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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 and Production Engineering

Semester End Examination; May/ June - 2019

Hydraulic and Pneumatics

Time: 3 hrs

Max. Marks: 100

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

UNIT - I

- 1 a. Differentiate between Gear pump and Gear motor with symbolic representation. 8
 b. With a neat sketch, explain vane pump. 12
 2 a. With a neat sketch, explain linear hydraulic actuators. 8
 b. With a neat sketch, explain the construction and working principle of hydraulic Gear motor. 12

UNIT - II

- 3 a. With a neat sketch, explain the construction of check valve. 8
 b. With a neat sketch, explain the construction and symbolic representation of 2/2 and 3/2 DCV. 12
 4 a. With a neat sketch, explain the construction of pressure relief valve. 10
 b. With a neat sketch, explain the construction of counter balance valve. 10

UNIT - III

- 5 a. With a neat sketch, explain the construction of regenerative circuit in hydraulic system. 10
 b. With a neat sketch, explain the construction of hydraulic cylinder sequence circuit. 10
 6 a. Define an accumulator. With a neat sketch, explain spring loaded accumulator. 10
 b. With a neat sketch, explain the construction of an accumulator used as an emergency power source. 10

UNIT - IV

- 7 a. Explain the desirable properties of Hydraulic fluid. 10
 b. With a neat sketch, explain the static and dynamic seals. 10
 8 a. With a neat sketch, explain wear of moving parts due to solid contamination. 10
 b. With a neat sketch, explain the construction of pressure side filters. 10

UNIT - V

- 9 a. Sketch and explain the construction and working of low pressure dryer for reducing the moisture contents in air in pneumatic systems. 12
 b. With a neat sketch, explain the vane compressor. 8
 10 a. With a neat sketch, explain the construction and working of two stage compressor. 10
 b. With a neat sketch, explain the construction and working principle of centrifugal compressor. 10

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