



## College of Engineering & Technology

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

Marks: 10  
Time: 3:00 - 4:00  
Date: 6/5/2014

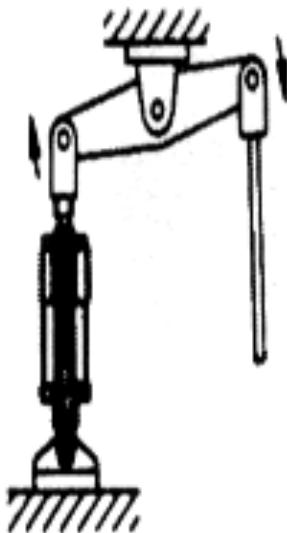
Name:

R.N.:

**Answer the following questions:**

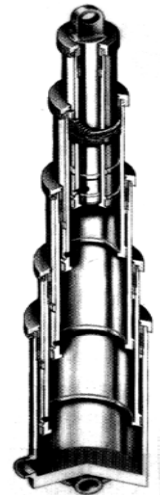
**Question one (3 marks)**

Why does the rod of a double-acting cylinder retract at a greater velocity than it extends for the same input flow rate?



**Question two (2 marks)**

Write down the words that represent each of the following:



**Question three (5 marks)**

A hydraulic motor has a displacement of  $163 \text{ cm}^3$  and operates with a pressure of 69 bar and a speed of 2000 rpm. If the actual flow rate consumed by the motor is  $0.006 \text{ m}^3/\text{s}$  and the actual torque delivered by the motor is 169 N.m., find

a-  $\eta_v$ ,  $\eta_m$ , and  $\eta_o$

b- The actual power delivered by motor

**Good Luck 1/1**  
*Dr. Rola Afify*