

- Q.24 Sketch and explain pilot-operated sequence valve? (CO-2)
 Q.25 Explain air motors. (CO-2)
 Q.26 State Bernoulli's theorem with application. (CO-1)
 Q.27 Write a short note on the necessity of filter regulator and lubrication in pneumatic circuit? (CO-4)
 Q.28 Write application of pneumatic system in engineering field. (CO-1)
 Q.29 What is the function of a pneumatic cylinder in a pneumatic system? (CO-4)
 Q.30 what is pump cavitation and what is its cause? (CO-4)
 Q.31 What is the function of cushioning in cylinders. (CO-4)
 Q.32 Explain mass flow rate. (CO-3)
 Q.33 What is an airvessel? What are the functions of air vessel in suction and delivery sides in a reciprocating piston pump? (CO-2)
 Q.34 Draw a hydraulic circuit with ISO symbols. (CO-5)
 Q.35 Explain working principle of centrifugal pump. (CO-2)

SECTION-D

- Note:** Long answer type questions. Attempt any Two question out of three questions. (2x10=20)
- Q.36 Describe construction and working of rotary type compressor with neat sketch. (CO-2)
 Q.37 Explain pneumatic valves with neat sketch. (CO-2)
 Q.38 Write short note on followings. (CO-1,4)
 a) Compressible fluid b) Pascal's law

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4th Semi / MSME Subject : Hydraulic & Pneumatic Systems

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note : Multiple choice types questions. All questions are compulsory. (10x1=10)

- Q.1 When comparing the operating cost of hydraulic system of pneumatic system, generally they are (CO-1)
 - a) More expensive to operate
 - b) Less expensive to operate
 - c) Cost is same to operate
 - d) Cost is not required
 Q.2 The Bernoulli equation is based on the principle of conservation of (CO-1)
 - a) Mass
 - b) Force
 - c) Momentum
 - d) Energy
 Q.3 Valves are mainly (CO-2)
 - a) Direction control valves
 - b) Pressure control valves
 - c) Flow control valves
 - d) All of the above
 Q.4 One way valve that lets air into the reservoir of a compressor, but does not let it out, is a (CO-2)
 - a) Check valve
 - b) Receiver valve
 - c) Control valve
 - d) Three-way valve

- Q.5 Main function of centrifugal pump is to (CO-2)
 a) Transfer speed b) Transfer pressure
 c) Transfer temperature d) Transfer energy
- Q.6 Which one of the following is a type of actuator in a hydraulic system? (CO-2)
 a) Pump b) Valve
 c) Strainer d) Cylinder
- Q.7 The positive displacement compressor is a (CO-4)
 a) Root blower compressor
 b) Vane blower compressor
 c) Axial compressor
 d) Both A & B
- Q.8 Air filters are used in pneumatic system to (CO-4)
 a) Pressure entrance of solid contaminants in the system
 b) To remove moisture from the air
 c) To remove sub micron particles
 d) All of the above
- Q.9 Air motor are (CO-4)
 a) Actuators
 b) Meant to convert high air pressure into mechanical energy
 c) To increase the air pressure as a sort of compressors
 d) To convert pressure energy of air into high-speed rotary motion
- Q.10 the study of pneumatic deals with system operated with (CO-1)
 a) Oil b) Solid
 c) Water d) Air

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Specific volume is reciprocal of _____.(CO-1)
- Q.12 the primary purpose of a _____ system the transfer of energy from one location to another and the conversion of this energy into useful work.(CO-1)
- Q.13 Priming is necessary for a _____ pump. (CO-2)
- Q.14 The main function of pressure regulator in a pneumatic system is to stop the incoming pressure to the system. (True/False) (CO-4)
- Q.15 Gerotor motor used is usually used high pressure. (True/False) (CO-5)
- Q.16 In pneumatic system, medium used is _____.(CO-4)
- Q.17 _____ is used to increase pressure in the pneumatic system. (CO-4)
- Q.18 _____ is used to convert the power of hydraulic pressurized oil into mechanical energy. (CO-2)
- Q.19 full form of FRL is _____. (CO-4)
- Q.20 Density of fluid does not changes during the process of flow is known as _____ (CO-3)

SECTION-C

- Note:** Short answer type questions. Attempt any Twelve question put of fifteen questions. (12x5=60)
- Q.21 Explain Continuity equation? (CO-1)
- Q.22 Write a note on pipe material, types of fittings and connectors in the fluid system. (CO-2)
- Q.23 Differentiate between external gear pump and lobe pump. (CO-1)