

# CBCS SCHEME

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18IP752

## Seventh Semester B.E. Degree Examination, July/August 2022 Automotive Engineering

Time: 3 hrs.

Max. Marks: 100

**Note:** Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Explain CI engine with PV diagram. (10 Marks)  
b. Describe the mixture requirements in SI Engines. (10 Marks)

OR

- 2 a. Define carburetor. Explain the simple carburetor with a sketch. (12 Marks)  
b. Briefly explain the following :  
i) Normal combustion  
ii) Abnormal combustion  
iii) Cetane number  
iv) Octane number. (08 Marks)

### Module-2

- 3 a. Explain multi point and single point fuel injection with the sketches. (10 Marks)  
b. Illustrate the concept of thermosyphon cooling system. (08 Marks)  
c. What is the need of engine cooling? (02 Marks)

OR

- 4 a. With a sketch, explain forced circulation cooling. (10 Marks)  
b. Describe the concept of splash lubrication with a sketch. (10 Marks)

### Module-3

- 5 a. With a diagram, explain battery ignition system. (12 Marks)  
b. List out the requirements of ignition system. (06 Marks)  
c. Define super charging. (02 Marks)

OR

- 6 a. Explain centrifugal and roots supercharger with sketches. (10 Marks)  
b. Describe the construction and operation of turbocharger. (10 Marks)

### Module-4

- 7 a. With a suitable sketch explain Hotchkiss drive. (10 Marks)  
b. Explain the concept of single plate clutch. (10 Marks)

OR

- 8 a. Explain Antilock braking system with a sketch. (12 Marks)  
b. Distinguish between disc brake and drum brake. (08 Marks)

### Module-5

- 9 a. Illustrate the Euro norms I and II with the details. (08 Marks)  
b. List out the exhaust emissions and explain them briefly. (12 Marks)

OR

- 10 a. Explain the catalytic converter of controlling emissions. (10 Marks)  
b. With a diagram, explain air injection system, with a neat sketch. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.