17427

11819

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

Instructions : *(1)* ***All*** *questions are* ***compulsory****.*
(2) Answer ***each*** *next main question on a* ***new*** *page.*
(3) Illustrate your answers with neat sketches ***wherever*** *necessary.*
(4) Figures to the ***right*** *indicate* ***full*** *marks.*
(5) Assume suitable data, if ***necessary****.*

Marks

1. A) Attempt **any six** : **12**

a) Enlist raw material required for manufacture of paper.

b) Define (1) Acid value (2) Saponification value.

c) Write reaction involved in manufacture of acetic acid by oxidation.

d) Enlist uses of Butanol and Acetic acid.

e) Explain hydrogenation of oil.

f) Enlist methods of manufacturing soap.

g) Write uses of Rayon.

B) Attempt **any two** : **8**

a) Draw flow sheet for manufacturing PVC by emulsion polymerization.

b) Enlist constituents of black pigments, white pigments, blue pigments and red pigments.

c) Compare between soap and detergents.

2. Attempt **any four** : **16**

a) Explain manufacturing of Butanol by oxo process.

b) Draw neat flow sheet for manufacturing of paints.

c) Describe raw materials reactions for manufacturing pulp.

d) Draw flow sheet for manufacturing phenol from cumene.

e) Describe raw materials, reactions and uses for polystyrene.

f) Describe in detail extraction of oil by solvent process.

P.T.O.

Marks

3. Attempt **any four** : **16**

a) Describe raw materials and reactions involved in production of Ethyl alcohol from corn.

b) Explain w.r. to varnishes :

(1) Raw materials

(2) Steps involved in manufacturing.

c) Compare sulphate and sulphite process of manufacturing pulp.

d) Describe Rasching process for phenol.

e) Describe uses of (1) PVC (2) Polystyrene (3) Polyethylene (4) Polyesters.

f) Draw labelled flowsheet for manufacturing polyethylene by low pressure ziegler process.

4. Attempt **any four** : **16**

a) Explain reaction involved and uses of polyvinyl chloride.

b) Describe raw material required for manufacturing and types of paints.

c) Draw flowsheet for manufacturing acetic acid by catalytic oxidation of acetaldehyde.

d) Compare hot process and cold process for soap manufacturing.

e) Explain any one method of manufacturing detergents.

f) Draw flow for manufacture of polyester fiber from DMT.

5. Attempt **any two** : **16**

a) Describe with neat flowsheet manufacture of ethylalcohol from molasses.

b) Explain w.r. to detergents :

(1) Detergent builder (2) Additives

(3) Bleaching agent (4) Brightners.

c) Draw neat flow sheet and reaction involved in manufacture of phenol by Toluene oxidation process.

6. Attempt **any two** : **16**

a) Describe manufacturing process of viscous Rayon from cellulose.

b) Draw flowsheet for manufacturing of polystyrene.

c) Describe manufacturing method of phenol by chlorobenzene route.
