

TH2 Automobile Engineering & Hybrid Vehicles

Full Marks: 80

Time- 3 Hrs

Answer Any FIVE Questions including Q No. 1 & 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. State the Purpose of shock absorber.
 - b. What are the advantages of Battery Ignition System?
 - c. Define automobile.
 - d. What do you understand by Hybrid Vehicles?
 - e. Define air-fuel ratio.
 - f. State the functions of an automobile engine.
 - g. What are the Types of Engine Cooling Systems?
 - h. Name the different types of Braking System in Automobile.
 - i. What is a drive train?
 - j. Why Choke Valve is used?

 2. Answer **Any Six** Questions 5 x 6
 - a. State the merits and demerits of air-cooling system.
 - b. How a hydraulic braking system works in an automobile? Explain it.
 - c. Discuss about the basic working principle of diesel fuel filter.
 - d. What is the purpose of spark plug in an automobile?
 - e. Draw the layout of automobile chassis (both front & top view).
 - f. Explain the working of four-speed gearbox.
 - g. Discuss about hybrid vehicles.
- Answer Any Three Questions**
3. Discuss briefly the working principle of fuel injection system for multi cylinder Engine with sketch. 10
 4. What is the necessity of gearbox in an automobile? Discuss about the different parts of gearbox. 5+5
 5. Describe the lubrication System of I.C. engine. 10
 6. What is ignition? Describe the Battery ignition system in an automobile. 2+8
 7. Describe the operational advantages, performance and applications of Electric Vehicles 10