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SSC-I NATIONAL BOOK FOUNDATION FBISE

CHEMISTRY TEST - CHAPTER 6: STOICHIOMETRY

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 chemical formula of a compound tells which elements it contains and the whole-number _____ of atoms.	Ratio	Mass	Colour	Charge	●○○○
2. The chemical formula giving the simplest integer ratio of atoms is the:	Structural formula	Molecular formula	Ionic formula	Empirical formula	○○○●
3. The formula giving the exact number of atoms in a molecule is the:	Word equation	Molecular formula	Formula unit	Empirical formula	○●○○
4. The empirical formula of hydrogen peroxide (H_2O_2) is:	H_2O	HO_2	HO	H_2O_2	○○●○
5. The molecular formula of hydrogen peroxide is:	H_2O	HO	H_2O_2	HO_2	○○●○
6. For water, the empirical and molecular formulas are:	Unknown	Different	Not defined	Same	○○○●
7. Which compound has the same empirical and molecular formula?	H_2O_2	CO_2	C_2H_4	$C_6H_{12}O_6$	○●○○
8. The molecular formula of acetic acid (vinegar) is:	$C_2H_2O_2$	$C_2H_4O_2$	CH_2O	C_2H_6O	○●○○
9. The empirical formula of acetic acid ($C_2H_4O_2$) is:	C_2HO	$C_2H_4O_2$	CH_4O	CH_2O	○○○●
10. The empirical formula of glucose ($C_6H_{12}O_6$) is:	$C_6H_{12}O_6$	$C_3H_6O_3$	CH_2O	CHO	○○●○
11. The empirical formula of a molecule with four P atoms and ten O atoms is:	PO	P_4O_{10}	P_2O_3	P_2O_5	○○○●
12. Caffeine is found in tea and:	Water	Juice	Milk	Coffee	○○○●

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Questions	A	B	C	D	A B C D
13. Molecular mass is the sum of the _____ of all atoms in a molecule.	Radii	Atomic masses	Atomic numbers	Charges	○●○○
14. The molecular mass of water is about:	20 amu	18 amu	16 amu	2 amu	○●○○
15. The molecular mass of CO_2 is:	44 amu	32 amu	28 amu	12 amu	●○○○
16. The molecular mass of glucose ($C_6H_{12}O_6$) is about:	162 amu	342 amu	180 amu	90 amu	○○●○
17. The molecular mass of naphthalene ($C_{10}H_8$) is:	120 amu	138 amu	108 amu	128 amu	○○○●
18. Naphthalene is used in:	Fuels	Mothballs	Medicines	Plastics	○●○○
19. Glucose is also known as:	Baking soda	Lime	Table salt	Blood sugar	○○○●
20. The term 'formula mass' is used for _____ compounds.	Gaseous	Ionic	Covalent	Organic	○●○○
21. A formula unit shows the simplest ratio between cations and anions in an:	Noble gas	Covalent molecule	Metal	Ionic compound	○○○●
22. The formula unit of common salt is:	Na_2Cl	$NaCl_2$	NaCl	Na_2Cl_2	○○●○
23. The formula mass of NaCl is:	58.5 amu	74.5 amu	35.5 amu	23 amu	●○○○
24. The formula mass of $Mg(OH)_2$ is:	42 amu	34 amu	40 amu	58 amu	○○○●
25. Milk of magnesia contains:	$MgCl_2$	$Mg(OH)_2$	$MgSO_4$	MgO	○●○○
26. Milk of magnesia is used to treat:	Pain	Cough	Fever	Acidity	○○○●
27. Table salt is used to flavour food and:	Cut metal	Make glass	Preserve meat	Make rubber	○○●○
28. A binary ionic compound is composed of mono-atomic metal cations and mono-atomic non-metal:	Molecules	Anions	Atoms	Cations	○●○○
29. In naming ionic compounds, the _____ is named first.	Cation	Molecule	Ion pair	Anion	●○○○

