BTS –III(S)–05.17 – 0733 Reg. No. | | | | | | | | |

B

B.Tech. Degree III Semester Supplementary Examination May 2017

CS/IT 15-1304 OBJECT ORIENTED PROGRAMMING

(*2015 Scheme*)

Time: 3 Hours Maximum Marks:60

PART A

(Answer *ALL* questions)

(10 × 2 = 20)

I. (a) When do we need to use default arguments in a function?
(b) Describe an inline function with an example.
(c) What are objects? How are they created?
(d) Can we overload destructors? Why?
(e) How do you convert a basic data type to a class type?
(f) When do we use protected visibility specifier to a class member?
(g) What is a virtual base class?
(h) What are pure virtual functions? What is the significance of it in declaring a class as abstract?
(i) Discuss the different ways to open a file in C++.
(j) How is an exception handled in C++?

PART B

(4 × 10 = 40)

II. (a) Explain the various parameter passing techniques available in C++ by using suitable examples. (5)
(b) What is function overloading? How is it implemented? Explain with an example. (5)

OR

III. (a) What are the advantages of using object oriented programming? (5)
(b) What are friend functions? Write a program to find the largest number in an array using friend function. (5)

IV. Let V1 be a vector with values $(x1, y1, z1)$ and V2 be another vector with values $(x2, y2, z2)$. Overload binary operator '+' to implement vector addition. (10)

OR

V. (a) What are constructors? Discuss various types of constructors. (5)
(b) Write a C++ program to calculate the gross salary of an employee from basic salary with 40% DA and 20% HRA. Use constructors, destructors and member functions. (5)

VI. (a) Explain multipath inheritance with an example. (5)
(b) Differentiate multiple and multilevel inheritance. (5)

OR

(P.T.O.)

VII. (a) Explain with example the two types of polymorphism. (4)

(b) Create a base class shape with three double type data members and three member functions getdata(), display() and area(). Make area() as a pure virtual function. Derive three classes rectangle, circle and triangle and redefine the function area() accordingly. (6)

VIII. (a) Analyze the exception handling mechanism available in C++ with suitable example. (5)

(b) Write a program to demonstrate exception types being caught with catch() exception handler. (5)

OR

IX. (a) Explain the functions seekg(), seekp(), tellg(), tellp() used in file operations. (4)

(b) What is a template function? Write a C++ program to find the minimum value of a given set of elements using function template. (6)

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