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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.*

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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