

22349

11920

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

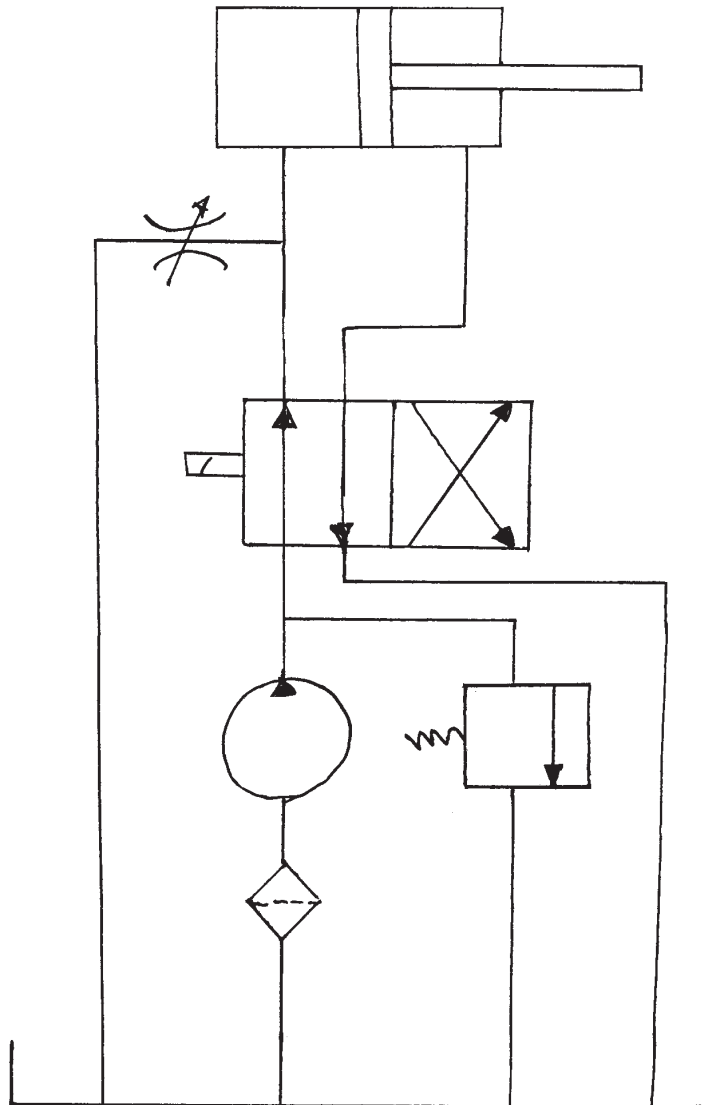
- 1. Attempt any FIVE of the following: 10**
- List the essential component of Hydraulic system. (any four)
 - State the functions of seals and gaskets.
 - Draw the symbol of FRL unit used in pneumatic circuit.
 - State one application of each meter in in and meter out circuit.
 - Differentiate strainer with filter.
 - Draw the symbol of air motor and air pump.
 - State the application of hydropneumatic system.
- 2. Attempt any THREE of the following: 12**
- Draw and label a neat sketch of layout of Hydraulic system.
 - Define viscosity and surface tension.
 - State any four fault and their remedies in hydraulic circuit for plastic processing machine.
 - Classify fluids and define three fluids.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) Explain with neat sketch of screw type pump.
 - b) List the types of air compressor. Draw a neat label sketch of Reciprocating compressor.
 - c) Explain construction and working of sequencing of single cylinder based on time delay circuit.
 - d) Compare hydraulic and pneumatic circuit. (any four points)
- 4. Attempt any THREE of the following:** **12**
- a) Explain with neat sketch of piston type air motor.
 - b) Give two merits and demerit of hydro-pneumatic circuit.
 - c) Draw the symbol for:
 - (i) Telescopic cylinder
 - (ii) 4/2 D.C. valve
 - (iii) Filter
 - (iv) Pneumatic pump
 - d) Select suitable pneumatic circuit for blow moulding machine.
 - e) Explain a meter - out hydraulic circuit.
- 5. Attempt any TWO of the following:** **12**
- a) Suggest causes and remedies for fault in pneumatic system.
 - b) Explain with neat sketch 4/2 direction control valve used in hydraulic circuit.
 - c) Explain hydraulic circuit used in compression moulding machine along with its sketch.

6. Attempt any TWO of the following:

- a) (i) List the different accessories used in pneumatic system.
(ii) Classify actuators
- b) Describe maintenance of pipe fitting in pneumatic system with precautions to be taken.
- c) (i) Identify the following circuit in Figure No. 1

**Fig. No. 1**

- (ii) Label it and explain its working.
- (iii) State its applications.
