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**Question Paper Code: 31754**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Fifth Semester

Mechanical Engineering

01UME504 – AUTOMOBILE ENGINEERING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is a chassis?
2. List out any eight components of an engine.
3. What are the functions of Fuel Injection system?
4. Name any four functions of a battery in a vehicle.
5. List the requirements of the clutch.
6. What is an overdrive?
7. What is a power steering system?
8. What is the need for good suspension system?
9. What is a hybrid vehicle?
10. Write any four differences between SI and CI engine.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the different layout of an automobile with neat sketches. (16)

Or

- (b) Explain the different engine design variations with schematic sketches. (16)

12. (a) What are the components and functions typical diesel fuel injection system. (16)

Or

(b) (i) Explain the distributor type electronic ignition system with neat sketch. (10)

(ii) Describe the working of three-way catalytic converter with suitable sketch. (6)

13. (a) Explain the differential in an automobile with schematic sketches. (16)

Or

(b) Explain the need for gear box and discuss the different types of meshes in the gearbox with neat sketches. (16)

14. (a) (i) Briefly explain any two types of steering gears with neat sketch. (10)

(ii) List the distinct advantages of power steering over manual steering. (6)

Or

(b) What is function of a suspension and list the advantages of independent suspension system of an automobile. (16)

15. (a) What are alternate fuels? Discuss its advantages and disadvantages. (16)

Or

(b) Discuss in detail about electric and hybrid vehicles. (16)