

## **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Explain directional control of a single acting pneumatic cylinder using push-button operated 2-way DC valve (CO-05)
- Q.24 Define control valve. Explain the construction and working of poppet valve. (CO-03)
- Q.25 Explain the cylinder mounting arrangements with neat diagrams. What are the different types of seals for preventing leakage in cylinders? (CO-04)

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**4th Sem / Automation & Robotics**

**Subject : Fluid Power Systems**

Time : 3 Hrs.

M.M. : 60

## **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Which of the following is not fluid power circuit component? (CO-01)  
a) Pipes                          b) Cylinders  
c) Control valves              d) Meters
- Q.2 What is the function of air dryer? (CO-02)  
a) Removes dirt  
b) Removes moisture  
c) Controls the rate of flow  
d) Controls the pressure
- Q.3 Which helps in automatically shutting down the motor when the receiver reaches the factory set limit? (CO-02)  
a) Motor                          b) Pressure switch  
c) Tank                            d) Drain valve

Q.4 Choose the type of storage reservoir where the liquid is maintained at high pressure. (CO-04)

- a) Hydraulic crane
- b) Hydraulic pump
- c) Hydraulic gear
- d) Hydraulic accumulator

Q.5 Which of the following is not a type of control valve? (CO-04)

- a) Directional                  b) Pressure
- c) Cylinder                      d) Flow control

Q.6 Which among the following are not the main selection criteria for selection of hydraulic pumps? (CO-04)

- a) Weight                        b) Pressure
- c) Speed                         d) Discharge

### **SECTION-B**

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define Force. (CO-01)

Q.8 What do you mean by fluid circuit power supplies? (CO-01)

Q.9 What is the purpose of pressure regulator? (CO-02)

Q.10 Write the function of air compressor? (CO-02)

Q.11 Name any one type of special valve. (CO-03)

Q.12 Define Torque. (CO-04)

### **SECTION-C**

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Define prime mover. Compare electrical, hydraulic and pneumatic system. (CO-01)

Q.14 State and explain Pascal's law. (CO-01)

Q.15 Illustrate with diagram, the operation of hydraulic pump. (CO-02)

Q.16 List the types of air compressors. Explain the working of anyone air compressor. (CO-02)

Q.17 What is the need of air treatment? Explain the role of compressor, receiver and lubrication in air treatment. (CO-02)

Q.18 Draw the graphic symbols of two/three position valves. (CO-03)

Q.19 Draw the symbol and write applications of pilot operated check valve. (CO-03)

Q.20 Explain cylinder cushioning with neat diagram. (CO-04)

Q.21 Define rotary actuators. Explain torque/speed and power/speed curves of pneumatic rotary actuators. (CO-04)

Q.22 What are different types of working fluids? Write their properties. (CO-02)