ECAT Chemistry Chapter 14 Group IIIA & IVA Elements Online Test

Sr	Questions	Answers Choice
1	The number of electron that are paired in oxygen molecule are	A. 16 B. 12 C. 14 D. 7
2	Which of the following equations represents the action of heat on $NaHCO_3$	
3	Which of the following compound is industrially prepared by the electrolysis of solution of NaCl	A. Na₂CO₃ B. NaHCO3 C. NaOH D. NaOCl
4	Which has soapy touch?	A. Na2B4O7 B. H3BO3 C. Ca2B6O11 D. HBO2
5	Which of the element is not an alkaline earth metal	A. Beryllium B. Strontium C. Barium D. Caesium
6	Which electronic configuration corresponds to an element of Group ||Z-A of the periodic table?	A. 1s, 2s², 2p⁶, 3s², 3p⁶, 4s² B. 1s², 2s² , 2p⁶, 3s², 3p¹ C. 1s², 2s², 2p⁶ D. 1s², 2s², 2p⁶, 3s², 3p³
7	Which of the following fluorides does not exists?	A. NF₅ B. PF₅ C. AsF₅ D. SbF₅
8	Which of the following is formed by the action of water on sodium peroxide?	A. H₂ B. N₂ C. O₂ D. CO₂
9	Which one of the following elements occurs free in nature?	A. N B. P C. As D. Sb
10	Which of the following elements is most metallic?	A. P B. As C. Sb D. Bi
11	Which is litharge or massicot?	A. PbO B. Pb₂O C. Pb₃O₄ D. PbO₂
12	The oxide of beryllium is	A. Acidic B. Amphoteric C. Superoxide D. Basic
13	Which metal is used in the thermit process because of its activity?	A. Iron B. Copper C. Alumnium D. Zinc
14	The maximum number of electrons in the outermost shall of s-black elements is	A. One B. Two C. Three D. Four
15	Which one of the following equations represent the reaction that occurs when calcium nitrate is heated strongly	

16	When ammonia is heated with cupric oxide, a molecule of ammonia will	A. Gain 3 electrons B. Lose 3 electrons C. Gain 2 electrons D. Lose 2 electrons
17	Aluminium oxide is:	A. Acidic oxide B. Basic oxide C. Amphoteric oxided D. None of these
18	Which salt is used for preserving food	A. BaCl₂ B. CaCl₂ C. NaCl D. Na₂SO₄
19	The alkali metals form	A. Ionic bond B. Covalent bond C. Co-ordinate bond D. H-bond
20	Dipole moment of CO molecule is:	A. 0.0 B. 1.112 D C. 0.112 D D. 2.112 D
21	Which of all following compound is not possible	
22	The chemical formula of gypsum is	A. CaSO₄. 5H₂O B. CaSO₄. 4H₂O C. CaSO₄. 2H₂O D. None of these
23	Chemical composition of colemnite is:	A. Ca₂B₆O₁₁.5H₂O B. CaB₄O₇ .4 H₂O C. Na₂B₇O₇. 4 H₂O D. CaNaB₅O₉.8H₂O
24	Hybridized in oxygen is:	A. sp B. sp² C. sp³ D. dsp³
25	Hybridized in carbon is:	A. sp B. sp² C. sp³ D. d²sp
26	Polyanion formation is maximum in	A. Nitrogen B. Oxygen C. Sulphur D. Boron
27	Which of the following oxides is peroxide?	A. Na₂O₂ B. MnO₂ C. BaO D. SO₂
28	LiOH _____ soluble than NaOH	A. More soluble B. Less soluble C. Equally soluble D. None
29	Solvay process is used in the manufacture of	A. Na₂CO₃ B. NaHCO₃ C. CaCl₂ D. All
30	Phosphorus pentoxide finds use as	A. An oxidizing agent B. A reducing agent C. A bleaching agent D. A dehydrating agent
31	Chief ore of aluminium is:	A. Na₃AlF₆ B. Al₂O₃.2H₂O C. Al₂O₃ D. Al₂O₃ .H₂O
32	The oxyacids of phosphorus in which phosphorus has the lowest oxidiation state is	A. Hypophosphorus acid B. Orthophosphorus acid C. Pyrophosphorus acid D. Metaphosphorus acid
33	The electrolytic cell used for the production of metallic sodium is known as	A. Down's cell B. Solvary's cell C. Haber's cell D. None of these

