

Q.21 Explain how a pressure relief valve works in a hydraulic system. (CO8)

Q.22 Explain viscosity and surface tension. (CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Describe the working of a hydraulic lift with reference of Pascal's Law. (CO1)

Q.24 Explain working principal of reciprocating pump with neat sketch. (CO5)

Q.25 Explain the construction and working of a hydraulic power pack and its industrial applications. (CO3)

(**Note :** Course outcome/CO is for office use only)

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3rd Year / Advance Diploma in Tool & Die Making

Subject:- Hydraulics and Pneumatics

Time : 3Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 What is the unit of pressure in the SI system?

- a) Pascal b) Newton
- c) Joule d) Meter

Q.2 Hydraulic systems work based on which principle?

- a) Bernoulli's Principle
- b) Newton's Third law
- c) Pascal's law
- d) Archimedes' Principle

Q.3 In a pneumatic system, the air is compressed using a:

- a) Valve b) Cylinder
- c) Compressor d) Reservoir

- Q.4 Which of the following is used to store energy in a hydraulic system?
- a) Pump b) Accumulator
c) Flow meter d) Gauge
- Q.5 What type of flow is characterized by smooth layers of fluid moving parallel to each other?
- a) Laminar flow b) Turbulent flow
c) Circular flow d) Vortex flow
- Q.6 A device used to control the direction of fluid in a hydraulic system is called a :
- a) Pump b) Valve
c) Actuator d) Motor

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 The ability of a fluid to resist flow is called _____. (CO1)
- Q.8 In pneumatic, compressed air is stored in a _____. (CO8)
- Q.9 _____ is the law of states that pressure applied to a confined fluid is transmitted equally in all directions. (CO3)

(2)

222031

- Q.10 The component used to increase pressure in a hydraulic system is called a _____. (CO5)
- Q.11 A manometer is used to measure _____. (CO3)
- Q.12 Hydraulic actuators produce _____ motion by converting fluid pressure into force. (CO6)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Explain the difference between hydraulic and pneumatic systems. (CO7)
- Q.14 What is Pascal's Law? Explain with a simple example. (CO1)
- Q.15 How does a hydraulic pump work? (CO4)
- Q.16 Define laminar and turbulent flow. (CO1)
- Q.17 What is the role of a compressor in a pneumatic system? (CO5)
- Q.18 Why is oil preferred over water as a hydraulic fluid? (CO8)
- Q.19 What are the advantages of pneumatic systems over hydraulic systems? (CO4)
- Q.20 What is the function of a directional control valve in a hydraulic system? (CO8)

(3)

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