

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--

Question Paper Code: 59704

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2020

Elective

Mechanical Engineering

15UME904 - APPLIED HYDRAULICS AND PNEUMATICS

(Regulation 2015)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The components of Hydraulic system is/are CO1- R
(a) Reservoir (b) Compressor (c) Both (a) and (b) (d) Pump
2. Which system have high stability CO1- U
(a) Electrical Power System (b) Mechanical Power System
(c) Hydraulic power system (d) All of the above
3. A pump which develops a constant output is called _____ CO2-R
(a) a high efficient pump (b) a positive displacement pump
(c) Calorific value (d) an impeller pump
4. Maximum swash plate angle for axial piston pump is CO2-R
(a) 0° (b) 15° (c) 17.5° (d) 22.5°
5. Gas loaded accumulators works on the basis of the CO3- U
(a) Pascal law (b) Boyle's law (c) Both (a) and (b) (d) All of the above
6. Pressure Intensifier is a device used to _____ the pressure of a hydraulic system. CO3- R
(a) Decrease (b) Maintain (c) Boost – up (d) Divide
7. Air processing equipment is/are CO4- U
(a) Air filter (b) Air dryer (c) Air lubricator (d) All of the above
8. $P V = \text{Constant}$ CO4- R
(a) Boyle's law (b) Charle's law
(c) Gay-Lussac's law (d) General gas law

9. A servomechanism usually consist of CO5- U
- (a) Error actuated signal (b) Power amplifier
(c) Mechanical output (d) All of the above
10. The flow control valve is located in the outlet line of the hydraulic cylinder. CO5- U
- (a) Regenerative circuits (b) Meter-in circuit
(c) Meter-out circuit (d) Fail-safe circuit

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Discuss the factors to be considered in the selection of good Hydraulic fluids. CO1- U (8)
12. Explain the construction and working principle of cushioned cylinder. CO2- U (8)
13. Explain the construction and working principle of sequence valve with neat sketch. CO3- U (8)
14. Explain the construction and working of Air filter with neat sketch. CO4- U (8)
15. Explain the electro hydraulic servo system with neat sketch. CO5- U (8)