



C14-M-505

4646

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DME - V SEMESTER EXAMINATION

FLUID POWER CONTROL SYSTEMS

Time : 3 Hours]

[Total Marks : 80

PART - A

3×10=30

Instructions :

- (1) Answer **ALL** questions.
- (2) Each question carries **THREE** marks.
- (3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1 State the advantages of fluid power systems.
- 2 List any three industrial applications of fluid power system.
- 3 State the various types of hydraulic actuators.
- 4 State the functions of flow control valve.
- 5 Classify flow control valves.
- 6 Draw the graphic symbols of :
 - (a) Check valve
 - (b) Double acting cylinder
 - (c) Spring loaded accumulator
- 7 Define the term pneumatics.
- 8 State the Charle's law.
- 9 State the differences between single acting cylinder and double acting cylinder.
- 10 State the basic rules used in design of pneumatic circuits.

4646]

1

[Contd...

PART - B**10×5=50**

- Instructions :**
- (1) Answer any **FIVE** questions.
 - (2) Each question carries **TEN** marks.
 - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11 Sketch and explain the working of external and internal gear pumps.
- 12 (a) List out various classifications of hydraulic motors.
(b) Sketch and explain a piston motor.
- 13 (a) State types of hydraulic cylinders.
(b) Explain Tandem cylinder in hydraulics.
- 14 Explain the three way directional control valve with a neat sketch.
- 15 What is the purpose of counter balance valve ? Explain its application with a neat sketch.
- 16 Draw and explain safety circuit for protection against overload.
- 17 Explain following cylinders used in pneumatic system :
 - (a) Telescopic cylinder
 - (b) Cable cylinder
- 18 Explain the control of single acting cylinder with 'OR' valve.