Question Paper Code | 12934

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Fifth Semester

Mechanical Engineering

20MEEL506 - APPLIED HYDRAULICS AND PNEUMATICS

Regulations - 2020

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks	K-Level	CO
1.	What is Fluid?	2	K1	CO1
2.	Define Pascal Law.	2	K1	CO1
3.	What is a Hydraulic actuator?	2	K1	CO2
4.	How is single acting cylinder retracted?	2	K1	CO2
5.	Write the function of an accumulator	2	K1	CO3
6.	List any four applications of intensifier.	2	K1	CO3
7.	Recall the function of Pressure Regulator in a pneumatic system.	2	K1	CO4
8.	Name the various types of filters used in the pneumatic system.	2	K1	CO4
9.	What is a power pack?	2	K1	CO5
10.	Differentiate between hydraulic and pneumatic systems.	2	K2	CO5

PART - B (5 ×16 = 80 Marks)
Answer **Any FIVE** Questions

		Marks	K-Level	CO
1.	With neat sketch explain any two applications of Pascal Laws.	16	K2	CO1
2.	Explain the working of principal of Gear pump and its types with neat sketch.	16	K2	CO1
3.	With neat sketch explain the working principle of Telescopic and cushioning cylinder.	16	K2	CO2
4.	Explain Air-Over Oil Intensifier and Pressure Intensifier with neat sketch.	16	K2	CO3
5.	Explain FRL Unit with Neat Sketch.	16	K2	CO4
6.	Design a pneumatic cascade circuit for the following sequence of operation: A+ B +B -C +C -A -.	16	K2	CO4
7.	Explain and draw the circuit using the various hydraulic components for drilling operation.	16	K2	CO5
8.	Explain in detail about how the failure and troubleshooting is carried out in a pneumatic system.	16	K2	CO6

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create