

**B.Sc. CHEMISTRY
FOURTH SEMESTER
PETROLEUM & PETROCHEMICALS
BSC - 406A OLD COURSE [REPEAT]
[USE OMR FOR OBJECTIVE PART]**

**SET
A**

Duration : 1.30 hrs.

Full Marks : 35

Time : 15 min

(Objective)

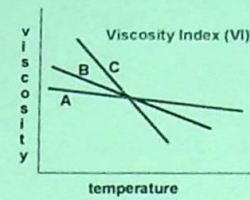
Marks : 10

Choose the correct answer from the following:

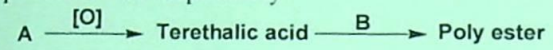
1×10=10

- Which of the following problems associated with the burning of coal
 - Acid rain
 - CO₂ emission
 - Ash with toxic metal impurities
 - All of these
- Which of the following is a non renewable energy source.
 - Solar
 - Methane
 - Hydroelectric
 - Coal
- The calorific value of all organic compound has the sign corresponding to a
 - exothermic reaction
 - Endothermic reaction
 - Displacement reaction
 - Synthesis reaction
- Crude oil is subjected to which distillation process.
 - Fractional distillation
 - Steam distillation
 - Simple distillation
 - Zone distillation
- Which of the following petroleum fuel used as fuel for jet engine?
 - Gasoline
 - super refined gasoline
 - Kerosine oil
 - Diesel oil
- For production of Nylon-6 or Nylon-66, which of the following petrochemical can be used?
 - Benzene
 - p-Xylene
 - m-Xylene
 - ethylene
- Graphite is a _____ Lubricant.
 - Liquid
 - solid
 - semi solid
 - none of these.
- Producer gas is a mixture of:
 - H₂, O₂, N₂
 - H₂, CO₂, N₂
 - H₂, CO, CO₂
 - CO, CO₂, N₂

9. Viscosity index (VI) of lubricants A, B and C is as given below: The grade of these lubricants will be



- a. $A > B > C$
 b. $C > A > B$
 c. $C > B > A$
 d. $B > A > C$
10. In the following set of reaction for production of polyester, the petrochemical 'A' and the compound 'B' are respectively:



- a. Toluene and ethylene glycol
 b. p-xylene and ethylene glycol
 c. p-xylene and ethylene diamine
 d. p-xylene and hexamethylene diamine.

(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

1. What is crude oil? What is its composition? Give a brief account of its formation. 5

2. a. Give a short account of refining of petroleum. What are the different byproducts obtained during the process. 6+4=10
b. Write short note on cracking.

3. What is biogas? What are its composition? What kind of waste will produce biogas? Give a short account of production of biogas from cow dung, also sketch out the chemical transformations that happens during the process. 2+2+6
=10

4. What are lubricants? What are their uses? How are they classified? Give a short account solid lubricants. 2+2+2
+4=10

5. Give a short account what do you mean by petrochemicals? Sketch out, how can you convert ethylene obtained as one of the petrochemical, in to different byproducts? Give chemical reaction with appropriate reagent needed for the purpose. 4+6=10

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