Code No: **R163224B** **R16** SET - 1

III B. Tech II Semester Regular/Supplementary Examinations, August-2021

AUTOMOTIVE EMISSION AND POLLUTION CONTROL

(Automobile 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 **FOUR** Questions from **Part-B**

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PART –A **(14 Marks)**

1. a) List the emission values of Euro VI. [2M]
   b) List the conditions that effecting the formation of NOx. [2M]
   c) What is DPF? Why it is used? [2M]
   d) Discuss briefly the economical impact of fuel injection systems on the engines. [3M]
   e) Discuss the measurement of particulate matter from vehicular emissions. [3M]
   f) List the various methods for production of Hydrogen. [2M]

PART –B **(56 Marks)**

2. a) Explain the European driving cycle with a neat sketch. [7M]
   b) Discuss in detail the analysis of Hydrocarbons and volatile compounds. [7M]

3. Explain NOx- PM trade-off in detail. [14M]

4. a) Explain MPFI and TBI with neat sketches. [7M]
   b) Discuss briefly the methods to treat exhaust emission from an automobile. [7M]

5. a) Compare the economic aspects of Diesel and Petrol engines. [7M]
   b) Explain the effect of after treatment devices on the cost of an automobile. [7M]

6. a) Compare full flow and partial flow dilution tunnels. [7M]
   b) Discuss briefly the instrumentation used for NOx detection. [7M]

7. a) Compare knocking in SI and CI engines with suitable P-θ diagrams. [7M]
   b) Discuss the process for the production of biodiesels. What are the changes required for the conventional diesel engine to work on biodiesel? [7M]

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