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Roll No. ....

**F-191**

**B. Tech. EXAMINATION, May 2017**

(Sixth Semester)

(B. Scheme) (Main & Re-appear)

AE

AE-302-B

AUTOMOTIVE FUELS AND LUBRICANTS

*Time : 3 Hours]*

*[Maximum Marks : 75*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note** : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(1-08/27) M-F-191

**P.T.O.**

### **Unit I**

1. What do you understand by Petroleum Refining Process ? Discuss the various products obtained from refining of Petroleum and their uses.
2. Define Octane number. What is the effect of fuel structure on knocking and also discuss the various other requirement of Fuel ?

### **Unit II**

3. Compare the properties of Alcohols and Gasoline as Engine Fuels.
4. Discuss the suitability of the following fuels in diesel engines :
  - (a) Alcohals
  - (b) Vegetable Oils
  - (c) Biogas.

### **Unit III**

5. Discuss the various methods of determining engine friction and explain the effect of engine variable on engine friction.

6. How lubricating oils are classified and also discuss the service rating of lubricating oils ?

### **Unit IV**

7. Explain, how would you obtain viscosity index of lubricating oil by Say Bolt Viscometer.
8. Explain the techniques and procedure for determining the flash and fire points of Lubricants.