CLASS XI CHE CH: 8

SET 2

1.

The term *organic chemistry* was first introduced by –
a) Wöhler b) Berzelius c) Kolbe d) Berthelot

2.

Wöhler disproved the vital force theory by synthesising –
a) Urea b) Methane c) Acetic acid d) Formic acid

3.

Kolbe prepared acetic acid from –
a) Methane b) Carbon dioxide c) Inorganic compounds d) Ammonium cyanate

4.

The bond angle in CH_4 is –
a) 90° b) 109.5° c) 120° d) 180°

5.

Hybridisation of carbon in ethene (C_2H_4) is –
a) sp b) sp^2 c) sp^3 d) dsp^2

6.

Which compound has all carbon atoms sp^2 hybridised?
a) Ethane b) Ethene c) Ethyne d) Propane

7.

Which bond is formed by sidewise overlap of p-orbitals?
a) σ b) π c) Ionic d) Coordinate

8.

In ethyne, number of σ and π bonds respectively are –
a) 3, 2 b) 2, 3 c) 5, 1 d) 1, 2

9.

Rotation around double bond is restricted because –
a) σ bond prevents rotation b) π bond prevents rotation c) both d) none

CLASS XI CHE CH: 8

10.

Condensed structural formula of ethane is –
a) C_2H_6 b) CH_3CH_3 c) $CH_2=CH_2$ d) CH_3OH

11.

Bond-line formula omits –
a) Carbon atoms b) Hydrogen atoms c) Functional groups d) Both C and H

12.

The shape of CH_3^+ ion is –
a) Linear b) Trigonal planar c) Tetrahedral d) Pyramidal

13.

The shape of CH_3^- ion is –
a) Planar b) Pyramidal c) Linear d) Square planar

14.

Which compound is cyclic?
a) Hexane b) Cyclohexane c) Pentane d) Propane

15.

Heterocyclic compound among the following is –
a) Cyclohexane b) Pyridine c) Benzene d) Hexane

16.

Functional group responsible for basic character of amines is –
a) $-NH_2$ b) –OH c) –COOH d) –CHO

17.

Members of same homologous series show –
a) Similar chemical properties b) Different functional group c) Same molecular mass d) Random reactions

18.

General formula of alkanes is –
a) CnH_2n b) CnH_{2n+2} c) CnH_{2n-2} d) CnH_2nO_2

19.

CLASS XI CHE CH: 8

The compound $CH_3CH_2CH_2CH_3$ is –
a) Butane b) Pentane c) Propane d) Hexane

20.

An alkyl group derived from propane is –
a) Methyl b) Ethyl c) Propyl d) Butyl

21.

The name “isopropyl” denotes –
a) Straight chain b) Secondary carbon c) Tertiary carbon d) Quaternary carbon

22.

The IUPAC name of isobutane is –
a) 2-Methylpropane b) 2-Methylbutane c) 3-Methylpentane d) But-2-ene

23.

The longest chain rule is used in –
a) Molecular formula b) IUPAC naming c) Structural drawing d) Balancing equations

24.

The correct IUPAC name of the compound
$CH_3–CH(CH_3)–CH(CH_3)–CH_3$ is –
a) 2,3-Dimethylbutane b) 3,3-Dimethylbutane c) 2,2-Dimethylbutane d) Pentane

25.

2,2,4-Trimethylpentane is commonly called –
a) Isooctane b) Neopentane c) Isobutane d) Octane

26.

Cyclic compound having 5 carbon atoms is –
a) Cyclopentane b) Cyclohexane c) Cyclobutane d) Cyclopropane

27.

The functional group with the suffix “–one” is –
a) Alcohol b) Ketone c) Aldehyde d) Acid

28.

The compound CH_3COCH_3 is –
a) Methanol b) Ethanal c) Acetone d) Formaldehyde

CLASS XI CHE CH: 8

29.

The IUPAC name of CH_3CH_2OH is –
a) Methanol b) Ethanol c) Propanol d) Butanol

30.

The compound CH_3CH_2CHO is –
a) Propanal b) Propanone c) Acetone d) Acetic acid

31.

The suffix used for carboxylic acids is –
a) –one b) –al c) –oic acid d) –amine

32.

The compound with both –OH and –COOH groups is –
a) Alcohol b) Aldehyde c) Hydroxy acid d) Ketone

33.

Functional group priority in naming is highest for –
a) Alcohol b) Ketone c) Aldehyde d) Carboxylic acid

34.

In 3-nitroaniline, the substituents are at positions –
a) 1 and 2 b) 1 and 3 c) 1 and 4 d) 2 and 4

35.

In ortho-xylene, two methyl groups are –
a) Adjacent b) Opposite c) Alternate d) None

36.

The trivial name of phenylmethanol is –
a) Phenol b) Benzyl alcohol c) Anisole d) Toluene

37.

Compounds having same molecular formula but different connectivity are –
a) Structural isomers b) Geometrical isomers c) Optical isomers d) Tautomers

38.

CLASS XI CHE CH: 8

Metamerism arises due to –
a) Different alkyl chains on either side of functional group b) Different position of group c) Chain length d) Optical activity

39.

Functional group isomerism is shown by –
a) Alcohols and ethers b) Alkanes and alkenes c) Aldehydes and acids d) Both a and c

40.

Free radicals are formed by –
a) Homolytic fission b) Heterolytic fission c) Ionic fission d) None

41.

Carbocation is formed by –
a) Gaining electron b) Losing an electron pair c) Sharing electrons d) Accepting electrons

42.

Carbanion has –
a) 6 valence electrons b) 8 valence electrons c) 10 valence electrons d) 4 valence electrons

43.

Which is a nucleophile?
a) NH_3 b) BF_3 c) H^+ d) $AlCl_3$

44.

Electrophile is –
a) Electron donor b) Electron acceptor c) Free radical d) Lewis base

45.

Curved-arrow notation represents –
a) Nucleus movement b) Electron movement c) Proton transfer d) Ion formation

46.

The permanent electron displacement due to polarity is called –
a) Resonance b) Inductive effect c) Hyperconjugation d) Electromeric effect

47.

CLASS XI CHE CH: 8

The temporary shift of π-electrons in presence of reagent is –
a) +E or –E effect b) +R or –R c) Inductive d) Hyperconjugation

48.

The resonance energy of benzene indicates –
a) It is unstable b) It is more stable than expected c) It has alternating bonds d) It has no π bonds

49.

Sublimation is used for purification of –
a) Naphthalene b) Sugar c) Salt d) Alcohol

50.

The process of separating a mixture of liquids based on boiling point differences is –
a) Filtration b) Crystallisation c) Distillation d) Extraction

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ANSWERS – SET 2

1-b	2-a	3-c	4-b	5-b	6-b	7-b	8-a	9-b	10-b
11-b	12-b	13-b	14-b	15-b	16-a	17-a	18-b	19-a	20-c
21-b	22-a	23-b	24-a	25-a	26-a	27-b	28-c	29-b	30-a
31-c	32-c	33-d	34-b	35-a	36-b	37-a	38-a	39-d	40-a
41-b	42-b	43-a	44-b	45-b	46-b	47-a	48-b	49-a	50-c