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SSC-I NATIONAL BOOK FOUNDATION FBISE

CHEMISTRY TEST - CHAPTER 13: ORGANIC CHEMISTRY

Name:		Roll No.		Section:

Total Time: 2:30 Hour
Time Allowed: 150 Minutes

Total Marks: 150

PAPER OBJECTIVE
SECTION-A (MARKS 150)

NOTE: Section-A is compulsory. All parts of this section are to be answered on these pages and handed over to the center superintendent. Deleting / overwriting is not allowed. Do not use lead pencil.

Q.1 Fill the relevant bubble for each part. All parts carry one mark.

Questions	A	B	C	D	A B C D
1. The study of carbon-containing compounds is called:	Physical chemistry	Analytical chemistry	Inorganic chemistry	Organic chemistry	○○○●
2. Which of these carbon compounds is considered inorganic?	Methane	Carbon dioxide	Ethanol	Benzene	○●○○
3. Another example: Which of these carbon compounds is considered inorganic?	Propane	Glucose	Carbonates	Ethene	○○●○
4. Yet another: Which of these carbon compounds is considered inorganic?	Butane	Methanol	Carbides	Acetic acid	○○●○
5. Which of these is an organic product used in modern life?	Salt	Sand	Plastics	Water	○○●○
6. Organic products include rubber, synthetic fibres, paints and:	Gases only	Salts	Drugs	Metals	○○●○
7. Most of our energy depends on organic materials in coal, oil and:	Water	Sand	Natural gas	Air	○○●○
8. Carbon is the essential constituent of organic compounds in combination with H, O, N, S, P and:	Alkali metals	Transition metals	Halogens	Noble gases	○○●○
9. Organic compounds are also defined as hydrocarbons and their:	Salts	Derivatives	Oxides	Acids only	○●○○
10. A series of related compounds in which adjacent members differ by $-CH_2-$ is a:	Isotope series	Isomer series	Periodic series	Homologous series	○○○●
11. Methane, ethane, propane and butane belong to the:	Alkanes	Alkenes	Alkynes	Alcohols	●○○○
12. Methanol, ethanol and propanol belong to the:	Acids	Alkanes	Alcohols	Ethers	○○●○

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Questions	A	B	C	D	A B C D
13. Adjacent members of a homologous series differ by:	–H	$–CH_2–$	–OH	$–CH_3$	○●○○
14. Members of a homologous series have the same:	Physical state	Molecular mass	Boiling point	Functional group	○○○●
15. Members of a homologous series have the same general:	Mass	Formula	Colour	Name	○●○○
16. Members of a homologous series show a _____ in physical properties.	No change	Trend	Random change	Reversal	○●○○
17. The general formula of alkanes is:	C_nH_{2n}	C_nH_n	C_nH_{2n-2}	C_nH_{2n+2}	○○○●
18. The general formula of alkenes is:	C_nH_{2n}	C_nH_{2n-2}	C_nH_{2n+2}	C_nH_n	●○○○
19. The general formula of alkynes is:	C_nH_n	C_nH_{2n-2}	C_nH_{2n+2}	C_nH_{2n}	○●○○
20. The general formula of alcohols is:	$C_nH_{2n}OH$	$C_nH_{2n-1}OH$	$C_nH_{2n+1}OH$	C_nH_nOH	○○●○
21. The molecular formula of methane is:	C_2H_6	C_3H_8	C_4H_{10}	CH_4	○○○●
22. The molecular formula of ethane is:	C_4H_{10}	C_3H_8	CH_4	C_2H_6	○○○●
23. The molecular formula of propane is:	C_4H_{10}	C_2H_6	C_3H_8	CH_4	○○●○
24. The molecular formula of butane is:	C_4H_{10}	C_5H_{12}	C_2H_6	C_3H_8	●○○○
25. The molecular formula of ethene is:	C_2H_2	C_2H_6	CH_4	C_2H_4	○○○●
26. The molecular formula of ethyne is:	C_2H_4	C_2H_6	C_2H_2	CH_4	○○●○
27. The molecular formula of methanol is:	CH_3OH	CH_4O_2	C_3H_7OH	C_2H_5OH	●○○○
28. The molecular formula of ethanol is:	C_3H_7OH	C_2H_6	C_2H_5OH	CH_3OH	○○●○
29. For an alkane with n = 5, the molecular formula is:	C_5H_{12}	C_5H_{14}	C_5H_{10}	C_5H_8	●○○○

