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**4th Sem. / Mechanical/CNC/
GE/Adv.MT
Subject : I.C.ENGINES**

Time : 3 Hrs.

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M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- Define heat engine.
 - What is material of cylinder head in an engine?
 - Define swept volume.
 - Define air fuel ratio.
 - Define ignition system.
 - What is purpose of ignition coil in battery ignition system?
 - Give advantages of magneto ignition system.
 - What is carburetion?
 - What is lean mixture?

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- What is compression ratio for C.I. engines? HSBTEonline.com
- What is use of fuel filter?
- What is main advantage of air injection system?
- What are the main types of airless injection system used in diesel engines?
- Give two functions of cooling systems in an IC engines.
- Define lubrication. HSBTEonline.com
- What is function of thermostat in an cooling system?
- Define indicated power for an IC engine.
- What is air standard efficiency in IC engine?

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SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- Give classification of IC engines.
 - What is difference between four stroke and two stroke cycle engine?

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- iii) What are the main applications of IC engines? HSBTEonline.com
- iv) What are the main factors affecting carburation. Explain.
- v) What is supercharging and turbo-charging?
- vi) What are the requirements of an ignition system?
- vii) What are the main components of a fuel system in diesel engine?
- viii) What are the functional requirements of a fuel injection system in diesel engines?
- ix) Explain the working of fuel feed pump in diesel engines.
- x) What are the main properties should a lubricant have to be used in an engine?
- xi) What is water cooling system? Explain in brief. HSBTEonline.com
- xii) Explain forced circulation cooling system in IC engines.
- xiii) What are additives? Where are they used? Give names of some additives.

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- xiv) What are the methods to find out IHP of an IC engine? Explain any one of them.
- xv) Write short note on alternatives fuels for IC engines.

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SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Explain working four stroke diesel engine with neat sketch.
- Q.4 Explain battery ignition system in IC engines. Give its advantages, disadvantages and applications.
- Q.5 What is MPFI system? What are its types and advantages? Explain.
- Q.6 Explain the main elements of a lubricating system and explain it with sketch.
- Q.7 What are pollutants? Explain in detail the various methods of reducing pollution from IC engines in detail.

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