Code No: RT21241 **R13** SET - 1

II B. Tech I Semester Supplementary Examinations, June - 2015
AUTOMOTIVE ENGINES
(Auto Mobile Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1. a) Explain in detail variable valve timing engine?
   b) Give in detail the mixture required for SI engine?
   c) What are fuel filters give their functioning in automobiles?
   d) What is normal combustion in SI Engines?
   e) Explain the four stages of combustion process?
   f) What is the functioning of crank case ventilation for IC engines?

PART –B

2 a) Explain in detail different types of automotive power plants? (8M)
   b) Explain the materials required in manufacturing of different engines? (8M)

3 a) Explain in detail the fundamental of carburetion (8M)
   b) Explain the construction and working of carburetor? (8M)

4 a) Explain the principle and delivery characteristics of diesel fuel pump? (8M)
   b) Explain in detail types of injection nozzles and their characteristics? (8M)

5 a) Explain the types of abnormal combustion in SI engines? (8M)
   b) Explain in detail the importance of flame speed on combustion process in SI engines? (8M)

6 a) What is meant by delay period? How to determine the delay period of an engine? (8M)
   b) What is the need for air movement in CI engines (8M)

7 a) With a neat sketch explain maximum and minimum speed governors? (8M)
   b) With a neat sketch explain wet sump lubrication and its function in IC engines? (8M)
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Code No: RT21241 **R13** SET - 2

II B. Tech I Semester Supplementary Examinations, June - 2015
AUTOMOTIVE ENGINES
(Auto Mobile Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1 a) Explain with neat sketch sterling engine and its construction?

b) Explain in detail the method of mixture correction?

c) What are transfer pumps give their functioning in automobiles?

d) What is abnormal combustion in SI engines?

e) Explain the fuel requirements for four stage combustion process?

f) Give the classification of lubricating oil in IC Engines?

PART –B

2 a) Explain different types of scavenging system for Four stroke engines? (8M)

b) Give in detail classification of engine parts. (8M)

3 a) What are the flow characteristics of carburetion? (8M)

b) Explain the working of carburetor? (8M)

4 a) Explain the principle and characteristic injection lag effect of injection in diesel fuel pumps? (8M)

b) Explain in detail the functioning Multihole nozzles? (8M)

5 a) Explain the phenomenon of pre ignition and knocking in SI engines? (8M)

b) Explain the effect of engine variables on combustion process in SI engines? (8M)

6 a) Does delay period play an import role in CI engines if so explain? If no why? (8M)

b) How turbulence is induced by suction, compression and combustion strokes and its effect on performance of engine? (8M)

7 a) With a neat sketch explain mechanical governors and its functioning in IC Engines? (8M)

b) With a neat sketch explain dry sump lubrication and its function in IC engines? (8M)
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