

Code No: RT42244D

R13

Set No. 1

IV B.Tech II Semester Supplementary Examinations, July/August - 2017

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) Classify and list the various energy sources [4]
- b) Mention the advantageous and drawbacks of hydrogas suspension system? [4]
- c) What is safety? Explain? [3]
- d) What is actuator? Explain? [4]
- e) What is a catalytic converter? [4]
- f) Mention the advantageous and drawbacks of SPFI? [3]

PART-B (3x16 = 48 Marks)

2. a) Explain working of solar powered vehicle with neat diagram? [8]
- b) What are electric vehicles? Explain? [8]
3. a) Explain hydrostatic suspension system with neat diagram? [12]
- b) Mention advantageous and limitations of inter connected air suspension system? [4]
4. a) Explain self energizing disc breaking system with neat diagram? [8]
- b) What is anti-slide system? Explain? [8]
5. a) What are the different types of catalytic conversions? Explain? [8]
- b) Describe clearly how you treat the engine exhaust gases to convert the pollutants therein into harmless constituents? [8]
6. a) What are the different actuators used in automated vehicle? Explain? [8]
- b) Explain the importance of fuel economy also write it's any three practical applications. [8]
7. a) Explain DPFI with neat diagram? [8]
- b) What is DTS-Fi in two wheeler technology? Explain? [8]