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Reg. No. :

Name :

Third Semester B.Tech. Degree Examination, January 2015
(2008 Scheme)
08.304 : PROGRAMMING IN C++ AND DATA STRUCTURES (TA)

Time : 3 Hours

Max. Marks : 100

PART – A

(Answer **all** questions. **Each** question carries **4** marks)

1. What is an object ? Explain with an example.
2. What is a pointer ? How a pointer variable different from an ordinary variable ?
3. Give the syntax of 'for' statement. Give examples.
4. Write a program to find the factorial of a given number using recursive function.
5. Explain 'new' and 'delete' operators with example.
6. Explain the terms try-throw-catch in C++.
7. Explain the functions for the manipulation of file pointers with syntax.
8. Explain the operation of a singly linked list.
9. Explain the concept of trees.
10. Explain the big-O notation for comparing the speed of algorithms.



PART – B

(Answer **any two** questions from **each** Module. **Each** question carries **10** marks)

Module – I

11. How a function is declared in C++ ? Explain the function call and return from function with example.
12. Write a program to find the first 50 numbers in a fibonacci series.
13. Develop an object oriented program using class to prepare the marksheet of a student in a university examination. The class should contain the name of the student, Roll number, subject code, subject name, internal marks and external mark for each subject, total marks for each subject and the total marks for all subjects. Display the marksheet of each student.

P.T.O.

**Module – II**

14. What are the rules for overloading of operators ? Write a program to overload a unary-operator.
15. Explain the concept of inheritance in OOPs. List its advantages and disadvantages. Explain the different types of inheritance with examples.
16. Write a program to find the sum of the elements of a two dimensional array of integers and floating point numbers with function overloading.

Module – III

17. Write a program that creates a queue of 10 nodes and displays them. Also insert a node at the end of the queue.
18. Explain the different ways of traversing a binary tree with examples.
19. Write a program (using class) to sort 'n' numbers using shell sort.

