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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2013

MECHANICAL ENGINEERING (TAMIL MEDIUM)

VI - Semester

13

ME9029 – AUTOMOBILE ENGINEERING

(Regulation-2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. State the function of chassis frame.
2. What is meant by a hybrid vehicle?
3. Give the general composition of Natural Gas.
4. State the advantages of ethanol as fuels in automobile.
5. What is the function of an universal joint?
6. What is known as the full floating axle?
7. What type of battery is used in automobiles?
8. Define Caster with a neat sketch.
9. How spark plug can be tune?
10. What are all the parameter measured during chassis dynamometer test?

Part – B (5 x 16 = 80 marks)

11. Explain various types of Wind tunnel test used for automotive vehicles.
12. a) Give the detail of Tata- Nano specifications and performance parameter
OR
b) What are the different types of frame, bodies used in automobiles? Explain in details
13. a) Discuss pollutants emission from Automobile. Briefly explain the working principle of three way catalytic converter to reduce pollutions.
OR
b) With the help of a neat sketch explain the working principle of Common Rail Direct Injection (CRDI) system.
14. a) Explain the construction and working principle of centrifugal clutch
OR
b) With the help of a neat sketch explain the working principle of torque converter
15. a) Briefly explain the construction and working of air brake system.
OR
b) Explain the working principle of battery coil ignition system with neat sketch.