

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 171902

Date: 31/12/2012

Subject Name: Automobile Engineering

Time: 10.30 am - 01.00 pm

Total Marks: 70

Instructions:

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

- Q.1** (a) Differentiate between front and rear mount engine vehicle. **07**
(b) What is the difference between chassis & frame ? Give the classification of chassis. **07**
- Q.2** (a) State and explain the requirements of clutch. **07**
(b) What is a synchromesh device ? describe the working of synchromesh gear box . **07**
- OR**
- (b) Designate the tyre with example. Differentiate between tube and tubeless tyre, **07**
- Q.3** (a) With the help a neat sketch describe Hotchkiss drive . how does it differ from Torque Tube drive ? **07**
(b) Give definition and signification of caster , camber , king-pin inclination . **07**
- OR**
- Q.3** (a) Explain with neat sketch the working of master cylinder used in hydraulic brake. **07**
(b) Describe briefly the various methods of battery testing. **07**
- Q.4** (a) Why are stub axles fitted in front axle? Sketch the different types of stub axles , Differentiate between live and dead front axles . **07**
(b) What are the different types of rear end suspension ? How does a rigid axle front end suspension differ from an independent front end suspension ? **07**
- OR**
- Q.4** (a) What is hybrid vehicle ? Explain the scope of development in Indian contex. **07**
Q.4 (b) Explain the crash test of an auto vehicle. **07**
- Q.5** (a) What is engine scanner ? How it help in engine fault finding and diagnosis ? **07**
(b) Explain about enforcement of emission norms in India. **07**
- OR**
- Q.5** (a) Explain the working and constructional details of air bag as safety device. **07**
(b) Why torque converter is needed in automatic transmission ? **07**
Explain the continuously variable transmission system.