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Questions	A	B	C	D	A B C D
30. For an alkene with n = 3, the molecular formula is:	C_3H_{10}	C_3H_4	C_3H_8	C_3H_6	○○○●
31. For an alkyne with n = 3, the molecular formula is:	C_3H_2	C_3H_4	C_3H_6	C_3H_8	○●○○
32. For an alcohol with n = 3, the formula is:	C_3H_7OH	C_3H_6OH	C_3H_5OH	C_3H_8OH	●○○○
33. Ethanol and dimethyl ether have the same molecular formula:	C_3H_8O	C_2H_6	C_2H_4O	C_2H_6O	○○○●
34. Propanoic acid and methyl ethanoate have the same molecular formula:	$C_2H_4O_2$	$C_3H_6O_2$	C_3H_6O	C_3H_8O	○●○○
35. In ethanol, the oxygen atom is bonded to:	One carbon and one hydrogen	Two oxygens	Two carbons	Two hydrogens	●○○○
36. In dimethyl ether, the oxygen atom is bonded to:	Two carbon atoms	Nitrogen	One carbon and one hydrogen	Two hydrogens	●○○○
37. A formula that describes the arrangement of atoms in a molecule is the:	Molecular formula only	Empirical formula	Formula unit	Structural formula	○○○●
38. The structural formula of methane shows _____ C–H bonds.	Four	Three	Two	Six	●○○○
39. A condensed structural formula uses _____ for groups of atoms.	Numbers only	Abbreviations	Dots	Colours	○●○○
40. The condensed formula of propane is:	CH_3CH_3	CH_4	$CH_3CH_2CH_2CH_3$	$CH_3CH_2CH_3$	○○○●
41. The group –CH_3 is called:	Methylene	Methyl	Methane	Methanol	○●○○
42. The group –CH_2– is called:	Methanol	Methane	Methyl	Methylene	○○○●
43. An alkyl radical contains _____ hydrogen than its parent alkane.	Two less	Two more	One more	One less	○○○●
44. Hydrocarbons contain only carbon and:	Nitrogen	Oxygen	Chlorine	Hydrogen	○○○●
45. Hydrocarbons with all single bonds are called:	Cyclic	Saturated	Unsaturated	Aromatic	○●○○
46. Saturated hydrocarbons are also called:	Arenes	Alkenes	Alkanes	Alkynes	○○●○

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Questions	A	B	C	D	A B C D
47. In alkanes each carbon atom is bonded to _____ other atoms.	Four	Two	Six	Three	●○○○
48. The simplest alkane is:	Propane	Butane	Ethane	Methane	○○○●
49. Hydrocarbons with C–C multiple bonds are:	Unsaturated	Cyclic only	Alkanes	Saturated	●○○○
50. Unsaturated hydrocarbons with at least one C=C bond are:	Alkynes	Alcohols	Alkenes	Alkanes	○○●○
51. Unsaturated hydrocarbons with at least one C≡C bond are:	Alkenes	Alkanes	Alcohols	Alkynes	○○○●
52. Ethene is an example of an:	Alkene	Alkyne	Alkane	Alcohol	●○○○
53. Ethyne is an example of an:	Alcohol	Alkane	Alkyne	Alkene	○○●○
54. Carbon has _____ bonding electrons in its valence shell.	Two	Eight	Six	Four	○○○●
55. Carbon forms _____ bonds with other atoms.	Two	Six	Four	Three	○○●○
56. The self-linking ability of carbon is called:	Hybridization	Catenation	Isomerism	Polymerization	○●○○
57. Catenation allows carbon to form long chains, branched chains and:	Noble gases	Metals	Rings	Ions	○○●○
58. No other element competes with _____ in catenation.	Nitrogen	Carbon	Silicon	Oxygen	○●○○
59. Silicon can form only _____ chains.	Infinite	Branched only	Very long	Short	○○○●
60. Carbon chains may contain _____ of carbon atoms.	Ten	Thousands	Two	Four	○●○○
61. Compounds with the same molecular formula but different arrangement of atoms are:	Homologues	Structural isomers	Allotropes	Isotopes	○●○○
62. The phenomenon of having structural isomers is called:	Allotropy	Polymerization	Isomerism	Catenation	○○●○
63. n-Butane and iso-butane are:	Structural isomers	Isotopes	Homologues	Allotropes	●○○○

