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Total No. of Pages :02

Total No. of Questions : 09

B.Tech. (AE) (2011 Onwards) (Sem.-7,8)

HYDRAULIC AND PNEUMATICS SYSTEM FOR AUTOMOBILE

Subject Code : BTAE-701

Paper ID : [A2932]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt ANY FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt ANY TWO questions.

SECTION-A**1. Write briefly:**

- a. Write at least four applications of pneumatics in various fields of engineering.
- b. Draw the symbol of three-way valve for hydraulic system.
- c. What is purpose of FLR in pneumatic system?
- d. Name different types of heat exchangers.
- e. Define solenoid.
- f. What are basic components of pneumatic system?
- g. What is difference between open loop and closed loop control?
- h. Write the rules for block diagram algebra.
- i. Compare air motors with hydraulic motors.
- j. Write briefly on piping layout for pneumatic system.

SECTION-B

2. What are advantages and disadvantages of hydraulic system?
3. Explain in detail working of four ways three position valve with neat diagram and symbol.
4. Design circuit for sequencing of motion time delay.
5. Explain PID control with analytical treatment.
6. Briefly discuss about Quick exhaust valves in terms of pneumatic and hydraulic system.

SECTION-C

7. What are generalized control systems? Briefly explain them.
8. Design motion synchronizing circuit using hydraulic elements.
9. Write briefly about :
 - a) Properties of fluids.
 - b) Direct and inverse analog.