17651

15116

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Figures to the right indicate full marks.

(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) Attempt any THREE of the following: **12**

(i) Name any four Indian refineries with their location and capacity.

(ii) Define:

1) Octane number

2) Aniline point

3) Drop point

4) Flash point

(iii) Draw the flow sheet for manufacture of propylene oxide from propylene.

(iv) Define 'Refinery'. Explain different types of refineries.

b) Attempt any ONE of the following: **06**

(i) List any six fractions obtained from crude oil with their boiling point range and uses.

(ii) Why vacuum distillation is carried out in oil refineries? Explain vacuum distillation with flow diagram.

P.T.O.

Marks

2. Attempt any FOUR of the following: **16**

a) Explain any four factors which affect price of crude oil.

b) Draw the flow sheet for manufacturing of ethylene oxide.

c) Write the reactions involved in manufacturing of methanol and propylene oxide.

d) Explain any one biological method for treatment of waste water from oil refinery.

e) Explain the composition of crude oil.

f) Draw the flow sheet for manufacturing of formaldehyde from methanol.

3. Attempt any TWO of the following: **16**

a) Explain manufacturing of styrene from benzene, with flow sheet.

b) Explain delayed and continuous coking processes with flow sheet.

c) What is 'Reforming'? Explain catalytic reforming, with flow sheet.

4. a) Attempt any THREE of the following: **12**

(i) What is OPEC? What are the objectives of OPEC?

(ii) Explain manufacturing of acetaldehyde from ethylene, with reactions involved.

(iii) Explain sulphuric acid alkylation process with flow sheet.

(iv) Draw the flow sheet for two stage hydrocracking process.

b) Attempt any ONE of the following: **06**

(i) Explain desalting of crude oil with flow diagram.

(ii) Explain atmospheric distillation of crude oil, with flow diagram.

Marks

5. Attempt any TWO of the following: **16**

a) Explain Udex process for recovery of BTX from reformate gasoline.

b) Explain with flow sheet, manufacturing of butadiene from butane.

c) Explain C_4 isomerisation process with flow sheet.

6. Attempt any FOUR of the following: **16**

a) List any two, C_2 and C_3 hydrocarbons each, which are derived from crude oil.

b) Explain filtering and demineralisation of waste water from oil refinery.

c) Give the reasons, why the crude oil is called as 'black gold'?

d) Define:

(i) Ignition Temperature

(ii) Fire point

(iii) Cloud point

(iv) Calorific value

e) Why distillation operation is the major unit operation in oil refinery?

f) Write the reactions involved in hydrogenation and hydration processes.