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Questions	A	B	C	D	A B C D
64. The molecular formula of both n-butane and iso-butane is:	C_4H_{10}	C_5H_{12}	C_4H_8	C_3H_8	●○○○
65. 1-Butene and 2-Butene are:	Homologues	Structural isomers	Isotopes	Allotropes	○●○○
66. The molecular formula of both 1-butene and 2-butene is:	C_4H_6	C_3H_6	C_4H_8	C_4H_{10}	○○●○
67. Organic compounds are broadly divided into two main groups: open chain and:	Closed square	Cyclic	Metallic	Ionic	○●○○
68. Open chain compounds are also called:	Acyclic compounds	Ionic compounds	Cyclic compounds	Aromatic compounds	●○○○
69. Compounds containing rings of carbon atoms are:	Acyclic compounds	Aliphatic only	Cyclic compounds	Open chain compounds	○○●○
70. An atom or group of atoms that gives a family its characteristic properties is a:	Functional group	Radical	Isotope	Homologue	●○○○
71. Functional groups serve as the basis for _____ organic compounds.	Naming	Weighing	Burning	Melting	●○○○
72. A functional group is a site of chemical:	Mass	Colour	Stability only	Reactivity	○○○●
73. All compounds with the same functional group belong to the same:	Mass	Class	Colour	Period	○●○○
74. Methyl alcohol has the functional group:	–OH	–CHO	–COOH	–Cl	●○○○
75. In methyl chloride, the functional group is:	$–NH_2$	–Cl	–OH	–CHO	○●○○
76. A haloalkane is formed when one hydrogen of an alkane is replaced by a:	Amino group	Hydroxyl group	Halogen atom	Carboxyl group	○○●○
77. CH_3Cl is named:	Chloroethane	Chloromethane	Methanol	Methyl alcohol	○●○○
78. CH_3CH_2Cl is named:	Ethanol	Chloromethane	Chloroethane	Ethene	○○●○
79. CH_3CH_2I is named:	Ethene	Iodoethane	Ethanol	Chloroethane	○●○○
80. CH_3Br is named:	Chloromethane	Methanol	Bromomethane	Methane	○○●○