34	Which of the following are electropositive in nature	A. Alkali metals B. Alkaline earth metals C. Halogens D. Alkali and alkaline earth metals
35	Which is an essential constituent of chlorophyll	A. Be B. Fe C. Mg D. Ca
36	The element caesium bears resemblance with	A. Ca B. Cr C. Rubidium D. None of the above
37	The metal with highest electrical resistance at room temperature is	A. Pb B. Te C. Po D. Fe
38	$BiCl_3$on hydrolysis forms a white precipitate of	A. Bismuthio acid B. Bismuth oxychloride C. Bismuth pentachloride D. Bismuth hydroxide
39	Potassium superoxide has a use in breathing equipment in space crafts. The balanced equation for the reaction is	
40	A compound used as eye wash:	A. Borax B. Boric acid C. Metabolic acid D. Pyroboric acid
41	The formula of lime stone is	A. CaCl₂ B. MgCO₃ C. Na₂CO₃ D. CaCO₃
42	Bond angle is minimum for	A. H₂O B. H₂S C. H₂Se D. H₂Te
43	Sulphuric acid reacts with $PCl_5$to give	A. Thionyl chloride B. Sulphur monochloride C. Sulphuryl chloride D. Sulphur tetrachloride
44	Which shows maximum catenation property?	A. S B. Se C. Te D. O
45	Sulphuric acid has great affinity for water because	A. It hydrolyses the acid B. It decomposes the acid C. Acid forms hydrates with water D. Acid decomposes water
46	Oleum is	A. Castor oil B. Oil of vitriol C. Fuming of H₂SO₄ D. None of them
47	The most acidic of the following compounds is	A. P₂O₃ B. Sb₂O₃ C. B₂O₃ D. As₂O₃
48	The acid used in lead storage cells is	A. Phosphoric acid B. Nitric acid C. Sulphuric acid D. Hydrochloric acid
49	Which oxide of nitrogen is obtained on heating ammonium nitrate at 250° C?	A. Nitric oxide B. Nitrous oxide C. Nitrogen dioxide D. Dinitrogen tetraoxide
50	Which of the following elements is not present abundantly in earth's crust?	A. Silicon B. Aluminium C. Sodium D. Oxygen
51	Which of the following sulphates is not soluble in water	A. Sodium sulphate B. Potassium sulphate C. Zinc sulphate D. Barium sulphate
		A. Lead nitrate

52	All the following decompose easily on heating to give oxygen except	B. Potassium chlorate C. Mercuric oxide D. Manganese dioxide
53	When $SO_2$is passed through acidified $K_2Cr_2O_7$solution	A. The solution turns blue B. The solution is decolourised C. SO₂is reduced D. Green Cr₂(SO₄)₃is formed
54	Sodium is manufacture by the electrolysis of fused sodium chloride and not from an aqueous solution of sodium chloride because	A. Sodium chloride does not ionize in the water solution B. Sodium chloride is not soluble in water C. Sodium deposited at the cathode may react with water to form sodium hydroxide D. Electricity does not pass through aqueous NaCl
55	Al is the most element in earth crust:	A. O B. Si C. Al D. Pb
56	Identify the incorrect statement with respect to ozone	A. Ozone is formed in the upper atmosphere by a photochemical reaction involving dioxygen B. Ozone is more reactive than diaoxygen C. Ozone is diamagnetic whereas dioxygen is paramagnetic D. Ozone protects the earth's inhabitants by absorbing gamma-radiations
57	Phosphide ion has the electronic structure similar to that of	A. Nitride ion B. Fluoride ion C. Sodium ion D. Chloride ion
58	Phosphine is not obtained by the reaction when	A. White P is heated with NaOH B. Red P is heated with NaOH C. Ca₂P₂reacts with water D. PH₄I is boiled with water
59	Which is not the form of silica?	A. Amethyst quatz B. Rose quatz C. Smoky D. None of these
60	Borax is a common mineral of alkali metal sodium. Its formula is	A. Na₂B₄O₇ B. Na₂,B₄O₇. 10H₂O C. Na₂B₃O₆. 10H₂O D. Na₂B₄O₇-5H₂O
61	Ozone is not	A. An allotrope B. A powerful oxidizing agent C. Paramagnetic D. A bent molecule
62	Marble is chemically	A. CaCl₂ B. CaCO₃ C. Na₂CO₃ D. NaHCO₃
63	Which of the following element is most reactive	A. Li B. Na C. K D. Cs
64	$P_2O_5$is heated with water to give	A. Hypophosphorus acid B. Phosphorus acid C. Hypophosphorus acid D. Orthophosphorus acid
65	The silver bromide in hypo $(Na_2S_2O_3)$ solution is	A. Soluble B. Not soluble C. Precipitated D. Not effect
66	In a group IIA from top to bottom as the atomic number increases, there is regular decreases in	A. Ionic size B. Atomic size C. Ionization potential D. None of these
67	In the earth crust sodium is	A. 2.50% B. 2.30% C. 2.40% D. 3.50%
68	Calcium carbide reacts with water to produce	A. Acetylene B. Methane C. Ethylene D. Ethane

