

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

Semester: 2**Subject Code: 03206181****Subject Name: Combustion & Emission in Engines****Date: 28/05/2018****Time: 02:00PM TO 04:30PM****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.1A) How friction power can be measured? Explain any one method in brief. (05)

B) Discuss various sources of emission for NO_x, HC, CO, CO₂ generation. (05)

C) What are the various engine efficiencies? Define each of them. (05)

Q.2 Answer the following questions. (Attempt any three) (Each five mark) (15)

A) How fuel additives helpful for the emission control? Discuss in details.

B) Discuss the kinetics & formation of NO_x.

C) How volumetric efficiency affects the performance of IC engine?

D) Discuss the existing norms prevailing in India for emission control.

Q.3A) Explain Stages of Combustion for CI engine with appropriate diagram. (07)

B) Discuss the design and constructional features of good combustion chamber. (08)

OR

B) Discuss various factors affecting knocking/detonation for SI engine. (08)

Q.4A) Discuss crankcase and evaporative emission from SI engine. (07)

OR

A) Explain the valve timing diagram of 4-Stroke SI engine. (07)

B) How Exhaust Gas Recirculation (EGR) affects the performance of IC engine? Discuss with neat sketch. (08)