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Questions	A	B	C	D	A B C D
81. The functional group of alcohols is the _____ group.	Amino	Carboxyl	Hydroxyl	Carbonyl	○○●○
82. Another example: The general formula of alcohols is:	R–OH	R–O–R′	R–CHO	R–COOH	●○○○
83. 1-Propanol has the formula:	CH_3OH	CH_3CH_2OH	$CH_3CH_2CH_2CH_2OH$	$CH_3CH_2CH_2OH$	○○○●
84. 1-Butanol has the formula:	CH_3OH	$CH_3CH_2CH_2CH_2OH$	$CH_3CH_2CH_2OH$	CH_3CH_2OH	○●○○
85. When –OH is attached to a benzene ring, the compound is a:	Alcohol	Phenol	Ketone	Ether	○●○○
86. _____ was the first antiseptic used in operation theatres.	Methanol	Phenol	Acetone	Ethanol	○●○○
87. C_6H_5OH is a strong germicide used to disinfect:	Foods	Fruits	Drinks	Floors and furniture	○○○●
88. Compounds with two alkyl groups bonded to the same oxygen are:	Ethers	Alcohols	Ketones	Esters	●○○○
89. Ethers have the linkage:	C–O–C	C–OH	C–N	C=O	●○○○
90. The general formula of ethers is:	R–O–R′	R–OH	R–COOH	R–CHO	●○○○
91. CH_3–O–CH_3 is named:	Dimethyl ether	Methanol	Diethyl ether	Ethanol	●○○○
92. $CH_3CH_2OCH_2CH_3$ is named:	Diethyl ether	Ethanol	Dimethyl ether	Methanol	●○○○
93. Diethyl ether was used as an anaesthetic but is now limited because it is:	Inflammable and causes nausea	Costly	Heavy	Coloured	●○○○
94. CH_3OH is poisonous and can cause blindness or:	Death	Sleep	Growth	Joy	●○○○
95. Aldehydes and ketones contain the _____ group.	Amino	Carboxyl	Hydroxyl	Carbonyl	○○○●
96. An aldehyde has at least _____ hydrogen atom attached to the carbonyl carbon.	Zero	Two	Three	One	○○○●
97. A ketone has _____ alkyl groups attached to the carbonyl carbon.	Two	Zero	Three	One	●○○○

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Questions	A	B	C	D	A B C D
98. The condensed form of the aldehyde group is:	–OH	–CHO	–NH_2	–COOH	○●○○
99. The general formula of ketones is:	RCOR′	ROR′	RCHO	RCOOH	●○○○
100. CH_3COCH_3 is named:	Propanal	Ethanal	Propanone (acetone)	Methanol	○○●○
101. $CH_3COCH_2CH_3$ is named:	Propanone	Ethanone	Butanone	Pentanone	○○●○
102. Acetone is a common solvent for fats, rubbers and:	Metals	Water only	Plastics	Salts	○○●○
103. CH_3CH_2CHO has a _____ odour.	Sweet	Foul irritating	No	Fruity	○●○○
104. HCHO is named:	Methanol	Ethanal	Methanoic acid	Methanal (formaldehyde)	○○○●
105. The functional group of carboxylic acids is the _____ group.	Carbonyl	Amino	Hydroxyl	Carboxyl	○○○●
106. The general formula of carboxylic acids is:	R–OH	R–CHO	R–COOH	R–COR′	○○●○
107. HCOOH is named:	Methanal	Methanoic (formic) acid	Methanol	Ethanoic acid	○●○○
108. CH_3COOH is named:	Ethanal	Ethanoic (acetic) acid	Ethanol	Methanoic acid	○●○○
109. Vinegar contains:	Citric acid	Acetic acid	Nitric acid	Formic acid	○●○○
110. Acetic acid is used to flavour food and make the polymer:	Polyethene	Polyvinyl acetate	PVC	Nylon	○●○○
111. In a carboxylic acid, the _____ group is attached to the carbonyl carbon.	–OH	–NH_2	–H	–Cl	●○○○
112. The difference between carbonyl and carboxyl is that carboxyl also has:	–H only	–OH	–NH_2	–Cl	○●○○
113. Esters have the functional group:	–CHO	–COOH	–OH	–COOR′	○○○●
114. The general formula of esters is:	RCOOH	RCOR′	ROR′	RCOOR′	○○○●

