BE /B.Tech (Full Time) DEGREE END SEMESTER EXAMINATION – Apr/May 2011

MANUFACTURING ENGINEERING BRANCH

FIFTH SEMESTER - (REGULATION 2004)

MN 375 – HYDRAULICS AND PNEUMATIC CONTROLS

Time : 3 hr Max. Marks: 100

Answer ALL Questions

PART – A (10 x 2 = 20 Marks)

1. Name four types of fire resistant hydraulic fluid
2. When is pilot control preferred for the direction control valve?
3. What is pressure override in pressure relief valve?
4. When is sequencing circuit preferred?
5. What are the functions of accumulator?
6. State the purposes of fail safe circuit.
7. What are the functions of FRL unit?
8. State the different types of hydro pneumatic system?
9. State the Coanda effect.
10. What is the use of ladder diagram?

PART – B (16 x 5 = 80Marks)

11. Explain the construction and working of axial piston pump, with a neat sketch. (16)

12. a.i) Explain the working of a compound pressure relief valve with a diagram. (8)

ii) With a neat sketch explain the working of Hydraulic shock absorbers. (8)

(Or)

b. i) Explain the working of counter balance valve with a neat sketch (8)

ii) Discuss the various types of hydraulic actuators. (8)

13. a.i) Discuss the fluid power circuit for shaping machine. (8)

ii) Discuss the regenerative circuit with a diagram. (8)

(Or)

b i) Explain the construction and operation of any two types of accumulator. (8)

ii) Explain the sequencing circuit with a diagram. (8)

14. a. Briefly explain the commonly used electrical devices in fluid power circuits. (16)

(Or)

b. Discuss the safety circuits used in pneumatic systems (16)

15.a. Briefly explain the commonly used electrical devices in fluid power circuits. (16)

(Or)

b. Discuss the various problem encountered in hydraulic system. (16)