Chettinad College of Engineering & Technology
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Department Mechanical Engineering

ME8694- Hydraulics and Pneumatics

Unit I - MCQ Bank

1. In which type of system does power transmission takes place through compressed air?
   A. Fluid power system
   B. Hydraulic system
   C. **Pneumatic system**
   D. Stepper motors
   Answer: (C)
2. Which part of the Pneumatic system stores the compressed air?
   A. Air dryer
   B. Air compressor
   C. **Air receiver tank**
   D. Air lubricator
   Answer: (C)
3. Which type of component in the hydraulic system supports less vibration and noise?
   A. Flow control valve
   B. Oil reservoir
   C. **Rotatory pumps**
   D. Pressure gauge
   Answer: (C)
4. Which among the following are not the main selection criteria for selection of hydraulic pumps?
   A. Discharge
   B. Pressure
   C. Speed
   D. **Weight**
   Answer: (D)
5. Which type of system uses ‘oil under pressure’ means for power transmission?
   A. Fluid power system
   B. **Hydraulic system**
   C. Pneumatic system
   D. Stepper motors
   Answer: (B)

6. The force developed in hydraulic systems is high due to ____
   A. **high pressure**
   B. more oil
   C. less pressure
   D. less oil
   Answer: (A)
7. Which component of a hydraulic system is used to store the sufficient amount of hydraulic oil?
   A. Rotatory pumps
   B. **Oil reservoir**
   C. Flow control valve
   D. Pressure gauge
   Answer: (B)
8. Heavy lifting work is often accomplished by shifting fluids in big machines. The power system of such machines can be described as
   A. Reciprocating
   B. Pneumatic
   C. **Hydraulic**
   D. Hybrid
   Answer: (C)
9. The scientific principle that makes hydraulic systems possible is
   A. **Pascal's principle**
   B. Boyle's law
   C. Bernoulli's principle
   D. The fluid flow principle
   Answer: (A)
10. Pneumatic and other power systems can support three kinds of motion; they are
    A. Linear, reciprocating, and random motion
    B. Linear, flowing, and rotary motion
    C. Linear, zigzag, and spiral motion
    D. **Linear, reciprocating, and rotary motion**
    Answer: (D)
11. Which one of the following is the unit of mass density?
    A. **$kg = m^3$**
    B. $kg = m^2$
    C. kg = m
    D. kg = ms
    Answer: (A)
12. The specific gravity of a liquid has
    A. the same unit as that of mass density
    B. the same unit as that of weight density
    C. the same unit as that of specific volume
    D. **no unit**

Answer: (A)

13. The specific volume of a liquid is the reciprocal of
    A. weight density
    B. **mass density**
    C. specific weight
    D. specific volume
    Answer: (B)
14. Which one of the following is the unit of specific weight?
    A. **N = m^3**
    B. N = m^2
    C. N = m
    D. N = ms
    Answer: (A)
15. Two fluids 1 and 2 have mass densities of p1 and p2 respectively. If p1 > p2, which one of the following expressions will represent the relation between their specific volumes v1 and v2?
    A. v1 > v2
    B. **v1 < v2**
    C. v1 = v2
    D. Cannot be determined due to insufficient information.
    Answer: (B)
16. Pumps used in hydraulic applications are
    A. Positive displacement pumps
    B. Variable displacement pumps
    C. Fixed displacement pumps
    D. **All the above**
    Answer: (D)
17. What is a positive displacement pump?
    A. Oil from suction side of the pump flows completely to the delivery side
    B. Volume of fluid discharged cannot return back to the suction side of the pump
    C. Discharges fixed volume of fluid every cycle
    D. **All the above**
    Answer: (D)
18. Positive displacement pump used in hydraulic systems have
    A. **High viscosity of fluids**
    B. Low efficiency
    C. Required volume of fluid cannot be discharged
    D. All the above
    Answer: (A)

19. Which of the following is a hydrodynamic pump?
    A. Vane pump
    B. **Centrifugal pump**
    C. Gear pump
    D. Piston pump
    Answer: (B)
20. Which type of displacement is observed in gear pumps?
    A. Only variable displacement
    B. **Only fixed displacement**
    C. Both fixed and variable displacement
    D. None of the above
    Answer: (B)
21. What is the principle of operation used in gear pumps?
    A. Two gears rotate in same direction
    B. **Two gears rotate in opposite direction**
    C. Both a and b
    D. None of the above
    Answer: (B)
22. What causes suction of fluid into the gear pump?
    A. **When pressure drops during disengagement of teeth at the suction side**
    B. When pressure increases during disengagement of teeth at the suction side
    C. When pressure drops during engagement of teeth at the suction side
    D. When pressure increases during engagement of teeth at the suction side
    Answer: (A)
23. Pump transfers the mechanical energy of a motor or of an engine into _____ of a fluid
    A. **Pressure energy**
    B. Kinetic energy
    C. Either pressure energy or kinetic energy
    D. Pressure energy, kinetic energy or both
    Answer: (A)
24. Which of the following is NOT a type of positive displacement pumps?
    A. Reciprocating pump
    B. Rotary displacement pump
    C. **Centrifugal pump**
    D. None of the above
    Answer: (C)
25. The process of filling the liquid into the suction pipe and pump casing upto delivery valve is called
    A. Filling
    B. Pumping
    C. Priming
    D. Levelling
    Answer: (C)