		D. Ethane
69	Electron affinity of sulphur is	A. More than O and Se B. More than O but less than Se C. Less than O but more than Se D. Equal to O and Se
70	$NaHCO_3$is commonly called	A. Soda ash B. Baking soda C. Washing soda D. None of these
71	Permonosulphuric acid is known as	A. Marshall's acid B. Carlo's acid C. Sulphuric acid D. None of these
72	Where lime is not used	A. In refining or metals B. In paper industry C. In glass industry D. In the preparation of NaOH
73	Which is used in navigational equipments?	A. B B. Be C. Mg D. Al
74	Which is used to remove air bubbles form metals?	A. B B. Be C. Mg D. Al
75	Commercial common salt becomes slight damp on storing because	A. Common salt is hygroscope B. Common salt contains some impurity, which is hygroscopic C. Salt in efflorescent D. Salt is crystalline
76	Which will have the maximum value of heat of hydration	A. Na⁺ B. Cs⁺ C. Ba⁺² D. Mg⁺²
77	Which of the following is acidic?	A. SO₃ B. N₂O C. BeO D. HgO
78	The element which has a simple cubic lattice in solid state is	A. Se B. Te C. Po D. None of these
79	Which of the following statement is not related to Solvay's process of Na_2CO_3	A. Cheap materials B. Pure product C. Continuous process D. Harmful by-products
80	White P when boiled with strong solution of caustic soda produces	A. Phosphine B. Posh acid C. Phosphorous acid D. None
81	On alkali and alkaline earth metals down the group, there is decreasing trend in	A. m.p. B. b.p. C. Ionization potentiall D. All of these
82	The alkaline earth elements have in their s-orbital	A. One electron B. Two electron C. No electron D. Three electron
83	CaC_2on hydrolysis form	A. CH₄ B. C₂H₄ C. C₂H₂ D. C₆H₆
84	Which salt is used for the treatment of hyperacidity in stomach	A. NaCl B. KCl C. NaHCO₃ D. Na₂CO₃
85	Which carbonate of alkali metals is insoluble in water	A. Na₂CO₃ B. K₂CO₃ C. Li₂CO₃ D. Cs₂CO₃
		A. Li B. k

