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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE) (2013 Onwards) (Sem.-3)
INTERNAL COMBUSTION ENGINES
Subject Code : BTAE-303/401
Paper ID : [A3270]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**1. Write briefly :**

- a) What is the difference between ideal and actual cycle?
- b) What is the function of piston rings?
- c) What is meant by ignition lag?
- d) Explain delay period.
- e) What is the function of air cleaner?
- f) What are the objectives of engine lubrication?
- g) What is the function of pressure cap in radiator?
- h) What is turbo charging?
- i) Define mean effective pressure.
- j) What is the purpose of coolant?

SECTION-B

2. Derive expression for efficiency of Otto cycle.
3. Discuss the effect of engine variables on flame propagation.
4. Describe various phases of I.C. engine combustion.
5. Write a note on electronic control of fuel injection.
6. Compare and contrast between water cooling system and air cooling system.

SECTION-C

7. With the help of line diagram describe the construction and working of Solex carburetor.
8. Describe pressure lubrication system used in automotive engines.
9. Discuss different methods of supercharging of I.C. Engines.