S.D.E.

B.C.A. (2004 Course Sem- II : WINTER - 2018

SUBJECT: C-PROGRAMMIGN & DATA STRUCTURES

Day: Friday
Date: 30/11/2018

Time: 10.00 AM TO 1.00 PM
Max. Marks: 80

W-2018-4508

N.B.:

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

SECTION-I

Q.1 What are Arrays? Explain 2D array with suitable example. **(10)**

Q.2 What is Union? How it is different than Structure? Explain with suitable example. **(10)**

Q.3 Explain Stack as ADT. Explain Push and Pop methods. Also differentiate it with Queue. **(10)**

Q.4 Write a C program to read a matrix and get its transpose in another matrix. **(10)**

Q.5 What is Linked-List? Implement insertion and deletion of element in it. **(10)**

Q.6 Write a C functions to read and sort array elements. Also use these functions in *main* function. **(10)**

Q.7 Write short notes on any **TWO** of the following: **(10)**

a) Formatted I/O
b) Extended Binary Tree
c) Dynamics memory allocation

SECTION-II

Q.8 Define Queue. Write functions to do various operations on Queue. Also give types of Queue. **(15)**

Q.9 Define a structure to represent a Student and write a C program with functions to write students details to a File and read it from File. **(15)**

Q.10 What is Tree Traversal? Implement BFS and DFS. **(15)**

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