B.Tech. SEM -IV Electronics / E & TC) 2014 Course (CBCS) :
WINTER - 2018
SUBJECT: DATA STRUCTURE AND FILES

Day: Saturday **W-2018-2351** Time: 02.30 PM TO 05.30 PM
Date: 17/11/2018 Max. Marks: 60

N.B:

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Draw neat diagrams **WHEREVER** necessary.

Q.1 Differentiate between call by value and call by reference with examples of each. **(10)**

OR

Q.1 Differentiate between the following: **(10)**
i) Structure and array ii) Structure and union

Q.2 Define the following with examples: **(10)**
i) Abstract Data types
ii) Primitive data types
iii) Data structure
iv) Different approaches to designing an

OR

Q.2 Write down the algorithm for the following: **(10)**
i) Bubble sort ii) Selection sort
ii) Quick sort iv) Linear search

Q.3 Write down algorithms for the following:

a) Inserting a node at specified position of a single linked list **(05)**

b) Deleting a node at specified position of a single linked list. **(05)**

OR

Q.3 Write down algorithms for the following:

a) Deleting a node at specified position of a double linked list. **(05)**

b) Inserting a node at specified position of a circular linked list. **(05)**

Q.4 List down the types of Queue with examples. **(10)**

OR

Q.4 Evaluate: ABC+ CBA-+* where A = 1, B = 2, C = 3 using stacks. **(10)**

P.T.O.

Q.5 Define the following with respect to a tree: **(10)**

i) Siblings
ii) Depth
iii) Level
iv) Root node
v) Degree

OR

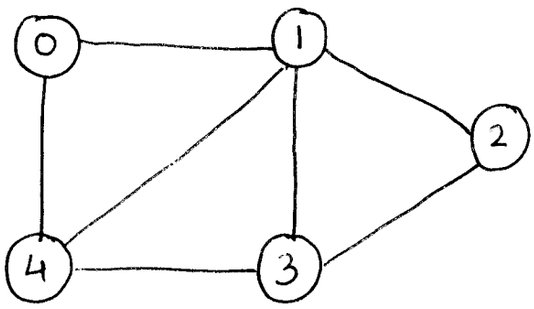
Q.5 What is Pre order traversal, in order traversal and post order traversal. Explain with an example. **(10)**

Q.6 Explain the following with respect to Graphs: **(10)**

i) Undirected graph
ii) Complete Graph
iii) Directed Graph
iv) Degree
v) Cycle

OR

Q.6 For the following graph Create adjacency matrix and adjacency list. **(10)**



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