

(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 140702

Roll No.

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## B.TECH

(SEM. VII) THEORY EXAMINATION, 2015-16

### AUTOMOBILE ENGINEERING

[Time:3 hours]

[Total Marks:100]

#### Section-A

1. Attempt **all** parts. All parts carry equal marks. Write answer of each part in short. (2×10=20)
  - (a) State various types of brakes used in Auto-vehicles.
  - (b) Draw P-v & T-s diagram for Otto Cycle.
  - (c) What is the difference in between CI & SI Engines?
  - (d) What is the purpose of crankshaft?
  - (e) List out the main components of the Engine.
  - (f) State various types of suspension used in Auto-vehicles.

(g) What is the purpose of spark plug?

(h) What is power steering?

(i) What is mechanical advantage?

(j) What are the advantages & disadvantages of CNG?

### Section-B

Attempt **any five** questions from this section. (10×5=50)

2. Draw and explain valve timing diagram for four stroke diesel engine.
3. Explain the Ackerman steering mechanism with a neat sketch.
4. Describe the water cooling system for automotive petrol engines.
5. Explain the working of a Drum brake with the help of neat sketch.
6. Describe the differential gear mechanism with the help a neat sketch.
7. Explain the function of master cylinder with a neat sketch.

8. Describe MPFI system with the help of neat sketch.

9. Describe the main components and working of Battery ignition system with neat sketch?

### Section-C

Attempt **any two** questions from this section. (15×2=30)

10. What are the different types of maintenance done in automobiles? Explain briefly.
11. Explain with the help of a neat sketch, a pneumatic brake system.
12. Explain the working of a synchromesh gearbox with the help of neat sketch.

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