Questions	A	B	C	D	A B C D
30. The name of a mono-atomic anion ends with the suffix:	-ite	-ide	-ous	-ate	○●○○
31. The name of NaCl is:	Sodium chlorite	Sodium chlorate	Sodium chlorine	Sodium chloride	○○○●
32. The name of MgO is:	Magnesium oxide	Magnesium oxate	Magnesium dioxide	Magnesium oxygen	●○○○
33. The name of AlN is:	Aluminium nitrate	Aluminium nitrogen	Aluminium nitride	Aluminium nitrite	○○●○
34. The formula of aluminium oxide is:	AlO	Al_3O_2	Al_2O_3	Al_2O	○○●○
35. To write an ionic formula, the total charge on the cation must equal the total charge on the:	Atom	Molecule	Nucleus	Anion	○○○●
36. Subscripts equal to 1 are _____ in the formula.	Omitted	Capitalized	Doubled	Written twice	●○○○
37. A mole of a substance contains _____ particles.	6.022×10^{23}	1.2×10^{24}	6.022×10^{20}	3.011×10^{23}	●○○○
38. Avogadro's number is represented by:	V_n	A_n	M_a	N_a	○○○●
39. A ream of paper is _____ sheets.	1000	12	500	100	○○●○
40. A mole of carbon contains _____ atoms.	1	6	6.022×10^{23}	12	○○●○
41. A mole of water contains _____ molecules.	1	6.022×10^{23}	18	2	○●○○
42. The mass of one mole of a substance is called its:	Density	Molar mass	Atomic number	Mass number	○●○○
43. The mass of one mole of carbon atoms is:	12 g	1 g	24 g	6 g	●○○○
44. The mass of one mole of sulphur atoms is about:	64 g	1 g	32 g	16 g	○○●○
45. The number of atoms in 32 g of sulphur is:	1.2×10^{24}	6.022×10^{23}	3.011×10^{23}	12	○●○○
46. Representative particles can be atoms, molecules, formula units or:	Protons only	Electrons only	Neutrons only	Ions	○○○●

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Questions	A	B	C	D	A B C D
47. One mole of hydrogen gas (H_2) contains _____ molecules.	1	6.022×10^{23}	12.044×10^{23} atoms only	2	○●○○
48. Atomic mass expressed in grams is called:	Gram atomic mass	Gram formula mass	Molar volume	Gram molecular mass	●○○○
49. The gram atomic mass of sodium is:	11 g	35.5 g	12 g	23 g	○○○●
50. The gram atomic mass of zinc is about:	30 g	63.54 g	65 mg	12 g	○●○○
51. Molecular mass expressed in grams is called:	Gram formula mass	Gram atomic mass	Mole fraction	Gram molecular mass	○○○●
52. The gram molecular mass of water is about:	2 g	16 g	18 g	10 g	○○●○
53. The gram molecular mass of glucose is about:	90 g	180 g	18 g	342 g	○●○○
54. Formula mass expressed in grams is called:	Gram molecular mass	Gram formula mass	Gram atomic mass	Molar volume	○●○○
55. The gram formula mass of NaCl is:	58.5 g	74.5 g	23 g	35.5 g	●○○○
56. The gram formula mass of KCl is:	35.5 g	39 g	74.5 g	58.5 g	○○●○
57. Gram atomic mass contains _____ atoms.	12	6.022×10^{23}	6	1	○●○○
58. Gram molecular mass contains _____ molecules.	1	18	12	6.022×10^{23}	○○○●
59. Gram formula mass contains _____ formula units.	6.022×10^{23}	58.5	1	12	●○○○
60. Gram atomic mass, gram molecular mass and gram formula mass all represent:	Molar mass	Volume	Density	Charge	●○○○
61. The molar mass of Na is:	11 g/mol	58.5 g/mol	35.5 g/mol	23 g/mol	○○○●
62. The molar mass of N_2 is:	28 g/mol	32 g/mol	14 g/mol	7 g/mol	●○○○
63. The molar mass of sucrose ($C_{12}H_{22}O_{11}$) is:	342 g/mol	162 g/mol	180 g/mol	360 g/mol	●○○○

