

Reg. No. \_\_\_\_\_

# Karunya University

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

## Model Question Paper (July 2012)

### End Semester Examination

Subject Title: FLUID POWER CONTROL ENGINEERING

Time : 3 hours

Subject Code: 09ME225

Maximum Marks: 100

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### Answer ALL questions

#### PART – A (10 x 1 = 10 MARKS)

1. Define automation.
2. Draw the circuit symbols for five of important hydraulic circuits?
3. Name the elements of hydraulic circuit?
4. Define accumulator?
5. Name some of hydraulic pumps?
6. Classify linear motors?
7. Give few examples for hydraulic circuits?
8. What are the fluidic elements?
9. Define low-cost automation?
10. Give some applications of pneumatics in CNC machining centers?

#### PART – B (5 x 3 = 15 MARKS)

11. Briefly explain the need for automation?
12. Distinguish between Non-return valve and relief valves?
13. Discuss the working of gear motor with neat sketch?
14. Explain quick return hydraulic circuit?
15. Narrate the components of a simple pneumatic circuit?

#### PART – C (5 x 15 = 75 MARKS)

16. (a) What are the laws of Boolean algebra, used in design and analysis of fluid power logic systems? (8)  
(b) Prove that  $A + (A \cdot B) = A$  using a truth table. (7)  
(OR)
17. Explain various symbols used in hydraulic circuits.
18. Explain in details the elements of a hydraulic system with neat sketch.  
(OR)
19. Discuss in details about mechanical-hydraulic servo systems?
20. Explain the working principles of Vane and Piston pumps.  
(OR)
21. Discuss in details about design and construction of linear actuator.
22. Explain pneumatic sequencing circuit, with neat diagram.  
(OR)
23. Discuss about various fluidic elements?
24. Explain low cost automation circuit for material handling.  
(OR)
25. Explain low cost automation circuit for hydraulic press.