Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

ME-4004-CBGS

B.E. IV Semester

Examination, December 2020

Choice Based Grading System (CBGS)

Energy Conversion

Time : Three Hours

Maximum Marks: 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.
iii) Draw neat sketch, if required.

1. Followings are the statements write whether it is true or false.
   i) CI engines works on an otto cycle.
   ii) In an air standard diesel cycle, at fixed compression ratio and fixed value of adiabatic index (Y), thermal efficiency increase with increase in heat addition cut off ratio.
   iii) Increases in compression ratio reduces the delay period.
   iv) The function of fuel injector is atomization and vaporization of the fuel.
   v) MPFI system is commonly used in petrol engines.
   vi) Reciprocating compressor is commonly used for supercharging

2. a) What are the two basic types of internal combustion engines? What is the fundamental difference between them?
   b) Draw and explain the performance characteristics curve of SI engines.

3. a) Describe the stages of combustion in S.I. Engine with the help of pressure crank angle diagram.
   b) What do you understand by pre-ignition in S.I. engine? What are its causes and remedy?

4. a) Explain the main factors that influence speed.
   b) Explain with neat sketch and phases of combustion in CI engines.

5. a) Bring out clearly the process of combustion in C.I engines and also explain the various stages of combustion.
   b) Explain the phenomenon of knock in C.I engines and compare with S.I engine knock.

6. a) Describe briefly the MPFI system with neat sketch.
   b) Describe the operation of splash lubrication system with the help of neat sketch.

7. a) What is times base indicator diagram? Explain.
   b) Discuss the various methods of super charging.

8. Write a short note on any four of following.
   i) Carburetion
   ii) Fuel metering
   iii) Turbo charging
   iv) Mean effective pressure
   v) Solex carburetor
   vi) Knock inhibitors

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