# College of Engineering & Technology

Department: Mechanical Engineering   Marks: 15
Lecturer: Dr. Rola Afify                       Time: 9:30 – 10:10
Course Code: ME362                      Date: 20/3/2016

15

Name:                                                R. N.:

**Answer the following questions:**
**Question one (7 marks)**
A) Define:
- Kinematic viscosity:

- Vapour Pressure of a liquid:

B) Compare between Newtonian and Non-Newtonian Fluids.

**Question two (8 marks)**
A) A water bubble has a radius of 4mm. Determine the pressure difference between the inside and outside the droplet. Surface tension of water is $\sigma = 7.34 \times 10^{-2}$ N/m.

B) Two vertical parallel clean glass plates are spaced a distance of 2mm apart. If the plates are placed in water ($\sigma = 7.34 \times 10^{-2}$ N/m), how high will the water rise between the plates due to capillary action?