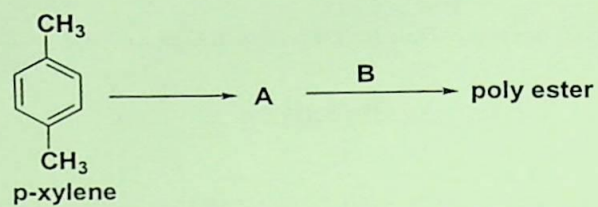


7. The compound A formed and compound B necessary to produce polyester in the following set of reactions are respectively:



- a. Phthalic acid and ethylene glycol. b. Terephthalic acid and ethylene glycol.
c. Phthalic acid and ethylene diamine. d. Terephthalic acid and ethylene diamine.
8. Lubrication is necessary to protect wear and tear caused due to:
a. Electrostatic force b. Gravitational force
c. Frictional force d. Magnetic force
9. Which of the following is an important property of lubrication?
a. Viscosity b. Density
c. Thermal conductivity d. Melting point
10. Water gas is a mixture of:
a. H_2, O_2, N_2 b. H_2, CO_2, N_2
c. H_2, CO, CO_2 d. CO, CO_2, N_2

-- -- --

(PART-B : Descriptive)

Time : 1 hr. 20 min.

Marks : 25

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

1. Give a short account of different types of renewable and nonrenewable source of energy. What are their merits and demerits? 5

2. what is crude oil? Narrate theories of origin of crude oil? Give a short account of refining of crude oil along with name and composition of different fraction. 2+2+6
=10

3. Give a short account of composition, use and production/ sources of the following type of fuels: 10
(i) Bio gas (ii) Natural gas (iii) LPG (iv) LNG (v) SNG

4. a. Explain the following: 3+2=5
(i) Viscosity Index and (ii) Cloud point of a lubricant.

b. What is the full form of the petrochemical BTX. Mention names of some chemicals that can be obtained from these petrochemicals. Give chemistry of production of at least one of the chemicals mentioned. 1+2+2
=5

5. a. Describe coal in terms of its composition, types of coal in terms of carbon content and their uses. 1+2+2

b. Briefly describe composition of different fractions obtained by fractional distillation of coal tar, obtained during carbonization of coal. 5

= = *** = =

[3]