

Code No: **RT42244D****R13****Set No. 1****IV B.Tech II Semester Regular/Supplementary Examinations, April - 2018****MODERN VEHICLE TECHNOLOGY****(Automobile Engineering)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B************PART-A (22 Marks)**

1. a) Discuss the merits and demerits of solar energy. [4]
- b) Mention the applications of hydrostatic suspension system. [4]
- c) What is break limiting device? Explain. [3]
- d) What is sensor? Explain. [4]
- e) What are the internal and external noises? [4]
- f) What are the merits and demerits of MPFI? [3]

PART-B (3x16 = 48 Marks)

2. a) Explain working of hydrogen engines with neat diagram. [8]
- b) What do you mean by hybrid system? What are various types of hybrid drives? Explain any one of them. [8]
3. a) Explain inter connected liquid suspension system with neat diagram. [12]
- b) Mention advantageous and limitations of hydragas suspension system. [4]
4. a) Explain indirect floating caliper disc breaking system with neat diagram. [8]
- b) Explain closed loop suspension system with neat diagram. [8]
5. a) Explain in detail about open loop operation of catalytic converter with a neat sketch. [8]
- b) Explain the mechanism behind the carbon monoxide and UBHC oxidation and nitric oxide reduction. [8]
6. a) Explain principle and operation of ignition system in automated vehicle with neat diagram. [8]
- b) How computers are helpful in controlling pollution? Explain? [8]
7. a) Explain pilot injection with neat diagram. [8]
- b) What is GDI in four wheeler technology? Explain. [8]