

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-IV • EXAMINATION – SUMMER 2013

Subject Code: 741101

Date: 14-05-2013

Subject Name: Hydraulic and Pneumatic Systems in Automotive Vehicle

Time: 10.30 am - 01.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** What are the main components of hydraulic system? Explain in detail. **07**
- (b)** Give the detail description of the different properties of hydraulic fluid. **07**
- Q.2 (a)** Classify the pneumatic cylinders and briefly explain according to construction. **07**
- (b)** Enlist various types of hydraulic valves. How the direction control valve works? Explain its need in system? **07**
- (b)** Differentiate air motor and electric motor in detail. **07**
- Q.3 (a)** What is maintenance of hydraulic system? Explain the significant points which required for maintenance. **07**
- (b)** What is FRL unit ? Why it is required in pneumatic system? Explain **07**
- Q.3 (a)** What is anti lock braking system(ABS) in vehicle? How the pneumatic and hydraulic system works in this system? **07**
- (b)** Explain the current developments in Hydraulic and pneumatic system. **07**
- Q.4 (a)** Draw and describe in brief various elements of Electro pneumatic system. **07**
- (b)** Explain selection criteria for motors. **07**
- Q.4 (a)** Briefly explain the hydro-pneumatic suspension system **07**
- Q.4 (b)** Write selection criteria for air compressor in pneumatic system **07**
- Q.5 (a)** Short note on Hydraulic tipping mechanism. **07**
- (b)** Explain PLC Construction **07**
- Q.5 (a)** Explain the function and working of hydraulic pipes in detail. **07**
- (b)** Describe the maintenance and trouble shooting of pneumatic system. **07**
