Seat No.: _____

Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER IV (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2741101

Date:04/05/2016 Subject Name: Hydraulic & Pneumatic Systems in Automotive Vehicles Time:10:30 am to 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)	Compared three systems hydro-pneumatics, hydraulic and pneumatic in tabular form	07
	(b)	Discuss the PLC construction with its advantages.	07
Q.2	(a) (b)	Discuss the location of flow control valves in circuit. Enlist various types of hydraulic valves. Explain working of pressure reducing valve.	07 07
		OR	~-
	(b)	Classify the hydrostatic pumps. Explain working of lobe pump with sketch.	07
Q.3	(a)	Classify air compressors. What is its function in pneumatic system? Write selection criteria for air compressors in pneumatic systems.	07
	(b)	Discuss the special type cylinders used in hydraulic system with sketch. OR	07
Q.3	(a)	Discuss the importance of seals and filters in hydraulic systems. Explain any one filter with sketch.	07
	(b)	State the various physical characteristics of hydraulic oil.	07
Q.4	(a)	Explain various methods of cylinder mounting/ mounting arrangement.	07
	(b)	Draw and explain basic pneumatic system. Discuss role of mufflers with sketch. OR	07
Q.4	(a)	Discuss maintenance of pneumatic system. Explain tree-branching chart used for maintenance.	07
	(b)	Explain 12 steps to troubleshooting pneumatic systems.	07
Q.5	(a)	Describe Ladder Diagram.	07
	(b)	Importance of FRL in pneumatic system. Also discuss the selection criteria of FRL in system.	07
		OR	
Q.5	(a) (b)	Discuss the selection of hydraulic conduits. Explain pressure losses in system. Discuss the importance of accumulators in circuit. Classify accumulators and explain working of any one with sketch.	07 07
