312334

12425

3 Hours / 70 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. Attempt any FIVE of the following : **10**

(a) Define Hydrogen bond.

(b) State general relation between empirical formula and molecular formula.

(c) State functional group.

(d) Define asymmetric carbon atom with an example.

(e) List any four aromatic compounds from ancient India in Rasashala of Nagarjuna.

(f) Distinguish between Alkane and Alkene (any two points).

(g) List any two processes of purifying monomers.

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

(a) State Huckel's rule of aromaticity. Explain with an example.

(b) Distinguish between addition polymerization and condensation polymerization.

(c) Explain resonance structure of benzene.

(d) Draw structural formula and write one use of each (i) Toluene and (ii) Aniline.

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

(a) Write mechanism of Friedel-Craft alkylation of benzene.

(b) Differentiate between polar and non-polar covalent bonds.

(c) Distinguish between geometrical and optical isomerism.

(d) Explain classification of organic compounds on the basis of their structure.

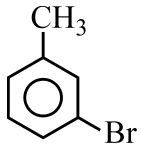
4. Attempt any THREE of the following : **12**

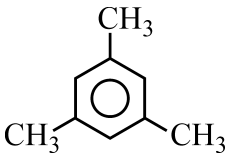
(a) Explain Carothers' equations and its notations.

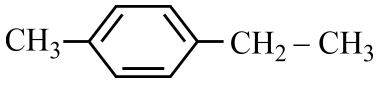
(b) Write structural formula of ketone and amines with atleast one example of each.

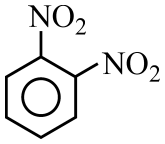
(c) Explain chlorination of benzene & also explain its mechanism with chemical reactions.

(d) Write IUPAC name of following organic compounds :

(i) 

(ii) 

(iii) 

(iv) 

(e) An organic compound contains 52.4% Carbon, 13.05% Hydrogen and 34.55% Oxygen. Calculate its empirical formula.

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

(a) Define Isomerism. Explain cis and trans isomers with one example each.

(b) Explain Optical activity of Lactic acid and Tartaric acid.

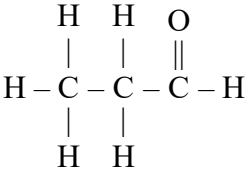
(c) Write IUPAC name, molecular formula and structural formula of Acetamide and Methylamine.

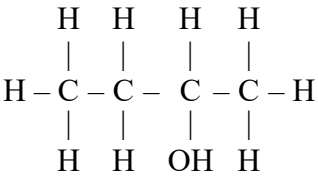
6. Attempt any TWO of the following : **12**

(a) Define ester with an example. Write IUPAC name, molecular formula and structural formula of the given example.

(b) Define polymer with an example. Compare the behaviour of benzene and polyethylene upon heating.

(c) Write IUPAC name and functional group for each of the following compounds :

(i)


(ii)


(iii)