27/3/2018

DOON UNIVERSITY, DEHRADUN

Mid Semester Examination, VIII Semester, 2018

Academic Year 2017-18 (Even Semester)

School of Technology

Programme Name: Integrated MCA

Course Code with Title: TMC-555:Programming Challenges

Time Allowed: 2Hours ***Maximum Marks: 30***

SECTION: A **(Total Marks: 3 × 2 = 6)**

Question 1: Define Graph?

Question 2: Define Degree in graph?

Question 3: Define stack and queue?

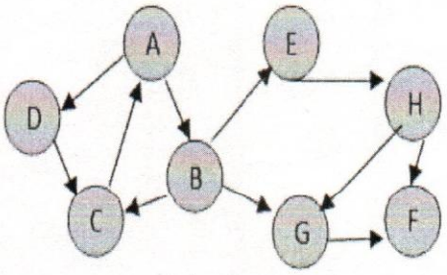
SECTION: B **(Total Marks: 2 × 6 = 12)**

Question 1: Discuss in detail about data structure used in graph?

Question 2: Write an algorithm of bubble sort?

SECTION: C **(Total Marks: 2 × 6 = 12)**

Question 1: Consider the following graph. If there is ever a decision between multiple neighbor nodes in the DFS algorithms, assume we always choose the letter closest to the beginning of the alphabet first.



Question 2: Find the shortest paths from a source vertex to all other vertices of a given weighted directed graph using Bellman Ford algorithm?