86	Which of the following is lighter	C. Na D. Ca
87	Which metal of Group-II A of the periodic Table, will form the least ionic chloride	A. Be B. Mg C. Ca D. Sr
88	Which one of the following pentafluorides cannot be formed?	A. PF₅ B. AsF₅ C. SbF₅ D. BiF₅
89	Red P can be obtained form white P by	A. Heating it with a catalyst in an inert atmosphere B. Distilling it in an inert atmosphere C. Dissolving it in CS₂and crysllizing D. Melting it ad pouring the liquid into water
90	Each of the following is true of white and red phosphours except that they	A. Are both soluble in CS₂ B. Can be oxidized by heating in air C. Consist of the same kind of atoms D. Can be converted into one another
91	Sodium hexametaphophate is known as	A. Calgon B. Permutite C. Natalite D. Nitrolim
92	Which on of the following compounds does not exist?	A. NCl₅ B. AsF₅ C. SbCl₅ D. PF₅
93	Gypsum is applied to the soil to provide calcium and	A. Oxygen B. Nitrogen C. Phosphorous D. Sulphur
94	S-block elements consist of	A. Alkali metals B. Alkaline earth metals C. Alkali and alkaline earth metals D. None of these
95	The structure of white phosphorus is	A. Square planar B. Pyramidal C. Tetrahedral D. Trigonal planer
96	Which property is not present in Al?	A. Reacts with acid B. Reacts with bases C. Changes litmus paper D. Changes methyle orange colour
97	What is the formula of asbestos?	A. CaMg₃(SiO₃)₄ B. CaSiO₃ C. Na₂SiO₃ D. Mg₃H₂(SiO₃) ₄
98	HNO_2acts as an/a	A. Acid B. Oxidizing agent C. Reducing agent D. All the three
99	Which one of the following does not belong to alkaline earth metals	A. Be B. Ra C. Ba D. Rn
100	Silicon atom is hybridized:	A. sp B. sp² C. sp³ D. dsp²
101	Which of the following is a tetrabasic acid?	A. ORthophosphoric acid B. Hyposphosphorus acid C. Metaphosphoric D. Pyrophosphoric acid
102	Orthophosphoric acid is	A. Monobasic B. Dibasic C. Tribasic D. Tetrabasic
103	Which of the following form normal oxide	A. K B. Li C. Na D. None

104	Carbonates of alkali metals dissolves freely in water to form	A. Acidic solutions B. Neutral solution C. Alkaline solution D. None of these
105	The chemical formula of chile salt peter is	A. Na₂CO₃ B. KNO₃ C. NaNO₃ D. NaNO₂
106	Basicity of orthoposphoric acid is	A. 2 B. 3 C. 4 D. 5
107	Which element among the following belongs to Group IV-A of the periodic table?	A. Barium B. Iodine C. Lead D. Oxygen
108	Which element has highest oxidation potential	A. Li B. Be C. Ba D. Ra
109	Which of the following compounds is explosive in nature?	A. Phosphorus trichloride B. Nitrogen trichloride C. Hyponitrous acid D. Nitrosyl chloride
110	White phosphorus is	A. A mono atomic gas B. P₄, a tetrahedral solid C. P₈, a crown D. A linear diatomic molecule
111	Which of the following sulphates has the highest solubility in water	A. BaSO₄ B. CaSO₄ C. MgSO₄ D. BeSO₄
112	Which element form group 15 gives most basic compound with hydrogen?	A. Nitrogen B. Bismuth C. Arsenic D. Phosphorus
113	Which of the element is not alkali metal	A. Lithium B. Rubidium C. Francium D. Magnesium
114	$NaHCO_3$is prepared by	A. Down's process B. Solvay's process C. Nelson's process D. None of these
115	Some of the elements of a period show similar behavior with the elements of next group in next period this is called	A. Vertical relationship B. Oblique relationship C. Diagonal relationship D. None
116	All the elements of oxygen family are	A. Non metals B. Metalloids C. Radioactive D. Polymorphic
117	What causes nitrogen to be chemically inert?	A. Multiple bond formation in the molecule B. Absence of bond distance C. Short internuclear distance D. High bond energy
118	Gypsum is a common mineral of	A. Magnesium B. Strontium C. Calcium D. Barium
119	The oxidation number of each element of group I-A is	A. 0 B. +1 C. +2 D. -1
120	Alkaline earth metals posses two electrons in their outermost	A. F-orbital B. D-orbital C. S-orbital D. P-orbital
121	Copper oxide is dedected by borax bead test with colour:	A. Blue B. Red C. Yellow

