11. What is meant by manipulators ?

SECTION – C

(4×3=12)

Answer **any four** of the following questions :

12. Distinguish between structure and class.

13. What is an array ? How arrays are implemented in C++ ?

14. What are the different ways of defining a member function ?

15. Briefly summarize the concept of function overloading.

16. Mention the difference between public, private and protected inheritance.

17. Write a program which explains about static data members and static member function.

SECTION – D

(2×5=10)

Write an essay on **any two** of the following questions :

18. Which are the different loop control structures in C++ ? Illustrate with example.

19. Write a program to illustrate complex number addition using binary operator overloading. Use operator function as member function.

20. What is a friend function ? Give an example and list out the guidelines used for implementing friend function.

21. Explain the following :
    a) Pointer to objects
    b) Pointers to derived classes

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PART – A
(Short Answer)

Answer **all** questions :

(6×1=6)

1. Which feature of the OOPS gives the concept of reusability ?

2. Which is the default return value of functions in C++ ?

3. Which data type specifies an empty set of values/parameters ?

4. _____ is the scope resolution operator.

5. Variables declared inside the class are known as _____

6. What do you mean by object ?

PART – B
(Short Essay)

Answer **any 6** questions :

(6×2=12)

7. What is an identifier ? What are the rules to follow its naming ?

8. What is function overloading ?

9. What is nesting of member functions ?

10. What do you mean by destructor ?

11. Explain multiple inheritance with pic.

12. Mention put() and get() functions.

13. Explain arrays.

14. How to declare a variable ?

PART – C
(Essay)

Answer **any 4** questions :   (4×3=12)

15. Differentiate Data Abstraction and Encapsulation.

16. Differentiate call by value and call by reference.

17. Mention the specialties of constructor functions.

18. Explain virtual functions and pure virtual functions.

19. Explain the functions for manipulation of file pointers.

20. Write a C++ program to print Fibonacci series.

PART – D
(Long Essay)

Answer **any 2** questions.   (2×5=10)

21. Explain the data type hierarchy in C++.

22. Explain different types of inheritances in C++.

23. Explain the following :
    a) Opening and closing of files   2
    b) Classes of file stream operations.   3

24. Mention merits and demerits of Procedure oriented programming and Object oriented programming.

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PART – A

(Answer **all** questions.)

1. What are tokens ? Give an example.

2. Mention any two library functions of math.h.

3. Give examples of two operators that cannot be overloaded.

4. What is a default constructor ?

5. Give an advantage of using files.

6. What is single inheritance ?   (6×1=6)

PART – B

(Answer **any six** questions.)

7. Write a program to find the sum of two numbers illustrating cascading of I/O operators.

8. What is return by reference ? Illustrate.

9. Explain enumerated data type.

P.T.O.

10. What are inline functions ?

11. Can constructors be overloaded ? If so how ?

12. Explain multilevel inheritance.

13. Explain any two file mode parameters.

14. Write a program to overload unary operator '–'. **(6×2=12)**

PART – C

(Answer **any four** questions.)

15. Explain the syntax of open with its arguments.

16. Explain the concept "pointer to objects".

17. Illustrate the use of destructor with a C++ program.

18. How can you make an outside function inline ?

19. Create a class employee to store the name, code and designation of n employees and to print the same.

20. Explain two ways of creating symbolic constants in C++. **(4×3=12)**

PART – D

(Answer **any two** questions.)

21. Create a file that stores item name and item cost. Open the file and print the details.

22. Write a C++ program to demonstrate pointer to a derived object.

23. Explain basic to class type conversion.

24. Explain OOP concepts. **(2×5=10)**

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PART – A

Answer **all** questions.

1. What are keywords ? Give an example.

2. What is an inline function ?

3. Explain operator overloading.

4. What is an abstract class ?

5. When is a class defined as a virtual base class ?

6. What is protected visibility ?

(6×1=6)

PART – B

Answer **any six** questions.

7. Compare OOP with procedure oriented programming.

8. What is reference variable ? Illustrate.

9. Explain two memory management operators.

10. What are private member functions ? How are they called ?

11. What is a copy constructor ?

12. What do you need some functions to be 'friendly" to each other ?

13. Demonstrate single inheritance.

14. Explain write() and read() functions.

(6×2=12)

PART – C

Answer **any four** questions.

15. Explain the rules for operator overloading.

16. Explain static member functions.

17. Explain "this" pointer with an example.

18. Explain seekg() and seekp().

19. What are stream classes ? Explain.

20. Explain two functions – get() and put() with syntax.   **(4×3=12)**

PART – D

Answer **any two** questions.

21. Create a class student to store regno and name of 50 students. Also write code to perform search on the array of objects using regno.

22. Write a C++ program to demonstrate hierarchical inheritance.

23. Explain the control structures of C++.

24. Explain class to basic type conversion.   **(2×5=10)**

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