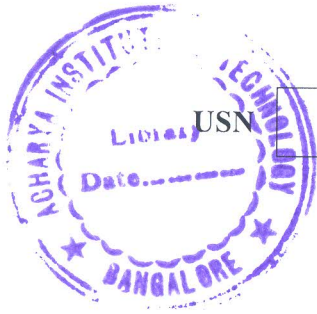


# CBCS SCHEME



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## Fourth Semester B.E. Degree Examination, June/July 2019 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. Explain briefly the working principle of a 4 stroke S.I. Engine with neat sketches. (12 Marks)  
b. What is an I.C. Engine? How are I.C. Engines classified? (08 Marks)

OR

- 2 a. Write the advantages and disadvantages of 2 stroke engines over 4 stroke engines. (08 Marks)  
b. Explain the functions of any 4 engine components. (12 Marks)

### Module-2

- 3 a. Define carburetion. What are the various requirements of a carburetor? (08 Marks)  
b. What is the purpose of using compensating devices in carburetors? Mention the various compensating devices and explain any 2. (12 Marks)

OR

- 4 a. Explain the various functional requirements of diesel injection systems. (08 Marks)  
b. What is a governor? What are its functions and types? (04 Marks)  
c. What is a nozzle? What are its functions and list the types of nozzles used? (08 Marks)

### Module-3

- 5 a. What is knocking? Explain the knocking phenomenon in S.I. Engines. (08 Marks)  
b. Mention some of the requirements of S.I. Engine combustion chambers. (04 Marks)  
c. Briefly explain any four factors that influence the flame speed in S.I. Engine combustion. (08 Marks)

OR

- 6 a. Explain the various stages of combustion in C.I. Engines. (08 Marks)  
b. Briefly explain Direct and Indirect ignition chambers. (04 Marks)  
c. Briefly explain the effect of various variables on delay period. (08 Marks)

### Module-4

- 7 a. Explain the significance of cooling of an I.C. Engine. (04 Marks)  
b. Compare the two significant methods of engine cooling. (06 Marks)  
c. Explain thermostat cooling system with a neat sketch. (10 Marks)

OR

- 8 a. Explain the limiting factors for supercharging. (04 Marks)  
b. Explain any two types of superchargers using relevant sketches. (06 Marks)  
c. What are the effects of supercharging on engine thermodynamics? Explain using relevant P-V diagram. (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.

**Module-5**

- 9 a. Explain some of the important properties of S.I. engine and C.I. engine fuels. (10 Marks)  
b. Explain the various constituents in the chemical structure of petroleum. (10 Marks)

**OR**

- 10 a. What are the functions of lubrication system? Explain some of the important properties of lubricants. (10 Marks)  
b. Explain the working of pressure lubrication system with neat sketch. (10 Marks)

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