A

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Property of a fluid by which its own molecules are attracted is called   CO1- U

   (a) Adhesion   (b) Cohesion   (c)Viscosity   (d) Compressibility

2. In flow, the liquid particles may possess   CO1- U

   (a) potential energy   (b) kinetic energy   (c) pressure energy   (d) all the above

3. Tandem cylinders can be used in   CO1- U

   (a) Synchronizing circuits.   (b) Mid stroke stop circuits

   (c) two speed circuits   (d) all of the above

4. Which of the following pumps is used for pumping viscous fluids......   CO1- U

   (a) Centrifugal pump   (b) Screw pump

   (c) Reciprocating pump   (d) Jet pump

5. Shuttle valves allow flow in.   CO1- U

   (a) one direction only   (b) both directions

   (c) either direction after reaching set pressure   (d) none of these

6. Check valve is a type of   CO1- U

   (a) pressure reducing valve   (b) pressure relief valve

   (c) directional control valve   (d) none of the above

7. P V = Constant   CO1- U

   (a) Boyle's law   (b) Charle's law   (c) Gay-Lussac's law   (d) General gas law

8. The Lubricator in a line pneumatic circuit is the   CO1- U

   (a) First element in line   (b) Second element in line

   (c) Last element in line   (d) Third element in line

9. In an automatic control system which of the following elements is not   CO1- U
   used?

   (a) Error detector   (b) Final control element   (c) Sensor   (d) Oscillator

10 A servo valve circuit _____ has a feedback signal to the   CO1- U
   electronic controller

   (a) sometime   (b) never   (c) always   (d) alternatively

                         PART – B (5 x 2= 10 Marks)

11 Explain the Laminar and Turbulent Flow.   CO1- U

12 Explain the Pumping theory   CO1- U

13 List out the types of valve actuation methods.   CO1- U

14 Explain the function of air filter and dryer   CO1- U

15 Differentiate pressure switch and temperature switch   CO1- U

                         PART – C (5 x 16= 80 Marks)

16 (a) Discuss the properties of the Hydraulic fluids.   CO1-U   (16)
                                    Or
   (b) What is Fluid power system? Explain the working principle of CO1-U   (16)
        Pneumatic Power System

17 (a) Explain the construction and working principle of Swash plate CO1-U   (16)
        type piston pump with neat sketch.
                                    Or
   (b) Explain the construction and working principles of Gear motors CO1-U   (16)
        with neat sketch. And also mention merits and demerits

18 (a) Explain any two application circuits employing accumulator for CO1-U   (16)
        different purposes with neat sketch.
                                    Or
   (b) Explain the construction and working principle of Intensifier CO1-U   (16)
        circuit with neat sketch.

99703

19 (a) Explain the construction and working principle of a FRL Unit   CO1-U   (16)
.   with neat sketch

                                   Or

   (b) Three pneumatic cylinders A, B, and C are used in an automatic   CO6-C   (16)
       sequence of operation. A cylinder extend, B cylinder extends, B
       cylinder retracts and then A cylinder retracts, C cylinder extends,
       C cylinder retracts. Develop pneumatic circuits by cascade
       method.

20 (a) Explain the construction and operation of proportional pressure   CO1-U   (16)
.   relief valve.

                                   Or

   (b) List out any five types of faults that can be found in compressors.   CO1-U   (16)
       Also write the remedial actions for the faults.

99703