

B.Tech. SEM -VII Mechanical 2014 Course (CBCS) : WINTER - 2018
SUBJECT- INDUSTRIAL FLUID POWER

Day: Friday
Date: 30/11/2018

W-2018-2572

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.
- 4) Use of non- programmable calculator is **ALLOWED**.
- 5) Assume suitable data, if necessary.

Q.1 Explain different components of fluid power system with neat sketch and write advantages and disadvantages. (10)

OR

What do you mean by hydraulic and pneumatic? List different fields of applications where hydraulics and pneumatics can be used more effectively than the other sources. (10)

Q.2 Draw following ISO symbols for hydraulics and pneumatics components and write function of each, (10)

- i) Pressure control valve
- ii) Direct operating relief valve
- iii) Direct operating sequence valves
- iv) FRL Unit
- v) Needle valve

OR

Write short note on (10)

- i) Gas charged accumulator
- ii) Hydraulic power unit

Q.3 Explain necessity of fluid control and explain the working of pressure reducing valve. (10)

OR

Explain pressure compensated flow control valve and working of pilot operated relief valve with neat sketch. (10)

Q.4 Write short note on (10)

- i) Linear and rotary actuators.
- ii) Types of cylinders and mounting.

OR

Classify different pneumatic actuators. Draw a typical re-generative circuit and explain its working in details. (10)

Q.5 Sketch typical regulator used in pneumatic system and solenoid operated direction control valve. Explain their working in short. 10

OR

Draw neat sketch and explain working of lubricator and 3/2 direction control valve used in pneumatic circuit. (10)

Q.6 Draw and analyze meter in flow control circuit (10)

OR

Draw and analyze counter balance circuit (10)