22611

12425

03 Hours / 70 Marks Seat No. | | | | | | | | |

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

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

(3) Illustrate your answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

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

Marks

1. Attempt any FIVE of the following: **10**

a) List the names of four oil producing countries in the world.

b) Define flash point and aniline point.

c) Define thermal cracking and catalytic cracking.

d) List the chemicals derived from C_2 hydrocarbon. (Any four)

e) Give two uses of each of the following:

i) Butadiene

ii) MTBE.

f) Define octane number and cetane number.

g) List four refinery products obtained from crude oil.

P.T.O.

Marks

2. Attempt any THREE of the following: **12**

a) Describe factors affecting price of crude oil.

b) List out the fractions obtained from distillation with their boiling point ranges and uses. (Any eight)

c) Name any four test properties of Kerosene and Diesel.

d) Draw the flowsheet for manufacturing of styrene.

3. Attempt any THREE of the following: **12**

a) Describe vacuum distillation with diagram.

b) Give chemical reactions involved in manufacturing of:

i) Benzoic acid from toluene

ii) Aniline from phenol.

c) List any two chemicals obtained from aromatics. Give two uses of each.

d) Define octane number and cetane number. State their significance.

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

a) Describe fluidised bed catalytic cracking.

b) Define:

i) Smoke point

ii) Pour point

iii) Drop point

iv) Cloud point.

c) Explain any one method for oil removal of waste water from oil refinery.

d) Describe composition of crude oil.

e) Explain manufacturing of Acetaldehyde.

Marks

5. Attempt any TWO of the following: **12**

a) Describe with sketch the procedure to measure flash and fire point of oil with pensky Marten's apparatus.

b) Describe production and separation of BTX.

c) Draw flowsheet for reforming process and describe it with reactions involved in it.

6. Attempt any TWO of the following: **12**

a) Give two uses of following chemicals:

i) methanol

ii) ethylene oxide

iii) vinyl chloride.

b) Describe manufacturing of cumene with flowsheet and reaction.

c) Explain thermal and catalytic cracking.