KUMARAGURU
college of technology
character is life

Register Number:……

M.E DEGREE EXAMINATIONS: NOV/DEC 2014

(Regulation 2013)

Third Semester

CAD/CAM

P13CCTE13: Design of Hydraulic and Pneumatic system

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. What is meant by positive displacement pump?
2. Define volumetric efficiency of a pump.
3. Mention the function of pressure sequencing valve.
4. How the pressure compensated flow control valve will work?
5. Give the purpose of providing counter balance valve in a hydraulic circuit?
6. Mention the function of pressure intensifier.
7. Why lubricator is used in pneumatics?
8. What is the function of time delay valve?
9. Name the advantages of fluidic elements?
10. What are the basic elements of a PLC?

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)

Q.No:11 is Compulsory

11. (i) Explain construction and working principle of un balanced vane pump with neat sketch. (8)

    (ii) Illustrate the working principle of bent axis type piston pump with neat sketch. (8)

12. (i) Outline the cylinder cushioning mechanism and its working with neat sketch. (8)

    (ii) Draw and explain the working of pressure relief valve with neat sketch. (8)

13. (i) Demonstrate any two applications of accumulator with the help of a circuit. (8)

    (ii) Explain the circuit for varying the working speeds of a hydraulic cylinder during in its forward stroke. (8)

14. (i) Draw and explain the working of air filter in pneumatics with neat sketch. (8)

(ii) Explain the working of air pressure regulator with neat sketch. (8)

15. Construct the pneumatic circuit for the following sequence of operations using cascade method. $A^{+}B^{-}B^{+}A^{-}$.

16. (i) Write short notes on ladder logic diagrams. (8)

(ii) Explain the working of electro hydraulic servo systems. (8)

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