



AC-3095
Second Year B. Sc. (Computer Science) (Sem. IV)
Examination
April / May – 2015
Paper - III : Data Structure

Time : 2 Hours]

[Total Marks : 50

Instruction :

<p>नीचे दृशावेव निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : S. Y. B. SC. (COMPUTER SCIENCE) (SEM. IV)</p> <p>Name of the Subject : PAPER - 3 : DATA STRUCTURE</p> <p>Subject Code No. : 3 0 9 5 Section No. (1, 2,.....): Nil</p>	<p>Seat No. : [][][][][][][]</p> <p>Student's Signature</p>
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- 1 Answer in short : 14
- 1) List out non-primitive data structure.
 - 2) Define Binary tree.
 - 3) What is Forest and leaf node ?
 - 4) List disadvantages of Array.
 - 5) Convert $(A+B)*(C-D/E)*G+H$ into postfix.
 - 6) Define priority queue.
 - 7) List out application of stack.

- 2 6+6
- 1) Explain the concept of stack. Write a program to reverse a string.
 - 2) Write algorithms to perform PUSH, POP, PEEP operation on stack.

OR

- 2
- 1) Explain the difference between stack and queue. Discuss their functional difference.
 - 2) List out the various applications of stack. Write an algorithm to convert an infix expression into prefix expression.

- 3 1) What do you mean by queue ? List different types of queue. Write an algorithm to perform insertion and delete operations on circular queue. **6+6**
- 2) Compare circular queue with simple queue. Write an algorithm to perform insertion and deletion operation of circular queue.

OR

- 3 1) Define Dequeue. Write program to perform input and output operations on input restricted dequeue. **6+6**
- 2) Explain Quick sort with example.
- 4 1) Describe the concept of circular singly link list. Write an algorithm to perform insertion and deletion from particular position in circular singly link list. **6+6**
- 2) Explain the concept of link-list. How to create link-list and display its all nodes ? Explain using appropriate examples and figures.

OR

- 4 1) Write a detailed note on 2-3 tree and Height weight balanced tree. **6+6**
- 2) List the types of graph and explain them briefly.
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