

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech., Winter 2017 - 18 Examination

Semester: 2
Subject Code: 03206181
Subject Name: Combustion & Emission in Engines

Date: 12/01/2018
Time: 02:00 pm to 04:30 pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1 (A)** Discuss the emission norms as per EURO-V standards. **(05)**
- (B)** Explain the mechanism of NO_x formation in CI engines. **(05)**
- (C)** Discuss the sources and classification of air pollutants **(05)**

Q.2 Answer the following questions. (Attempt any three) **(15)**

- (A)** What parameters govern the output and efficiency of IC Engines?
- (B)** Discuss the use of after burner for controlling the level of pollution.
- (C)** What are the requirements of good combustion chamber?
- (D)** Discuss the effect of knocking in IC engine.

- Q.3 (A)** Explain valve timing diagram of 4-stroke SI engine with diagram. **(07)**
- (B)** Explain MAN combustion chamber in detail with help of neat diagram **(08)**

OR

- (B)** List the various methods to find the friction power and discuss one of them in brief.

- Q.4 (A)** What do you understand by catalytic converter? Explain the principal of its working. **(07)**

OR

- (A)** Discuss various factors affecting on delay period and flame speed in SI engine

- (B)** Describe the EGR method for the control of NO_x emission. **(08)**