CBCS SCHEME

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18IP732

Seventh Semester B.E. Degree Examination, Jan./Feb. 2023
Automobile Engineering

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. With sketch, explain connecting rod and crankshaft of IC engine. **(10 Marks)**
b. Discuss overhead valve actuating mechanism with help of sketch. **(10 Marks)**

OR

2 a. Discuss the junction and composition of major engine parts. **(10 Marks)**
b. Discuss the importance of piston rings. **(05 Marks)**
c. Explain the necessity of cooling system. **(05 Marks)**

Module-2

3 a. Discuss the different methods of supercharging. **(10 Marks)**
b. Discuss the various aspects of turbocharged engine. **(10 Marks)**

OR

4 a. Explain the various methods to increase power output of engine and justify the use of forced induction of IC engine. **(10 Marks)**
b. Discuss the terms such as turbocharger lag, boost pressure, intercooling and blowdown energy with regard to turbocharged engine. **(10 Marks)**

Module-3

5 a. With sketch explain battery ignition system for multi cylinder engine. **(10 Marks)**
b. Discuss the energy requirements for ignition. **(04 Marks)**
c. Explain the terms ignition timing, firing order and spark advance with regard to SI engine. **(06 Marks)**

OR

6 a. With sketch, explain magneto ignition system. **(10 Marks)**
b. Explain the limitations of conventional ignition system. **(05 Marks)**
c. Discuss the factors affecting establishment of arc across the air gap of spark plug. **(05 Marks)**

Module-4

7 a. With sketch, explain centrifugal clutch and its operation. **(10 Marks)**
b. Explain the necessity of gear ratio in transmission. **(06 Marks)**
c. Discuss the term overdrive in transmission system. **(04 Marks)**

OR

8 a. Discuss the various design requirement of clutch. **(10 Marks)**
b. With sketch, explain the construction and working of fluid coupling. **(10 Marks)**

Module-5

9 a. Explain the importance of steering. **(06 Marks)**
b. With sketch, explain toe in and toe out conditions. **(08 Marks)**
c. Discuss the use of hydraulics and pneumatics in braking system. **(06 Marks)**

OR

10 a. With sketch, explain power steering mechanism. **(10 Marks)**
b. Discuss the various braking mechanisms in detail. **(10 Marks)**

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