Reg. No. : | | | | | | | | | | |

Question Paper Code: 55080

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Fifth Semester

Electronics and Instrumentation Engineering

15UIT521 - PROGRAMMING WITH DATA STRUCTURE

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Which one of the below mentioned is linear data structure?

   (a) Queue (b) Stack (c) Arrays (d) All the above

2. Linked list search complexity is

   (a) O(1) (b) O(n) (c) O(log n) (d) O(log log n)

3. Heap is an example of

   (a) complete binary tree (b) spanning tree
   (c) sparse tree (d) binary search tree

4. All possible spanning trees of graph G

   (a) have same number of edges and vertices
   (b) have same number of edges and but not vertices
   (c) have same number of vertices but not edges
   (d) depends upon algorithm being used

5. Stack is used for

   (a) CPU Resource Allocation (b) Breadth First Traversal
   (c) Recursion (d) None of these

PART - B (5 x 3 = 15 Marks)

6. List and define the two types of Polymorphism.

7. What are the operators available in C++?

8. What are console stream classes in C++?

9. Write some of the basic rules for virtual functions.

10. What are the file open modes?

PART - C (5 x 16 = 80 Marks)

11. (a) Explain in detail about Object Oriented programming concepts. (16)

Or

(b) What is constructor? Explain the types of constructor with an example. (16)

12. (a) What is inheritance? Explain the types of inheritance with an example. (16)

Or

(b) (i) Write a program to implement dynamic polymorphism with example. (8)

(ii) Write a program to implement exception handling with example. (8)

13. (a) Write a program to implement various operation of Linked list. (16)

Or

(b) Write a program to implement various operation of Stack and Queue. (16)

14. (a) Explain in detail about AVL Trees with example. (16)

Or

(b) Explain in detail about Minimum Spanning Tree with example. (16)

15. (a) Write a program to implement merge sort and quick sort with example. (16)

Or

(b) Explain in detail about all pair shortest path problem with example. (16)

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