

What do you understand by hydraulic system design? Also discuss in detail the various types of fluids used in hydraulics. CO2

- Q. 4. Draw and explain the circuit diagram to control hydraulic double acting cylinder with the condition that cylinder can be stopped anywhere between extreme positions. CO3

OR

Why speed control is less accurate in Pneumatic systems? Also differentiate between throttle in and throttle out speed control circuit in Pneumatic with the help of a neat diagram. CO3

- Q. 5. What is the use of teach pendent in robot programming. Also give the methods of robot programming. CO4

OR

How are transfer devices classified? Also describe the construction, working principle and important applications of any two types of transfer devices. CO4

- Q. 6. Discuss the construction of PLC and microprocessor and describe their use in industrial applications with the help of suitable examples. CO5

OR

Why Robots are employed in industries? Also differentiate four common types of robot configuration with the help of neat diagram. CO5
