

## QUESTION BANK FOR UNIT TEST - 1

PROGRAM: MECHANICAL ENGINEERING

CLASS: THIRD YEAR

COURSE: INDUSTRIAL HYDRAULICS AND PNEUMATICS

COURSE CODE: 316363

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### CHAPTER 1- 2 MARKS QUESTIONS

- 1) Draw general layout of Pneumatic system.
- 2) Draw ISO symbol of
  - a) Three-way two position normally closed poppet type direction control valve.
  - b) Bi-directional variable displacement hydraulic pump.
- 3) State any two methods of actuation of DC valve with their symbols.
- 4) Draw ISO symbols of
  - a) Dead weight accumulator b) Unloading valve.
- 5) Write any two applications of hydraulic and pneumatic systems.
- 6) What is meaning of SAE10W.

### CHAPTER 1- 4 MARKS QUESTIONS

- 7) Compare Hydraulic, Pneumatic and Electric systems (any 4 points).
- 8) List different types of filters explain any one with sketch.
- 9) Explain construction and working of FRL unit.
- 10) Define any four properties of hydraulic oil.
- 11) State Venturi effect and explain with neat sketch the function of lubricator used in pneumatic system.

### CHAPTER 2- 2 MARKS QUESTIONS

- 1) Classify hydraulic pumps.
- 2) Classify pneumatic compressors.
- 3) Draw balanced vane pump.
- 4) Draw screw compressor.
- 5) Draw Gearotor Pump.

### CHAPTER 2- 4 MARKS QUESTIONS

- 6) Explain with neat sketch working of double acting compressor.
- 7) Compare gear pump and piston pump.
- 8) Explain the working of vain motor with a neat sketch.
- 9) State the selection criteria for hydraulic pumps.
- 10) Explain the construction and working of Gear type motor with neat sketch.

### CHAPTER 3- 2 MARKS QUESTIONS

- 1) Classify control valves.
- 2) Differentiate between pressure relief valve and pressure reducing valve.
- 3) State the difference between counter balance valve and unloading valve.

### CHAPTER 3- 4 MARKS QUESTIONS

- 4) Explain with neat sketch pressure compensated flow control valve, give its application.

- 5) Explain with neat sketch sequence valves.
- 6) Explain with neat sketch working of Temperature Compensated Flow control valve along with its symbol.
- 7) Explain with neat sketch the 4/3 direction control valve used in hydraulic system.
- 8) Explain with neat sketch working of pilot operated pressure relief valve.
- 9) Draw a cross-sectional diagram of time delay valve and explain it's working.
- 10) What is flow control valve. Explain pressure compensated flow control valve.
- 11) Write the factor to be consider for selection of
  - a) Direction control valve b) Flow control valve c) Pressure control valve