10MT65

Sixth Semester B.E. Degree Examination, Aug./Sept.2020
Advanced Computer Programming

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, selecting at least TWO full questions from each part.*

PART – A

1   a. What is debugging and give proper suggestions for debugging.   (06 Marks)
    b. Explain friends and protected class members.   (06 Marks)
    c. Explain the dynamic memory allocation, with the help of a program.   (08 Marks)

2   a. Explain the abstract data type array and explain row major and column major mappings.
                                                                                          (10 Marks)
    b. Define indexing. Explain indexing of a two dimensional array.   (06 Marks)
    c. Explain the following:
       i)   Tridiagonal
       ii) Upper triangular matrices   (04 Marks)

3   a. Explain the abstract data type stack.   (05 Marks)
    b. Explain inheritance as applied to stacks.   (05 Marks)
    c. Explain parenthesis matching using stack, with a program.   (10 Marks)

4   a. Define Queue and abstract datatype of Queue.   (08 Marks)
    b. What are the two methods of representing a queue? Explain linked Representation.
                                                                                          (04 Marks)
    c. Write a program to demonstrate the execution of a Queue.   (08 Marks)

PART – B

5   a. Define Dictionary with its operation.   (06 Marks)
    b. Explain skip list Representation.   (04 Marks)
    c. Write program for hash table definition and construction.   (10 Marks)

6   a. Define tree. Explain elements of tree.   (04 Marks)
    b. Explain properties of Binary tree.   (06 Marks)
    c. Construct binary expression trees corresponding to following expressions :
       i) $(a*b)+(c/d)$
       ii) $((a+b)+c)+d$
       iii) $((-a) + (x+ y)) / ((+b) * (c * a))$ (10 Marks)

7   a. Write note on linear list in apriority queue.   (10 Marks)
    b. Write note on heaps.   (10 Marks)

8   a. Explain indexed binary search trees.   (10 Marks)
    b. Write a program for simple histrogramming.   (10 Marks)

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