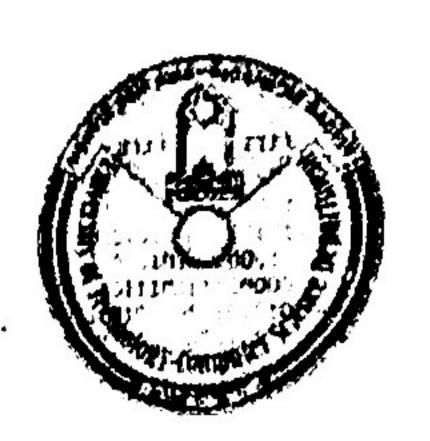


## University of Technology Department of Computer Science Final Exam / 2016 -2017

Subject: Object Oriented Prog. Branch: SW, IS, & AI

Examiners: Eklas Falih

Year: second
Time: 3 Hours
Date: 13/ 4/2017



## Note: Answer Four questions only (12.5 marks for each question)

Q1// Write an object oriented program to decrement the area of rectangle using (- -) operator overloading. The program includes a class called *rectangle*. The content of class rectangle are private integer numbers *length*, width, and ar .A function *get\_data()* to read the values of *length and width*, and a function show() to print the value of ar after decrement. In the main program define an array of 20 pointers of type rectangle objects and compute the summation of area.

Q2// Write an object oriented program to compute the division value of two integer numbers. The program includes a class called **number** which contains **x** and **y** as private data values and a constructer as public member. The program also includes a friend function called **div()** which receives an object of type number and returns the result value of division between x and y.

Q3// Write an object oriented program that include a class called Min for reading two data items item1, item2 from the keyboard and find the minimum between two data items class min includes two functions get() to read item1 and item2, and min\_value() to display the minimum value. Use the concept of template class to write the program on three objects of type integer elements, float elements and long elements.

Q4 // create a class called employee that stores the name (string) and number (int). From this class derives two classes: First class called manager, which has title(string). Second class called scientist, which has publications (int). Each of the three classes should have a getdata() function to get its data from the user at the keyboard, and a putdata() function to display the data.

Q5// Complete the following segments of code:

int main() { first f(4); f.show();	2) int main() { D3 d1(6); point d2(3,2); d1.func1(d2);	<pre>3) int main() { Counter c1(3); ++c1; return 0;</pre>
f.show(); return 0; }	d1.func1(d2); return 0; }	return 0; }

Signature: \_\_\_\_

Date: 1 /9 / 2017

