

Question Paper

Exam Date & Time: 18-Apr-2018 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SCHOOL OF INFORMATION SCIENCES (SOIS) SECOND SEMESTER MSc (INFORMATION SCIENCE) DEGREE EXAMINATION - APRIL 2018

Wednesday, 18 April 2018

Time : 10:00 am to 1:00 pm

Data Structures and Algorithms [MIS 502]

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) What is Double Linked List? How it is different from Single Linked list? Explain the following operations of Double linked list a) Insert a node at a position b) Delete the node at the end (10)
- 2) Explain the implementation of a simple stack using arrays. (10)
- 3) What is a QUEUE? Explain the following operations in queue using arrays (10)
 - A. enqueue
 - B. dequeue
 - C. display the queue
- 4) What are the three types of notations to write expressions? Explain briefly. (10)
- 5) Convert Prefix to infix: (10)
 - 1). ++A-*\$BCD/+EF*GFI
 - 2). +-ABC
- 6) What are algorithms? Explain the characteristics of an algorithm? (10)
- 7) Explain the dynamic allocation of the node? List the linked list operations. (10)
- 8) What are the notations of Algorithms? Explain briefly. (10)
- 9) Explain the Selection sort with a neat code. (10)
- 10) Explain the Breadth first Search algorithm with an example. (10)

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