

CBCS SCHEME

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18AU56

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 Hydraulics and Pneumatics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Describe the construction and working of radial piston pump. (10 Marks)
b. Explain the construction and working of external gear type motor. (10 Marks)

OR

- 2 a. Discuss the construction and working of vane type motor. (10 Marks)
b. With a neat sketch derive an expression for first class lever system with hydraulic cylinder to drive a load. (10 Marks)

Module-2

- 3 a. Describe the construction and working of direct acting pressure relief valve. (10 Marks)
b. Explain with a neat sketch construction and working of pressure sequence valve. (10 Marks)

OR

- 4 a. Explain with a neat sketch constructional feature of a hydraulic reservoir. Also state the functions of reservoir. (10 Marks)
b. Explain full flow and bypass filter. (06 Marks)
c. State the causes and remedies for low pressure. (04 Marks)

Module-3

- 5 a. With a relevant figure, discuss sequence valve circuit. (10 Marks)
b. Discuss the working of counter balance valve circuit with suitable figure. (10 Marks)

OR

- 6 a. Discuss the speed control of hydraulic cylinder using meter in circuit. (10 Marks)
b. Describe accumulator as emergency power source. (10 Marks)

Module-4

- 7 a. Discuss the characteristics of compressed air. (10 Marks)
b. Describe the filters and lubricators used in a pneumatic system with relevant figure. (10 Marks)

OR

- 8 a. With a neat sketch, explain Quick Exhaust Valve. (10 Marks)
b. Discuss the 3/2 poppet valve with suitable figure. (10 Marks)

Module-5

- 9 a. Describe the Cascade method of Pneumatic circuit diagram. (12 Marks)
b. With relevant line diagram, explain motion and control diagram. (08 Marks)

OR

- 10 a. With suitable figure explain i) Limit switches ii) Relay. (12 Marks)
b. With a circuit diagram, explain pilot assisted Solenoid control of DC valves. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.