G 1054 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Sixth Semester

Branch : Mechanical Engineering

THERMAL ENGINEERING–II (M)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 *marks.*

1. Define air standard efficiency.
2. Compare the efficiencies of Otto, Diesel and Dual cycles based on same compression ratio.
3. Draw the Indicator diagram of Otto cycle.
4. What is cloud point ?
5. Write the desirable mixture strength for IC engines combustion.
6. Draw the schematic of multi point fuel injection for petrol engines.
7. What are the requirements of Injection System in CI engines ?
8. What are the factors affecting rate of burning of a fuel droplet in CI engines ?
9. Briefly explain about Morse test.
10. Write short note on Catalytic Converters.

(10 × 4 = 40 marks)

Part B

Answer **all** *questions.*
Each question carries 12 *marks.*

11. (a) Explain the working of Stirling cycle.

Or

(b) Explain with neat sketch the working of Wankel engine.

Turn over

12. (a) Explain with neat sketch the battery ignition system.

Or

(b) Explain the importance of ignition timing and ignition advance.

13. (a) Explain about ignition and flame development in SI engines.

Or

(b) Explain about Flame Development and Propagation.

14. (a) Explain the effect of various factors on delay period in CI engine.

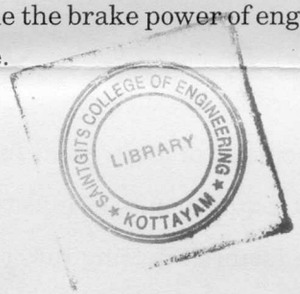
Or

(b) Explain the phenomenon of diesel knock.

15. (a) Explain the Causes of HC Emissions.

Or

(b) An eight cylinder diesel engine of two stroke type has specific fuel consumption of 0.25 kg/kWh. The brake mean effective pressure of each cylinder is 1.5 MPa and engine run at 100 r.p.m. The bore and stroke of cylinder are 85 cm and 220 cm respectively. Considering the calorific value of diesel as 43 MJ/kg determine the brake power of engine, fuel consumption in kg/hr and brake thermal efficiency of engine.



(5 × 12 = 60 marks)