



Ministry of Higher Education and
Scientific Research
University of Technology
Computer Sciences Department



Time: 3:00 hours
Date: / /2017
lecturer :MSc. Alyaa Hasan

Final Exam 2016/2017
second attempt

Subject: Data Structure
Class: 2nd
Branch: Software, Security
Information systems

Note: Answer four questions only

Q1) Having a Queue of size (10), write complete program to split the even values of the queue into other queue of size (5) and the odd values into stack of size (5). **(12.5 marks)**

Q2) Draw BST for the following sequence of keys: **(12.5 marks)**

60, 86, 12, 40, 20, 35, 90, 7, 73, 99

And perform the following in sequence:

- Insert **65, 10, 75**
- Delete **86, 7, 99**
- Write a function to print the tree using the postorder method.

Q3) Given a link list called (**plist**) contains five nodes, by using functions perform the following: **(12.5 marks)**

- Create the list.
- Insert two nodes at the beginning of the list.
- Find the max and min values in the list.
- Delete the third node in the list

Q4) Given a circular queue of size (10) contains (10) elements, write complete program to convert the even values to an array of size (10). **(12.5 marks)**

Q5) A- write complete program by using functions to construct a circular link list of size (10), and then put the negative values into an array of size (10) and then print the result. **(7.5 marks)**

B- List all the sort algorithms and then write one algorithm of them. **(5 marks)**

Good Luck