

**S.D.E.**  
**M.C.A. SEM -II : SUMMER - 2018**  
**SUBJECT : DATA STRUCTURES**

Day : **Monday**  
Date : **28/05/2018**

**S-2018-4608**

Time : **02.00 P.M. TO 05.00 P.M.**  
Max. Marks : 80

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**N.B.:**

- 1) Attempt **ANY FIVE** questions from Section – I and attempt **ANY TWO** questions from Section – II.
  - 2) Answers to both the sections should be written in **SEPARATE** answer books.
  - 3) Figures to the right indicate **FULL** marks.
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**SECTION – I**

- Q.1** Explain space complexity with suitable example. [10]
- Q.2** What is ADT? Discuss implementation of stack as ADT. [10]
- Q.3** What is hash? Explain any two hashing technique. [10]
- Q.4** What do you mean by quick sort? Explain with example. [10]
- Q.5** Explain Breadth first search with example. [10]
- Q.6** Explain conversion of infix to postfix notation. [10]
- Q.7** Write short note on **ANY TWO** of the following: [10]
- a) Recursion
  - b) Data structure
  - c) Queue

**SECTION – II**

- Q.8** Write a program to add and remove element from stack. [15]
- Q.9** Write a program for array implementation of queue. [15]
- Q.10** What is height balanced tree? Construct an AVL tree for the following [15]  
elements:  
4, 9, 11, 12, 3, 1, 8, 15

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