

22603

M.Tech. 1st Semester (ME) CBCS Scheme  
Examination, December-2018  
IC ENGINE COMBUSTION AND POLLUTION  
Paper- MTME21C3

*Time allowed : 3 hours* *[Maximum marks : 100]*

*Note: Question No. 1 is Compulsory. Students have to attempt five questions in total, at least one from each Section. All questions carry equal marks.*

1. (a) What is gasoline grades? 5
- (b) What is flame stabilization? 5
- (c) What is burning of carbon? 5
- (d) What is combustion chart? 5

**Section-A**

2. What are different required properties of S.I. and C.I engine fuel? Also explain the rating of Fuel? 20
3. (a) What are different types of Hydrocarbons in Petroleum Fuel? 10
- (b) What is combustion chart and gas table for air fuel mixture? 10

**Section-B**

4. What is Combustion? What are different combustion modes and Flame types? 20

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5. Explain the following: 20
- (a) Turbulent Flame propagation.
  - (b) Laws of thermodynamics.

### Section-C

6. (a) What is the effect of pollutant emission from premixed combustion? 10
- (b) What is the detonation velocity? 10
7. What is detonation? Explain the principle, characteristics, structure of detonation waves? 20

### Section-D

8. (a) What is determination of air fuel ratio? 10
- (b) Explain the orset apparatus. 10
9. Write short note on the following: 20
- (a) Infrared analyzer
  - (b) Exhaust gases and analysis.