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Question Paper Code: 53204

B.E./B.Tech. DEGREE EXAMINATION, DEC 2020

Third Semester

Computer Science Engineering

15UCS304 - OBJECT ORIENTED PROGRAMMING WITH C++

(Regulation 2015)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

- Which feature can be implemented using encapsulation? CO1- R
(a) Inheritance (b) Abstraction (c) Polymorphism (d) Overloading
- What is the output of the following code CO1-U

```
char symbol[3]={'a','b','c'};  
for (int index=0; index<3; index++)  
cout << symbol [index];
```


(a) a b c (b) "abc" (c) abc (d) 'abc'
- Can constructors be overloaded in derived class? CO2- R
(a) Yes, always (b) Yes, if derived class has no constructor
(c) No, programmer can't do it (d) No, never
- Given a class named *Book*, which of the following is not a valid constructor? CO2-U
(a) `Book () { }` (b) `Book(Book b){ }`
(c) `Book (Book &b) { }` (d) `Book(char* author,char* title) { }`

5. What do you call the languages that support classes but not polymorphism? CO3- R
- (a) Class based language
- (b) Procedure oriented language
- (c) Object-oriented language
- (d) If classes are supported, polymorphism will always be supported
6. If a class C is derived from class B, which is derived from class A, all through public inheritance, then a class C member function can access CO3-R
- (a) protected and public data only in C and B. (b) protected and public data only in C.
- (c) private data in A and B. (d) protected data in A and B.
7. A template class can have _____ CO4- R
- (a) More than one generic data type (b) Only one generic data type
- (c) At most two data types (d) Only generic type of integers and not characters
8. Exception handling is targeted at CO4-R
- (a) Run-time error (b) Compile time error (c) Logical error (d) All of the above.
9. Which header file is required to use file I/O operations? CO5- R
- (a) <ifstream> (b) <ostream> (c) <fstream> (d) <iostream>
10. To perform stream I/O with disk files in C++, you should CO5-R
- (a) open and close files as in procedural languages.
- (b) use classes derived from ios.
- (c) use C language library functions to read and write data.
- (d) include the IOSTREAM.H header file.

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Write a C++ program to create class STUDENT data members, roll no, name, course, branch and semester. Store them in array of objects. Write member functions to sort the students in ascending order and print the student details branch wise. CO1- U (8)
12. Discuss about constructors and destructors in detail with example. CO2- App (8)

13. Assume the classes person, student and partimestudent are inherited from one another. Define classes with suitable data members (common and special attributes) and methods using C++ program to demonstrate the type of inheritance. CO3- U (8)
14. Write a class template to generate a class matrix. Using the class template definition, the program should handle the arithmetic operations (+, -, *, /) for an particular type(such as int, float, double, char) CO4- App (8)
15. Write a C++ program to store the details about Student information in a binary file and retrieve details about a Student based on given type(UG Student/ PG Student). CO5- App (8)