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Questions	A	B	C	D	A B C D
64. Ozone has the formula:	O_4	O_2	O_3	O	○○●○
65. The molar mass of ozone is:	24 g/mol	32 g/mol	48 g/mol	16 g/mol	○○●○
66. Ozone is formed from oxygen during:	Fog	Thunderstorms	Frost	Rain	○●○○
67. The mass of 9.05 moles of ozone is about:	144 g	434 g	32 g	48 g	○●○○
68. The mass of 0.25 mol of CO_2 is:	22 g	11 g	4.4 g	44 g	○●○○
69. The molar mass of CO_2 is:	12 g/mol	44 g/mol	32 g/mol	28 g/mol	○●○○
70. The molar mass of H_2 is about:	4 g/mol	16 g/mol	2.016 g/mol	1.008 g/mol	○○●○
71. The number of moles in 5 g of hydrogen gas is about:	0.5	5	2.48	10	○○●○
72. The molar mass of water is about:	2 g/mol	16 g/mol	18.016 g/mol	20 g/mol	○○●○
73. The number of moles in 100 g of ice (water) is about:	18	1	5.55	10	○○●○
74. The molar mass of hydrogen peroxide (H_2O_2) is:	34 g/mol	32 g/mol	17 g/mol	18 g/mol	●○○○
75. The mass of 2.5 moles of H_2O_2 is:	68 g	34 g	85 g	17 g	○○●○
76. The molar mass of $BaSO_4$ (Ba = 137, S = 32, O = 16) is:	185 g/mol	249 g/mol	153 g/mol	233 g/mol	○○○●
77. Barium sulphate suspensions are swallowed before:	X-raying the digestive system	Dental care	Surgery	Blood tests	●○○○
78. The number of atoms in 1.25 moles of Zn is about:	7.53×10^{23}	1.2×10^{23}	6.022×10^{23}	3.0×10^{23}	●○○○
79. The number of atoms in 0.2 moles of aluminium is:	1.2044×10^{23}	6.022×10^{23}	3.0×10^{23}	1.2×10^{24}	●○○○
80. Aluminium foil is used as a wrapper in:	Glass industries	Textile industries	Food industries	Paper industries	○○●○

Questions	A	B	C	D	A B C D
81. Zn is used to galvanize steel to prevent:	Colouring	Corrosion	Melting	Cracking	○●○○
82. The number of molecules in 0.5 mole of CH_4 is:	3.011×10^{23}	1.2×10^{24}	1.5×10^{23}	6.022×10^{23}	●○○○
83. The number of molecules in 0.25 mole of SO_2 is:	3.011×10^{23}	1.5055×10^{23}	1.2×10^{24}	6.022×10^{23}	○●○○
84. Methane is the major component of:	Air	Sea water	Rocks	Natural gas	○○○●
85. Sulphur dioxide reacts with water to form:	Base	Acid rain	Salt	Smoke	○●○○
86. Titanium is used in rockets, aircraft and:	Glass	Jet engines	Paper	Salt	○●○○
87. The number of moles in 3.011×10^{23} Ti atoms is:	0.25	2	0.5	1	○○●○
88. The number of moles in 3.011×10^{22} molecules of formaldehyde (CH_2O) is:	0.5	0.005	5	0.05	○○○●
89. Formaldehyde is used to preserve:	Metals	Wood	Foods	Dead animals	○○○●
90. The molecular formula of formaldehyde is:	C_2H_4O	CH_2O	CH_4O	CO_2	○●○○
91. A chemical equation is a _____ representation of a chemical reaction.	Colourful	Physical	Symbolic	Numerical only	○○●○
92. Reactants are written on the _____ of a chemical equation.	Left	Bottom	Top	Right	●○○○
93. Products are written on the _____ of a chemical equation.	Right	Top	Left	Bottom	●○○○
94. The arrow in a chemical equation shows the direction of the:	Colour	Mass	Heat only	Chemical change	○○○●
95. In a chemical equation, the symbol (s) stands for:	Gas	Aqueous	Solid	Liquid	○○●○
96. In a chemical equation, the symbol (l) stands for:	Solid	Liquid	Gas	Aqueous	○●○○
97. In a chemical equation, the symbol (g) stands for:	Gas	Solid	Liquid	Aqueous	●○○○

