UNIT- 11 – FUNDAMENTALS OF ORGANIC CHEMISTRY

I. Answer in brief (2/3 marks)

1. Write a note on homologous series.
2. What is meant by a functional group?

   Identify the functional group in the following compounds.

   (a) acetaldehyde (b) oxalic acid (c) di methyl ether (d) methylamine
3. Give the general formula for the following classes of organic compounds

   (a) Aliphatic monohydric alcohol (b) Aliphatic ketones. (c) Aliphatic amines.

II. Answer in a paragraph (5 marks)

1. Give the general characteristics of organic compounds.
2. Describe the classification of organic compounds based on their structure.
3. Give the IUPAC names of the following compounds.

(i) $(CH_3)_2CH-CH_2-CH(CH_3)-CH(CH_3)_2$

(ii) $CH_3-\underset{\displaystyle CH_3}{\underset{|}{CH}}-\underset{\displaystyle Br}{\underset{|}{CH}}-CH_3$

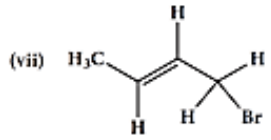
(iii) CH_3-O-CH_3

(iv) $CH_3-CH_2-\underset{\displaystyle OH}{\underset{|}{CH}}-CHO$

(v) $CH_2=CH-CH=CH_2$

(vi) $CH_3-C\equiv C-\underset{\displaystyle Cl}{\underset{|}{CH}}-CH_3$

(vii)



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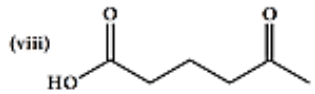

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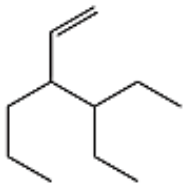

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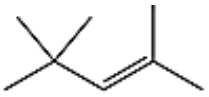

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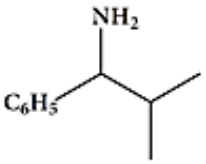

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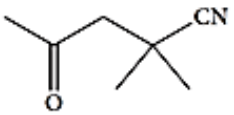

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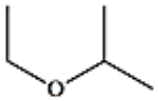
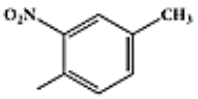


(xiv)



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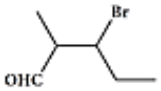

4. Describe the reactions involved in the detection of nitrogen in an organic compound by Lassaigne method.
5. Give the principle involved in the estimation of halogen in an organic compound by carius method.
6. Give a brief description of the principles of
   i) Fractional distillation
   ii) Column Chromatography
7. Explain paper chromatography
8. Describe optical isomerism with suitable example.
9. 0.24g of an organic compound gave 0.287 g of silver chloride in the carius method. Calculate the percentage of chlorine in the compound.