CBCS SCHEME

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18AU44

Fourth Semester B.E. Degree Examination, Jan./Feb. 2023
Automotive Engines

Time: 3 hrs. Max. Marks: 100

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

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.

Module-1

1 a. Draw a neat diagram of a single cylinder 4-stroke SI engine, Label its parts and briefly explain them. **(10 Marks)**

b. With a neat line diagram, explain the working principle and construction of 2-stroke CI engine. **(10 Marks)**

OR

2 a. Write the comparison between 2-stroke and 4-stroke engine. **(10 Marks)**

b. Write a note on :
i) Otto cycle ii) Diesel cycle. **(10 Marks)**

Module-2

3 a. With a neat diagram, explain the working of simple venture carburetor. **(10 Marks)**

b. With a neat diagram, explain electronic fuel injection system. **(10 Marks)**

OR

4 a. Name different type of Nozzles and with a neat diagram, explain any two. **(10 Marks)**

b. With a neat diagram, explain mechanical governor. **(10 Marks)**

Module-3

5 a. With a neat diagram, explain the construction and working of pressurized water cooling system. **(10 Marks)**

b. Write the comparison between air and water cooling system. **(10 Marks)**

OR

6 a. What do you mean by lubricant, explain the necessity of lubricant in automobile? **(10 Marks)**

b. List and explain various required properties of lubricant. **(10 Marks)**

Module-4

7 a. With a neat diagram, explain roots supercharges. **(10 Marks)**

b. List the limitations of Turbochargers on petrol and diesel engine. **(10 Marks)**

OR

8 a. Name different methods of Supercharging and with a neat diagram, explain any two. **(10 Marks)**

b. With a neat diagram, explain waste gate controller in turbocharger. **(10 Marks)**

Module-5

9 a. Name different types of revenging process, with necessary sketches, explain them. **(10 Marks)**

b. Write a short note on symmetrical and unsymmetrical port timing. **(10 Marks)**

OR

10 a. Write a short note on scavenging parameter. **(10 Marks)**

b. Write a short note on :
   i) Port design
   ii) Scavenging pumps. **(10 Marks)**

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