Roll No. | | | | | | | | | | | |

Total No. of Pages: 02
Total No. of Questions: 09

B. Tech. (AE) (Sem.-7th)

HYDRAULIC AND PNEUMATIC SYSTEM FOR AUTOMOBILE

Subject Code: BTAE-701
Paper ID: [A2932]

Time: 3 Hrs. **Max. Marks: 60**

INSTRUCTIONS TO CANDIDATE:

1. *Section –A, is Compulsory.*
2. *Attempt any four questions from Section-B.*
3. *Attempt any two questions from Section-C.*

SECTION –A

(10x2=20)

Q.1. Write briefly:

(a) Define Fluid power.

(b) Explain the term friction factor.

(c) What do you meant by non-positive displacement pump?

(d) What is cylinder cushion?

(e) Differentiate pressure control and pressure relief valve.

(f) Write the function of solenoid valve.

(g) What is the need for FRL unit?

(h) Name the various types of filters used in pneumatics.

(i) What is servo valve and how it is working?

(j) Define coanda effect.

SECTION –B

(4x5=20)

Q.2. Discuss the properties of hydraulic fluids.

Q.3. Explain the hydraulic and pneumatic fluid power system

Q.4. How to calculate the frictional losses in the valves and fittings?

Q.5. Explain the operational feature of check valve?

Q.6. Differentiate between manual and automatic control.

SECTION –C

(2x10=20)

Q.7. Explain with neat diagrams closed loop (servo) electro hydraulic control system and open loop hydraulic system.

Q.8. Design a fluidic sequencing control of two pneumatic cylinders using flip-flop, OR GATE, Push buttons, Directional control valves etc for the following sequence: Cylinder1 extends, cylinder 2 extend and both cylinders retract together

Q.9. With the help of circuits, Explain how synchronizing of two linear actuators are achieved by connecting them in series.

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