17221

16117

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

Marks

1. Answer any FIVE of the following: **20**

a) How are organic compounds classified according to functional group?

b) Explain homolytic and hetrolytic bond fission.

c) Explain IUPAC rules for naming alkanes.

d) Define absolute alcohol. Explain its uses.

e) Describe preparation of acetic acid from Grignard reagent.

f) Define amino acids. Give its classification.

g) Give laboratory preparation of acetone.

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

a) Define homologues and write homologues series.

b) Explain with an example, re-arrangement reaction.

c) How will you prepare ethane by catalytic hydrogenation of unsaturated hydrocarbon?

Marks

d) Give addition reaction of acetaldehyde with:

(i) hydroxylamine

(ii) phenylhydrazine

e) Give preparation of acetic acid from hydrolysis of alkylcynide.

f) Explain zwitter ion of amino acids.

3. Answer any FOUR of the following: **16**

a) Explain nucleophilic substitution SN^1 and SN^2 reactions.

b) How will you prepare alkenes by dehydro halogenation of alkyl halides?

c) Explain wurtz reaction, with an example.

d) Write reactions of glycerol with:

(i) phosphorus pentachloride

(ii) sodium

e) How do an aldehyde react with?:

(i) Tollen's reagent

(ii) Fehling solution

Explain with chemical reactions.

f) (i) Explain effect of heat on oxalic acid.

(ii) Write uses of oxalic acid.

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

a) Explain Markonikoff rule.

b) Give preparation of ethanol from acetaldehyde.

c) Explain halogenation of alkane.

d) Describe a method of separation of proteins.

e) Write reactions of acetic acid involving:

(i) salt formation

(ii) amide formation

f) Represent only by reactions preparation of urea formaldehyde resin. State two uses of the resin.

Marks

5. Answer any FOUR of the following: **16**

a) Define electrophiles and nucleophiles. Give two examples of each.

b) Explain preparation of ethyne by the action of water on metallic carbide.

c) (i) Write general formula of an alkyne. Name simplest alkyne. 1

(ii) Write industrial uses of alkynes. 3

d) How do oxalic acid react with?

(i) potassium hydroxide

(ii) ethyl alcohol

e) What are proteins? How are they classified?

f) (i) Define:

1) methylated spirit

2) denatured spirit

(ii) Define power alcohol. State its uses.

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

a) Explain uses of alkanes as fuel and as solvent.

b) (i) Write a synthetic route for preparation of glycerol.

(ii) Define glycol. Name and write structural formula of ethylene glycol. Write boiling point of ethylene glycol.

c) How does acetone react with:

(i) hydroxyl amine

(ii) grignard reagent

d) Explain meaning of isoelectric point.

e) Explain with example, elimination reaction in organic compound.

f) Write general characteristics of organic compounds.
