Roll No. | | | | | | | | | | | |

Total No. of Questions : 09

Total No. of Pages : 02

B.Tech. (AIDS/AIML/Block Chain/CSE/IOT/CSD/DS/Robotics and Artificial Intelligence) (Sem.–3)

OBJECT ORIENTED PROGRAMMING

Subject Code : BTCS302-18

M.Code : 76437

Date of Examiantion:18-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. **Write briefly:**

   a) Explain the typical structure of a C++ program.

   b) What is an array?

   c) What is Destructor? How is it defined?

   d) What are static data members?

   e) Discuss the uses of public, private and protected access specifiers in a class.

   f) Give the order of calling of constructors under inheritance.

   g) Are virtual functions inherited?

   h) What is an abstract class?

   i) When do we use multiple catch handlers?

   j) Discuss the use of ifstream and ofstream classes for file input and output.

SECTION-B

2. Explain various types of operators in C++ language.

3. How do you achieve operator overloading using friend function?

4. Discuss different visibility modes to derive a class for inheritance.

5. Explain the concept of early binding and late binding in detail.

6. Explain the process of open, read, write and close files in C++.

SECTION-C

7. a) **Explain the following with examples:**

      i) Inline functions

      ii) Class and Objects

   b) Explain various types of Constructors with examples.

8. What do you mean by Inheritance? What is the need of Inheritance? Explain various types of Inheritance with the help of suitable examples.

9. a) What is a virtual function? Why it is used? Explain with suitable example.

   b) What is exception handling in C++ programming? Explain the exception handling mechanism.

Institute of Technology & Research C.T. Jalandhar LIBRARY ACC No.....

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

Roll No. | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AIML&DS/CSE/Internet of Things and Cyber Security including Block Chain Technology) (Sem.–3)

OBJECT ORIENTED PROGRAMMING

Subject Code : BTCS302-18

M.Code : 76437

Date of Examination : 29-12-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. **Explain the following :**

   a) Float

   b) Operator

   c) Inline function

   d) Object

   e) Public

   f) Destructor

   g) Inheritance

   h) Catch

   i) Call by value

   j) Friend function.

SECTION-B

2. Explain with help of an example how to overload '++' operator?

3. Differentiate between virtual and pure virtual function with help of an example.

4. Write a program to read a file and copy character by character into another file.

5. Discuss the use of exceptional handling in programming.

6. Explain the concept of access specifiers with an example.

SECTION-C

7. Explain different types of inheritance and the concept of ambiguity.

8. Differentiate between functions and recursive functions with help of an example.

9. Write a detailed note on exceptional handling mechanism.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

J.C.T. Institute of Technology & Research, Jalandhar LIBRARY

Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (CSE/ECE/IT/Electronics Engg/Electronics & Computer Engg)
(2012 to 2017) (Sem.–3)

OBJECT ORIENTED PROGRAMMING USING C++

Subject Code : BTCS-305
M.Code : 56595

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Answer briefly :

1. What is the use of an Abstract class?
2. What is a Friend function? Why is it required?
3. What are the properties of a static member function?
4. What is meant by Overloading Operators?
5. What are the differences between the Accesses specifies private and protected?
6. Explain briefly what Exception Handling is.
7. List the syntax of any two functions used to display output to the user in C++.
8. What are the differences between sequential and random access files?
9. What are Dangling Pointers?
10. What is the purpose of defining a Destructor function?

Institute of Technology & Research
LIBRARY
ACC No.
Jalandhar

SECTION-B

11. What is Object Oriented Programming? Distinguish between Procedure Oriented Programming and Object Oriented Programming.
12. Write a program in C++ to print first N prime numbers, where N is the integer value entered by user.
13. Explain the concepts of Function Overloading and Function Overriding with the help of examples.
14. What is a Template? Explain with the help of an example how to create a Function Template.
15. Explain the concept of Virtual and Pure Virtual Functions with the help of examples.

SECTION-C

16. Create a class which keeps track of the number of its instances and also assigns unique identification to each of them. Use static data member, constructors and destructors to maintain updated information about active objects.
17. What is inheritance? Explain with example how to inherit a class in C++. Also show in what order the constructors are called in a class hierarchy when an object of a derived class is created?
18. What are the two methods available for opening the files? Write a program to write characters onto a file and to read characters from a file.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Total No. of Questions : 18 Total No. of Pages : 02

B.Tech. (CSE) (2018 Batch) (Sem.–3)

OBJECT ORIENTED PROGRAMMING

Subject Code : BTCS-302-18

M.Code : 76437

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Write briefly :

1. Discuss the rules of Defining Constructors.
2. Write the use of function overloading.
3. Define this pointer.
4. What is an Abstract class?
5. Explain briefly what is Exception Handling?
6. What are C++ streams?
7. Define the term Multilevel Inheritance.
8. What is a friend function and friend class?
9. What are the different modes in which C++ file is opened?
10. Explain how memory is allocated to classes & objects?

Institute of Technology & Research C.T. Jalandhar LIBRARY ACC No.....

SECTION-B

11. Explain with examples the different (Variable) storage classes used in C++.
12. What are the advantages of using new operator as compared to the function malloc()? Explain with examples.
13. What is object oriented programming? Explain any five characteristics of object oriented programming languages.
14. Explain public, private and protected access specifiers and show the ambiguity in multiple and multipath inheritance.
15. Explain the various techniques of defining pure virtual function.

SECTION-C

16. Define Operator Overloading. Explain how to overload unary operator and binary operator.
17. Describe the terms private inheritance and protected inheritance with the help of an example program.
18. What is file mode? Describe the various file mode options available.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.