

Roll No

AU/ME-4004 (CBGS)**B.E. IV Semester**

Examination, May 2018

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) Assume suitable data, if any.

- Followings are the statements write whether it is true or false.
 - CI engines works on an otto cycle.
 - In an air standard diesel cycle, at fixed compression ratio and fixed value of adiabatic index (γ), thermal efficiency increase with increase in heat addition cut off ratio.
 - Increases in compression ratio reduces the delay period.
 - The function of fuel injector is atomization and vaporization of the fuel.
 - MPFI system is commonly used in petrol engines.
 - Reciprocating compressor is commonly used for supercharging
- What are the two basic types of internal combustion engines? What is the fundamental difference between them?
 - Draw and explain the performance characteristics curve of SI engines.

- Describe with suitable sketch the two stroke SI engine. How its indicator diagram differs from that of four stroke engine.
 - Explain the phenomenon of auto-ignition. Explain how auto-ignition is responsible for knocking in SI engines.
- Explain the main factors that influence the flame speed.
 - Explain with neat sketch the phases of combustion in CI engines.
- Explain briefly basic methods of generation air swirl in CI engines combustion chambers.
 - Explain with neat sketch the working principle of a solex carburetor.
- What are the functional requirements of injection system? Explain injection system which used in multi-cylinder diesel engine.
 - What is the importance of lubrication in CI engines? Enumerate lubrication system explain any one of them with neat sketch.
- Explain the factors that limits the extent of supercharging of SI and CI engines.
 - Why is cooling necessary for IC engines? State the demerits of overcooling and undercooling.
- Write short notes on followings (any three)
 - Firing order
 - Abnormal combustion
 - Knock inhibitors
 - MPFI system
 - Turbo charging
 - Scavenging system