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Questions	A	B	C	D	A B C D
115. CH_3COOCH_3 is named:	Methyl methanoate	Ethyl ethanoate	Methyl ethanoate (methyl acetate)	Ethyl methanoate	○○●○
116. $CH_3COOCH_2CH_3$ is named:	Methyl propanoate	Ethyl ethanoate (ethyl acetate)	Ethyl methanoate	Methyl ethanoate	○●○○
117. Amides have the general formula:	RNH_2	RCOR′	$RCONH_2$	RCOOH	○○●○
118. The functional group of amines is:	–CHO	–OH	$–NH_2$	–COOH	○○●○
119. The general formula of amines is:	R–CHO	R–COOH	R–OH	$R–NH_2$	○○○●
120. CH_3NH_2 is named:	Ethylamine	Methanamide	Methanol	Methylamine	○○○●
121. $CH_3CH_2NH_2$ is named:	Ethylamine	Ethanol	Methylamine	Ethanamide	●○○○
122. Hydrocarbon derivatives have functional groups replacing:	Carbon atoms	Neutrons	Oxygen atoms	Hydrogen atoms	○○○●
123. In an aldehyde, the carbonyl carbon is attached to a:	Hydroxyl group	Amino group	Hydrogen atom	Two alkyl groups	○○●○
124. In a ketone, the carbonyl carbon lies between:	Two hydrogen atoms	Nitrogen and oxygen	Hydrogen and oxygen	Two other carbon atoms	○○○●
125. A compound with –CHO group is an:	Aldehyde	Ketone	Acid	Ester	●○○○
126. A compound with –COOH group is a:	Ester	Ketone	Carboxylic acid	Aldehyde	○○●○
127. A compound with –OH group on a chain is an:	Ketone	Ester	Alcohol	Ether	○○●○
128. A compound with $–NH_2$ is an:	Ester	Ether	Amide	Amine	○○○●
129. CH_3CHO is named:	Ethene	Ethanal	Ethanoic acid	Ethanol	○●○○
130. The unit before Organic Chemistry in the book is:	Biochemistry	Chemical Equilibrium	Hydrocarbons	Environmental Chemistry - Water	○○○●
131. The unit after Organic Chemistry in the book is:	Biochemistry	Matter	Hydrocarbons	Stoichiometry	○○●○

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Questions	A	B	C	D	A B C D
132. Organic compounds play an important role in the body of:	Living beings	Rocks	Metals	Gases only	●○○○
133. The functional group determines the characteristic _____ of a homologous series.	Names only	Colours	Masses	Properties	○○○●
134. Millions of organic compounds are studied easily by classifying them into:	Many random groups	Few families	One group	No group	○●○○
135. Which functional group is present in propanone?	Amino	Hydroxyl	Carbonyl	Carboxyl	○○●○
136. Which functional group is present in ethanoic acid?	Carboxyl	Carbonyl	Amino	Hydroxyl	●○○○
137. Which functional group is present in ethanol?	Carboxyl	Hydroxyl	Carbonyl	Amino	○●○○
138. Which functional group is present in methylamine?	Hydroxyl	Carbonyl	Carboxyl	Amino	○○○●
139. Which functional group is present in chloroethane?	Carboxyl	Chloro (halogen)	Hydroxyl	Carbonyl	○●○○
140. The simplest ketone is:	Propanone	Ethanone	Methanone	Butanone	●○○○
141. The simplest aldehyde is:	Propanal	Butanal	Ethanal	Methanal	○○○●
142. The simplest carboxylic acid is:	Methanoic acid	Butanoic acid	Propanoic acid	Ethanoic acid	●○○○
143. The simplest alcohol is:	Ethanol	Butanol	Propanol	Methanol	○○○●
144. The simplest ether is:	Dimethyl ether	Diethyl ether	Methyl propyl ether	Ethyl methyl ether	●○○○
145. Which pair are homologues?	Methane and methanol	Ethanol and ethanoic acid	Methanol and ethanol	Ethanol and ethane	○○●○
146. Another example: Which pair are homologues?	Methane and ethane	Ethene and ethyne	Ethane and ethene	Methane and methanol	●○○○
147. The next member after butane in the alkane series is:	Hexane	Propane	Pentane	Ethane	○○●○
148. The next member after ethanol in the alcohol series is:	Ethane	Butanol	Methanol	Propanol	○○○●

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Questions	A	B	C	D	A B C D
149. The next member after methanoic acid is:	Butanoic acid	Propanoic acid	Ethanoic acid	Methanol	○○●○
150. Isomers differ in:	Number of carbons	Arrangement of atoms	Number of hydrogens	Molecular formula	○●○○

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