Questions	A	B	C	D	A B C D
98. In a chemical equation, the symbol (aq) stands for:	Liquid	Solid	Gas	Aqueous	○○○●
99. A balanced chemical equation has the _____ number of atoms of each type on both sides.	Same	Double	Zero	Different	●○○○
100. A chemical reaction only changes the _____ of atoms.	Number	Mass	Arrangement	Type	○○●○
101. To balance an equation, we change:	Coefficients	Formulas	Subscripts	Symbols	●○○○
102. In balancing an equation, we should NOT change:	Subscripts	Physical states	Coefficients	Arrows	●○○○
103. The balanced equation for burning methane is CH_4 + _____ $O_2 \rightarrow CO_2 + 2H_2O$.	4	3	2	1	○○●○
104. In $CH_4 + O_2 \rightarrow CO_2 + H_2O$, the number of H atoms on the left is:	2	1	4	8	○○●○
105. The balanced form of $Na + H_2O \rightarrow NaOH + H_2$ has the coefficient of Na equal to:	1	2	4	3	○●○○
106. The balanced equation for $N_2 + H_2 \rightarrow NH_3$ has coefficient of H_2 equal to:	4	1	3	2	○○●○
107. In $2H_2 + O_2 \rightarrow 2H_2O$, the number of O atoms on each side is:	3	4	2	1	○○●○
108. A chemical equation in which dissolved substances are written as ions is:	A word equation	An ionic equation	A structural formula	An empirical formula	○●○○
109. Ions that do not take part in the reaction are called:	Spectator ions	Product ions	Active ions	Central ions	●○○○
110. The net ionic equation for $HCl + NaOH \rightarrow NaCl + H_2O$ is:	$H^+ + OH^- \rightarrow H_2O$	$Na^+ + Cl^- \rightarrow NaCl$	$H_2 + O_2 \rightarrow H_2O$	$HCl \rightarrow H^+ + Cl^-$	●○○○
111. In the reaction $HCl(aq) + NaOH(aq) \rightarrow NaCl(aq) + H_2O(l)$, the spectator ions are:	H^+ and OH^-	Na^+ and Cl^-	H^+ and Cl^-	Na^+ and OH^-	○●○○
112. The net ionic equation of $Mg + H_2SO_4 \rightarrow MgSO_4 + H_2$ is:	$H^+ + OH^- \rightarrow H_2O$	$Mg^{2+} + 2e^- \rightarrow Mg$	$Mg + 2H^+ \rightarrow Mg^{2+} + H_2$	$Mg + SO_4^{2-} \rightarrow MgSO_4$	○○●○
113. A structural formula shows the _____ of atoms in a compound.	Charge	Number only	Arrangement	Mass	○○●○
114. The molecular formula of n-butane is:	C_4H_8	C_2H_6	C_4H_{10}	C_3H_8	○○●○

