

Total No. of Printed Pages:2

SUBJECT CODE NO:- E – 162
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(Mech) Examination Nov/Dec 2017
Industrial Hydraulics and Pneumatics
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i. Solve any three questions from each section.
 - ii. Assume suitable data wherever necessary.

Section A

- Q.1
- a) State the Pascal's law. Explain its significance in hydraulic and pneumatic system. 05
 - b) Draw a basic hydraulic circuit showing various components of a circuit. Explain the function and working of each of the component. 08
- Q.2 Draw the following symbols along with its application. 13
- i) FRL
 - ii) 3/2 DCV
 - iii) Single acting cylinder
 - iv) 5/2 DCV
 - v) Pressure booster.
- Q.3
- a) With a neat sketch explain the construction and working of a Lobe type compressor. 05
 - b) With neat sketch explain the construction and working of internal gear pump Gerotor pump. 08
- Q.4
- a) With neat sketch explain the construction and working of an air filter, regulator and lubricator unit used in pneumatics. 08
 - b) With neat sketch explain the construction and working of internal gear motor. 05
- Q.5 Write short note on (any three) 14
- i) Bernoulli's equation and its application
 - ii) Gerotor pump
 - iii) Pressure booster
 - iv) Accumulators
 - v) Uses and general rules of hydraulic and pneumatic symbols.

Section B

- Q.6 a) What are the different types of pipes used in hydraulic and pneumatic circuit? List the different accessories used in the piping. 05
b) What are the different types of DCV? State their application by using symbolic representation. 08
- Q.7 Draw the sequencing circuit for operating two double acting cylinders in sequence in both strokes use appropriate component for the circuit & explain its working for a hydraulic system. 13
- Q.8 Draw a circuit for a hydraulic press where for safety, the operator is required to engage his both the hands to operate the stroke of the press. Consider a double activity cylinder, press button operated control valves. Explain the working of its circuit. 13
- Q.9 The opening and closing of a door is activated by using two push button switch PB1 & PB2 switch PB1 is for opening and PB2 is for closing the door. The cylinder is controlled by a double solenoid valve draw the electro pneumatic circuit. 13
- Q.10 Write a short note on (any three) 14
a) Meter in & meter out circuit
b) Air dryers
c) Limit switches used in circuit
d) Relays
e) Shuttle valve