Code: R7220303

R07

B.Tech II Year II Semester (R07) Supplementary Examinations December/January 2015/2016
THERMAL ENGINEERING - I
(Mechanical Engineering)
(For 2008 Regular admitted batch only)

Time: 3 hours   Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1   (a) Compare the actual and fuel – air cycles of a gasoline engine.
    (b) Briefly discuss pumping and rubbing friction losses.
    (c) Define time loss factor and exhaust blow down factor.

2   (a) Briefly explain the valve timing diagram of a 4 stroke diesel engine with a neat sketch.
    (b) Why cooling of the engine is necessary?

3   (a) What is ignition log in SI engine & how does it affect performance?
    (b) What are the various combustion chambers used in SI engines?

4   (a) Bring out clearly the process of combustion in CI engine and also explain various stages of combustion.
    (b) Explain the need of air movement in a CI engine.

5   (a) List the parameters by which performance of an engine is evaluated.
    (b) What are the methods to determine the frictional power in an engine?

6   (a) Compare fan, blower and compressor.
    (b) Discuss about power absorbing machines.

7   (a) Describe with a neat sketch the working of roots blower.
    (b) What are the different parameters that influence the performance of the centrifugal compressors?

8   (a) Differentiate between centrifugal and axial flow compressor.
    (b) Define the degree of reaction and derive its equation for the symmetrical blades of an axial flow air compressor.

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