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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B.E. - Industrial Production and Engineering

Make-up Examination; March/April - 2022

Hydraulic and Pneumatics

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting at least ONE full question from each unit.

UNIT - I

- 1 a. With sketch, explain Pumping theory in hydraulics system. 10
- b. List five advantages and disadvantages of hydraulic system. 10
- 2 a. With sketch, explain the structure of Hydraulic control system. 10
- b. With sketch, describe the working of a double acting cylinder. 10

UNIT - II

- 3 a. With sketch, explain the construction of pilot controlled pressure relief valve, 10
- b. With sketch, explain the construction of check valve. 10
- 4 a. With sketch, explain the construction and working of 2/2 and 4/2 direction control valve. 10
- b. With sketch, explain the construction of pressure relief valve. 10

UNIT - III

- 5 a. With sketch, explain the construction of Counter balance Valve application circuit. 10
- b. With sketch, explain the construction of Hydraulic Cylinder sequencing circuit. 10
- 6 a. With sketch, explain the hydraulic circuit of speed control of a Hydraulic cylinder. 10
- b. With sketch, explain the circuit of accumulator used as an emergency power source in hydraulic system. 10

UNIT - IV

- 7 a. Explain the desirable properties of hydraulic fluids in fluid power systems. 10
- b. With sketch, explain Reservoir system in hydraulic system. 10
- 8 a. Explain the Problem caused by Gases in Hydraulic Fluids. 10
- b. Explain any two locations of filters in hydraulic circuits. 10

UNIT - V

- 9 a. With sketch, explain the construction of Structure of Pneumatic control System. 10
- b. With sketch, explain the construction of double acting compressor in pneumatic system. 10
- 10 a. With sketch, explain the construction of gear motor in pneumatic system. 10
- b. With sketch, explain the construction of axial flow compressor in pneumatic system. 10

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