16U326   (Pages:2)   Name: …………………..

Reg. No…………………

THIRD SEMESTER B.C.A. DEGREE EXAMINATION, NOVEMBER 2017
(Regular/Supplementary/Improvement)

(CUCBCSS-UG)

CC15U BCA3 B04- DATA STRUCTURES USING C++

(Core Course)

(2015 Admission onwards)

Time: Three Hours   Maximum: 80 Marks

PART A
Answer *all* questions. Each question carries 1 mark

1. A graph is a _____ data structure.

2. A collection of finite, ordered collection of homogenous data elements are called _____

3. _____ is used to notate Time-complexity.

4. A Prefix notation is also known as _____ notation.

5. If the last node of the list points to the first node then that list is called _____

6. Full form of ADT is _____

7. What is a deque?

8. What you mean by a level in a tree?

9. What is hashing?

10. The memory address of the first element of the array is called _____

(10 x 1 =10 Marks)

PART B
Answer *all* questions. Each question carries 2 marks

11. Distinguish time complexity and space complexity.

12. What is a sparse matrix?

13. What is a circular linked list?

14. What is a GetNode function?

15. Explain folding method.

(5 x 2 = 10 Marks)

PART C
Answer *any five* questions. Each question carries 4 marks

16. Explain the array insert operation.

17. Illustrate the procedure to convert the following Infix expression from Postfix

(A+B)^C-(D*E)/F

18. How to analyze the Efficiency of an Algorithm.

19. What is a priority queue? List out the methods to implement a priority queue.

20. What is a binary search tree? Explain the operations.

21. Explain a tree data structure with its terminologies.

22. Explain Merge Sort Algorithm?

23. Explain linear and binary search.

(5 x 4 = 20 Marks)

PART D
Answer *any five* questions. Each question carries 8 marks

24. What is an algorithm? Explain the different approaches to algorithm design.

25. What is an array? Explain the operations of array data structure using suitable algorithms.

26. What is a linked list? Explain the insert and delete operations using examples.

27. What is a stack data structure? Explain the array and linked list implementation of stack using example.

28. Explain queue data structure with illustrating suitable examples for the applications of queue.

29. Explain Dynamic storage management.

30. What is sorting? Explain different types of sorting?

31. What is hashing? Explain the different hashing functions.

(5 x 8 = 40 Marks)

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