IMCA DEGREE EXAMINATION , FEBRUARY 2024

Second Semester

Faculty of Technology & Applied Science

Integrated MCA

CORE - IMCA2C04 - DATA STRUCTURE -C

2020 Admission Onwards

0DCFA019

Time: 3 Hours   Maximum: 75 Marks

Part A

*Answer any **ten** questions*

*Each question carries **3** marks*

1.   How can you represent a array?

2.   What are asymptotic notations?

3.   Write the steps for evaluation of postfix expression.

4.   Explain the algorithm to perform POP operation in stack with examples.

5.   Discuss about the array implementation of queue.

6.   Explain the insertion operation performed in Linked queue.

7.   How can u insert an element in a singly linked list?

8.   Define tree and discuss the properties of a tree.

9.   What is Balanced tree and why is that important?

10.   What is Splay tree?

11.   Write a algorithm for binary search technique.

12.   Define Hashing.

(10×3=30 marks)

*Answer **all** questions*

*Each question carries **9** marks*

13. a) Explain in detail the difference between time and space complexity.

    OR

    b) Discuss polynomial addition using arrays with example.

14. a) What is a circular queue? Explain the working of a circular queue.

    OR

    b) Discuss priority queue in detail.

15. a) Explain about pattern matching in strings.

    OR

    b) Explain polynomial addition using linked list.

16. a) Explain about Binary tree traversal

    OR

    b) What are the ways to represent a binary tree ? Explain with examples.

17. a) Discuss K way merging technique.

    OR

    b) Discuss about radix sort technique in deatil.

(5×9=45 marks)