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Questions	A	B	C	D	A B C D
115. The structural formula of n-butane is:	$CH_3–CH_2–CH_2–CH_3$	$CH_3–CH_2–CH_3$	$CH_3–CH_3$	$CH_2=CH_2$	●○○○
116. To write a molecular formula from a structural formula, count the number of atoms of each element and show them as:	Coefficients	Charges	Superscripts	Subscripts	○○○●
117. A mole is the amount of matter containing as many particles as the atoms in exactly 12 g of:	Carbon-12	Oxygen-16	Hydrogen-1	Uranium-238	●○○○
118. The formula mass of $CuSO_4·5H_2O$ (Cu = 63.5, S = 32, O = 16, H = 1) is:	159.5	185.5	149.5	249.5	○○○●
119. The number of moles of molecules in 16 g of oxygen (O_2) is:	2	0.5	1	16	○●○○
120. The mass of 4 moles of hydrogen gas (H_2) is about:	1 g	8.064 g	16 g	4.032 g	○●○○
121. The mass of carbon in 44 g of carbon dioxide is:	24 g	44 g	6 g	12 g	○○○●
122. Which term is the same for one mole of oxygen and one mole of water?	Volume only	Number of atoms	Mass	Number of molecules	○○○●
123. If one mole of carbon contains x atoms, one mole of oxygen (O_2) molecules contains _____ molecules.	x/2	2x	1.5x	x	○○○●
124. The molar masses of U-238 and U-235 are about:	238 g/mol and 235 g/mol	143 g/mol	92 g/mol	146 g/mol	●○○○
125. One mole of H_2 molecules and one mole of H atoms have different:	Masses	Number of particles	Moles	Avogadro numbers	●○○○
126. The empirical formula of NaCl is:	NaCl	Na_2Cl	$NaCl_2$	Na_2Cl_2	●○○○
127. Which substance has a formula mass of 133.5 amu?	BCl_3	S_2Cl_2	$AlCl_3$	$MgCl_2$	○○●○
128. The number of atoms in 23 g of sodium is:	3.011×10^{23}	23	6.022×10^{23}	12.044×10^{23}	○○●○
129. The number of atoms in 5 g of H atoms is about:	6.022×10^{23}	1.2×10^{23}	5	2.98×10^{24}	○○○●
130. The number of atoms in 3.4 moles of nitrogen atoms is about:	1.4×10^{23}	3.4	2.05×10^{24}	6.022×10^{23}	○○●○
131. The formula of potassium oxide is:	K_2O_2	KO	KO_2	K_2O	○○○●

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Questions	A	B	C	D	A B C D
132. The formula of potassium nitride is:	KN_3	KN	K_2N	K_3N	○○○●
133. The nitride ion is:	N^{3-}	N^{2-}	N^{+}	N^{-}	●○○○
134. The number of moles in 0.5 g of K (K = 39) is about:	1.28	0.5	1.28×10^{-2}	39	○○●○
135. Potassium belongs to period:	4	5	3	1	●○○○
136. Hydrogen peroxide is used for:	Making plastics	Bleaching hair	Making glass	Fertilizers	○●○○
137. Vinegar is about _____ acetic acid.	20%	50%	90%	5%	○○○●
138. Indigo is a dye used to colour:	Blue jeans	Papers	Rubber	Plastics	●○○○
139. The empirical formula of C_6H_6 is:	C_6H_6	C_3H_3	CH_2	CH	○○○●
140. The empirical formula of C_2H_2 is:	CH	CH_2	C_2H_4	C_2H_2	●○○○
141. The empirical formula of C_2H_6O is:	CH_3O	CH_6O	C_2H_3O	C_2H_6O	○○○●
142. The molecular mass of NH_3 (N = 14, H = 1) is:	18 amu	15 amu	14 amu	17 amu	○○○●
143. The molecular mass of CH_4 (C = 12, H = 1) is:	16 amu	20 amu	12 amu	13 amu	●○○○
144. The molecular mass of H_2SO_4 (H = 1, S = 32, O = 16) is:	100 amu	98 amu	96 amu	66 amu	○●○○
145. The formula mass of $CaCO_3$ (Ca = 40, C = 12, O = 16) is:	100 amu	68 amu	84 amu	56 amu	●○○○
146. The mass of 1 mole of Cu (atomic mass 63.5) is:	31.75 g	63.5 g	127 g	29 g	○●○○
147. The mass of 1 mole of iodine molecules (I_2, I = 127) is:	63.5 g	508 g	127 g	254 g	○○○●
148. The mass of 1 mole of oxygen molecules (O_2) is:	16 g	8 g	32 g	64 g	○○●○

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Questions	A	B	C	D	A B C D
149. The mass of 1 mole of potassium atoms is:	40 g	19 g	78 g	39 g	○○○●
150. The Greek philosophers believed that everything was made of an elemental:	Atom	Substance	Compound	Molecule	○●○○

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