Total No. of Questions : 10]

SEAT No. :

P2243

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# [5254]-574
# B.E. (Automobile)
## ALTERNATIVE FUELS & EMISSION CONTROL
## (2012 Pattern) (Semester -II)

*Time : 2½ Hours]* *[Max. Marks : 70*

***Instructions to the candidates:***

1) ***Answer any three questions from each section.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of Logarithmic tables, slide rule, electronic pocket calculator is allowed.***

***Q1)*** a) Explain storage and handling of Hydrogen fuel? **[4]**

b) What are the fuel additives used for SI & CI engines. **[6]**

OR

***Q2)*** a) Compare LPG and CNG fuels for IC engines. **[4]**

b) What do you mean by alternative fuels? Explain its need, advantages and application in an automobile. **[6]**

***Q3)*** a) List out the modifications required in conventional engine for use of Alternative fuels in it? **[2]**

b) What are the different synthetic fuels used in vehicle? Explain its effect on engine performance. **[8]**

OR

***Q4)*** a) Write down the properties of Hydrogen fuel? **[2]**

b) Explain any two synthetic fuels with its properties, advantages, disadvantages & handling. **[8]**

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***Q5)*** Explain effect of design and operating parameters on SI engine emission. **[16]**

OR

***Q6)*** a) Explain Charcoal Canister Control for Evaporative Emission Control. **[8]**

b) What is positive crankcase ventilation? Explain. **[8]**

***Q7)*** Write short note (any 3) **[18]**

a) Chemical delay

b) Intermediate compound formation

c) Pollutant formation on incomplete combustion

d) Exhaust gas recirculation

OR

***Q8)*** a) Explain Turbocharger in detail. **[9]**

b) Describe the sources and causes of soot and particulate formation? **[9]**

***Q9)*** a) Explain Indian emission norms. **[8]**

b) Explain Ambient air quality monitoring. **[8]**

OR

***Q10)***a) List the negative effects of CO emission on human health, what is treatment to CO intoxication person? **[8]**

b) Effect of NOx emission on human as well as on environment. **[8]**

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