



## College of Engineering & Technology

Department: Mechanical Engineering  
Lecturer: Dr. Rola Afify  
Course Code: ME464

Marks: 20  
Time: 8:30 - 10:00  
Date: 11/5/2016

20

Name:

R.N.:

**Answer the following questions:**

### **Question one (10 marks)**

a) For each valve of the following [choose type (Direction control - Pressure control - Flow control) - draw symbol - write function]:-

• **Pressure-reducing valve**

• **Check valve**

• **Sequence valve**

• **Shuttle valve**

• **Needle valve**

### **Question two (10 marks)**

A) A vane pump is to have a volumetric displacement of  $5 \text{ cm}^3$ . It has a rotor diameter of 2 cm, a cam ring diameter of 3 cm, and a vane width of 2 cm. What must be the eccentricity?

B) Compare between Gear Pump and Radial Piston Pump.