

# CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

18AU44

## Fourth Semester B.E. Degree Examination, June/July 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. With a neat diagram, explain the construction and working of 4 stroke spark ignition engine. (10 Marks)  
b. State the comparison between 2 stroke and 4 stroke engines. (10 Marks)

OR

- 2 a. Explain the cycle and diesel cycle with PV and TS diagrams. (10 Marks)  
b. With neat PV and TS diagram explain the dual cycles. (10 Marks)

### Module-2

- 3 Write note on following :  
a. Piston and piston rings  
b. Flywheel  
c. Inlet and exhaust valves  
d. Crankshaft. (20 Marks)

OR

- 4 a. Explain the working of simple fixed venturi carburetor with a neat diagram. (10 Marks)  
b. Explain the different types of nozzles with a neat diagram. (10 Marks)

### Module-3

- 5 a. Write the necessity of using the cooling system in IC engines. (06 Marks)  
b. With a neat diagram explain the forced circulation cooling system. (08 Marks)  
c. What are the advantages and disadvantages of liquid cooling system? (06 Marks)

OR

- 6 a. With a neat diagram explain the working of dry lubrication system. (10 Marks)  
b. Write a note on petrolium lubrication system. (06 Marks)  
c. Write the advantages of lubrication system. (04 Marks)

### Module-4

- 7 a. With a neat diagram, explain the construction and working turbo – charger. (12 Marks)  
b. What is purpose of turbo-chargers for automobiles? Explain. (08 Marks)

OR

- 8 a. What are the different modifications to be made in engine to adopt super charging? (10 Marks)  
b. Write down the advantages and disadvantages of turbo charger. (10 Marks)

### Module-5

- 9 a. With a neat diagram explain the construction and working of two stroke SI engine. (10 Marks)  
b. Explain the port timing diagrams for 2 – stroke SI and CI engines with necessary diagrams. (10 Marks)

OR

- 10 a. Write a note on scavenging process in 2 – stroke engines. (10 Marks)  
b. Write a note on : i) Scavenging pump  
ii) Pre – blow down  
iii) Blow – down (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.