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Roll No .....

**AU/ME-503(C)-CBGS**

**B.Tech., V Semester**

Examination, December 2020

**Choice Based Grading System(CBGS)**

**Alternate Automotive Fuels and Emissions**

*Time : Three Hours*

*Maximum Marks : 70*

**Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

iii) In case of any doubt or dispute the English version question should be treated as final.

1. a) How will you classify automobile alternative fuels? How they are different from petrol and diesel?

b) Describe the various characteristics of SI and CI engines alternative fuels.

SI      CI

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PTO

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2. a) What are vegetable oils? Explain the vegetable oil used for automobile engines.  
  
b) Explain with neat sketch the process of formation of biogas and factor affecting biogas formation.
  
3. a) Explain the process esterification. What is the performance of vegetable oils in automobile engine?  
  
b) What is biogas? Explain the biogas system.
  
4. a) Explain the performance and emission characteristics of vegetable oils in automobile engine.  
  
b) How the biogas is used in SI engines and CI engines? Explain the properties of natural gas.  
  
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5. a) What is exhaust emission? What are the factors affecting the emission?

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- b) What do you understand by fuel metering system? Explain the storage and handling of gaseous fuels.
6. a) What do you understand by automobile emissions? What are the various types of automobile emissions?
- b) Explain chemiluminescent analyzer and gas chromatograph.  
chemiluminescent
7. a) Explain the formation of smoke in automobiles and factor affecting the smoke formation.
- b) What are the demerits of automobile emission to environment? What are the types of catalytic conversion?
8. a) What are emission norms as per Bharat Standard up to BS-IV and procedure for confirmation on production?
- b) What are smoke meters? Explain the emission standards.

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