

Roll No. 

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Total No. of Questions: 09

Total No. of Pages: 02

**B. Tech. (AE) (Sem. 7, 8)**  
**HYDRAULIC & PNEUMATICS SYSTEM FOR AUTOMOBILE**  
**Subject Code: BTAE-701**  
**Paper ID: A2932**

Time: 3 Hrs.

Max. Marks: 60

**INSTRUCTIONS 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 have to attempt any **FOUR** questions.
3. Section C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

**SECTION A**

1.
  - a) List types of Control system used in Automobiles.
  - b) Define Bulk modules.
  - c) Draw hydraulic symbol of Fluid pump.
  - d) List the selection criterion for pumps.
  - e) Draw the symbol of simple relief.
  - f) Compare hydraulic and pneumatic actuators.
  - g) What is the roll of filters in hydraulic systems?
  - h) Define PD.
  - i) Write short Note on inverse analog.
  - j) What is need of control in hydraulic system?

**SECTION B**

2. Draw and explain hydraulic circuit for pressure regulating circuit.
3. Describe working of gear motors.
4. Discuss the working of now control value.
5. Explain PI controller with analytical treatment.
6. Write note on:
  - i) Reservoirs,
  - ii) Pressure switch.

**SECTION C**

7. Design hydraulic circuit for automatic cylinder reciprocating system.
8. Describe pneumatic circuit for regenerative circuit.
9. Explain in detail about:
  - i) Viscous damper,
  - ii) Quick exhaust valve.