CBCS SCHEME

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BMR405D

Fourth Semester B.E./B.Tech. Degree Examination, June/July 2024
Hydraulics and Pneumatics

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	List and explain the advantages and applications of Fluid power systems.	10	L1	CO1
	b.	Explain the components of a fluid power system, with neat sketch.	10	L2	CO1
		OR			
Q.2	a.	List and explain the properties of an ideal hydraulic fluid.	10	L1	CO1
	b.	With a neat sketch, explain external gear pump.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the types of cylinders with simple sketches.	10	L2	CO2
	b.	Write the classification of motors and explain vane motor.	10	L2	CO2
		OR			
Q.4	a.	Write the classification of Direction Control Valve and explain any two of them.	10	L2	CO2
	b.	List the types of pressure control valves and explain pressure sequence valve.	10	L2	CO2
		Module – 3			
Q.5	a.	Explain the types of accumulators with neat sketch.	10	L2	CO3
	b.	Design and explain Regenerative cylinder circuit.	10	L3	CO3
		OR			
Q.6	a.	Explain the important considerations while designing the industrial hydraulic circuits.	10	L2	CO3
	b.	Design and explain Fail-safe circuit.	10	L3	CO3
		Module – 4			
Q.7	a.	Differentiate between Hydraulic system and Pneumatic system.	5	L2	CO4
	b.	Explain the application of Pneumatics.	5	L2	CO4
	c.	Explain the basic components of pneumatic system.	10	L3	CO4
		OR			
Q.8	a.	Explain : (i) Electro-pneumatic control system. (ii) Basic electrical devices.	10	L2	CO4
	b.	Design a circuit to Supply Air Throttling.	10	L3	CO4
		Module – 5			
Q.9	a.	Explain the trouble shooting in pneumatic system. Identify the key steps in trouble shooting.	10	L3	CO5
	b.	Design a hydraulic circuit for drilling operation.	10	L4	CO5

		OR			
Q.10	a.	Describe Hydraulic and Pneumatic power packs and identify the various applications of them and explain in detail.	10	L3	CO5
	b.	Design a circuit for shaping operation.	10	L4	CO5

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