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K – 4287

Reg. No. :

Name :

Fourth Semester B.Tech. Degree Examination, September 2020

13.403 : OBJECT ORIENTED TECHNIQUES (FR)

(2013 Scheme)

Time : 3 Hours

Max. Marks : 100

PART – A

All questions are compulsory. Each question carries 4 marks:

1. Briefly explain the use of scope resolution operator in C++.
2. What is a friend function? Why is it required? Explain with an example.
3. Differentiate between static and dynamic memory allocation.
4. List out operators that can't be overloaded. Explain the reason.
5. Differentiate between a template class and a class template.

PART – B

Answer any one full questions from each Module.

Module – I

6. (a) What are the advantages of object oriented design paradigm? **12**
- (b) Write the syntax of new and delete operator in C++. What are the advantages of using them instead of malloc () and free ()? **8**
7. Explain with examples storage class specifiers. **20**

P.T.O.



Module – II

8. (a) Write a C++ program to evaluate the following function

$$\sin(x) = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots \quad 10$$

- (b) Explain explicit Constructors, Parametrized Constructors, and copy Constructors with suitable examples. 10

9. Create a class vector to hold an array of integers and perform the following operations using constructor for dynamic allocation of array based on size given as argument. 20

- (a) Create two vectors using constructor
- (b) Add the vectors and return the resultant vector
- (c) Multiply all elements in the vector by a given number X and display the resultant vector.

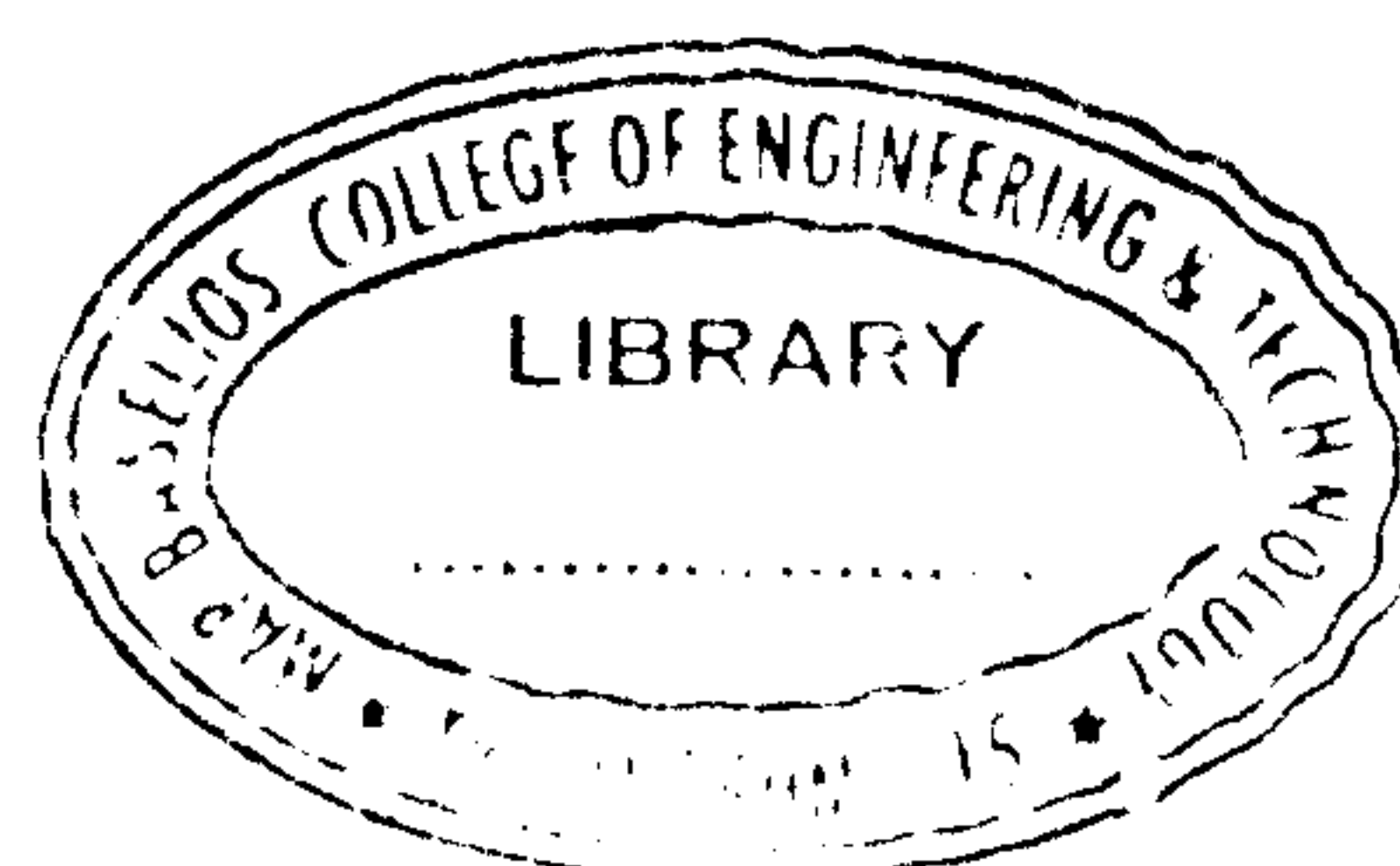
Module – III

10. (a) With a sample C++ program explain overloading of unary operators. 10

- (b) Briefly describe the different types of inheritance. 10

11. (a) Write a C++ program to compute area of a rectangle and circle using run time polymorphism. 8

- (b) Differentiate between compile time polymorphism and run time polymorphism. 12



Module – IV

12. (a) When do we need multiple catch blocks for a single try block? Give an example. 10
- (b) Define a function template to sort given n data items. Use it to sort integer and real valued data items. 10
13. (a) Explain the role of seekg(), tellg(), seekp(), tellp() functions in the process of random access in a binary file. 10
- (b) Write a C++ program that reads a text file and creates another file that is identical except that every sequence of consecutive blank spaces is replaced by a single space. 10

