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B – 3461

Reg. No. :

Name :

**Seventh Semester B.Tech. Degree Examination, December 2016
(2013 Scheme)
13.706.15 : INDUSTRIAL HYDRAULICS (MP)**

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** the questions. **Each** question carries **2** marks.

(10×2=20 Marks)

1. Draw the Q-H curve of a gear pump.
2. List any three devices used for measurement of pressure in a hydraulic system.
3. Differentiate between hydraulics and pneumatics.
4. Name different types of pumps used for hydraulic applications.
5. Name commonly used materials of filters.
6. What is meant by inertial load ?
7. What is meant by cylinder cushion ?
8. What is a regenerative circuit ?
9. What is a fail safe circuit ?
10. Explain the need for synchronization.

PART – B

Answer **one** question from **each** Module :

Module – I

11. a) Describe the method of measurement of pressure at different locations of a hydraulic system. **10**
- b) With the help of a neat sketch, explain the working of a rotary pump. **10**
12. a) Explain the method of selection of pumps for a hydraulic system. **10**
- b) What is fluid power ? Describe different types of energies associated with fluid in a fluid system. **10**

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Module – II

- 13. a) Explain loading and replacement of filter elements in a hydraulic system. **10**
b) Explain the requirements and design considerations of fluid reservoirs. **10**
- 14. Describe the fluid pumping system and its components of hydraulic systems. **20**

Module – III

- 15. a) Explain the methods of controlling acceleration and deceleration. **10**
b) Explain the design considerations of cylinders. **10**
- 16. a) Explain with a neat sketch, the working a hydraulic actuator. **10**
b) What are friction control values ? Describe the working of a friction control volume. **10**

Module – IV

- 17. Draw and explain the hydraulic circuit used for an extrusion process. **20**
- 18. Draw and explain an unloading circuit. **20**

