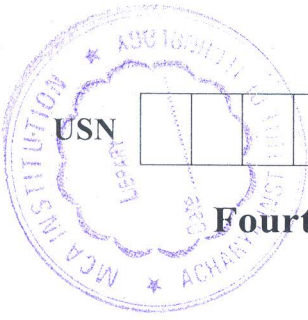


# CBCS SCHEME



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## 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)

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.

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 scavenging 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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