		D. Black
122	What is chrome yellow?	A. Pbo B. Pb₂O C. PbCrO₄ D. Pb₃O₄
123	Sodium is never found free in nature because of its	A. Chemical reactivity B. Small ionic size C. Small atomic volume D. None of these
124	Density of aluminium is (g cm^{-3}):	A. B B. Al C. Si D. Ge
125	Corrundam is ore of:	A. Li B. Be C. B D. Al
126	Heavy water is obtained by	A. Prolonged electrolysis of water B. Dissolving heavy salt in water C. Simple distillation of water D. Removing impurities of calcium and magnesium form water
127	_____ gives peroxide	A. Li B. Ba C. Sr D. Be
128	The oxidation number of each element of group ll-A is	A. 0 B. +1 C. +2 D. -1
129	Borax is hydrated:	A. Penta B. Deca C. Hepta D. Octa
130	Boric acid cannot be used:	A. An antiseptic in medicine B. For washing eyes C. In soda bottles D. For enamels and glazes
131	Lithium reacts with air to form	A. Peroxide B. Normal oxide C. Superoxide D. None of these
132	Which element forms an iron with charge *3*+?	A. Berylium B. Aluminium C. Carbon D. Silicon
133	Which of the following phosphorus is most reactive?	A. Red phosphorus B. White phosphorus C. Scrlet phosphorus D. Violet phosphorous
134	Which one of the following is not an alkali metal	A. Francium B. Caesium C. Rubidium D. Radium
135	Hypo is used in photography for	A. Developing picture B. Picture printed C. The colour of picture D. The fixation of picture
136	Chile saltpetre has the chemical formula	A. NaNO₃ B. KNO₃ C. Na₂B₄O₇ D. Na₂CO₃H₂O
137	Group VA of the periodic table consists of the elements N, P, As, Sb and Bi, On passing from N to Bi, the oxides of the elements of general formula M_2O_3become	A. Stronger reducing agents B. More ionic C. More basic D. More volatile
138	When a colourless gas is passed through bromine water only decolourisation takes place the gas is	A. SO₂ B. HBR C. HCl D. H₂S
	The number of unpaired electrons in the p-subshell of oxygen	A. 1 B. 2

139	The number of unpaired electrons in the p-subshell of oxygen atom	B. 2 C. 3 D. 4
140	The ore $CaSO_42H_2O$ has the general name	A. Gypsum B. Dolomite C. Calcite D. Epsom salt
141	Which one of the following properties is not correct for ozone?	A. It oxidizes lead sulphides B. It oxidizes potassium iodide C. It oxidizes mercury D. It cannot act as a bleaching agent
142	Sodium should be stored in	A. Air free from moisture B. Air free form carbon dioxide C. Under water D. Under kerosene oil
143	Which colour is imparted by sodium	A. Yellow B. Violet C. Red D. Crimson
144	Which of the following is not the reactions of lithium	
145	As a fixing agent in photography, sodium thisoulphate is used for	A. Dissolving out unreacted silver bromide B. Converting silver C. Reducing solubility of AgBr D. Preventing overdeveloping and fogging
146	The acid which has a peroxy linkage is	A. Sulphurous acid B. Pyrosulphuric acid C. Dithionic acid D. Caro's acid
147	_____ is called milk of magnesia	A. NaOH B. KOH C. LiOH D. None
148	_____ is used in breathing equipments for mountaineers and in space craft	A. Li₂O B. BeO C. N₂ D. KO₂
149	Sodium forms largely	A. Normal oxides B. Per-oxides C. Superoxides D. None of these
150	Which of the following is the hardest metal among following	A. Li B. Na C. Rb D. K
151	Francium is an element at the bottom of Group I in the Periodic Table. Which one of the following predication is likely to be correct?	A. It will react with water to liberate oxygen B. Its hydroxide will be a strong alkali in water C. Its carbonate will decompose on heating to give carbon dioxide D. Its nitrate on heating will give nitrogen dioxide and oxygen
152	What is going to replace the petroleum?	A. Silica B. Silicates C. Silicones D. Silicon
153	Plaster of pares is obtained by heating	A. Gypsum B. Epsom C. Lime stone D. Dolomite
154	Lime, calcium oxide, is used in agriculture for	A. Adding ca metal in soil B. Making soil acidic C. Neutralizing acidic soil D. Adding oxygen to soil
155	Tincal is a mineral of:	A. Al B. B C. Si D. C
156	The chemical formula of magnesite is	A. MgCl₂ B. Mg(HCO₃)₂ C. MgCO₃ D. None of these
157	Baking powder has which one of the following formula	A. Na₂CO₃ B. Na₂SO₄ C. NaHCO₃ D. K₂CO₃

		D. K₂CO₃
158	Pb has inert pair of electrons:	A. One B. Two C. Three D. Four
159	Which of the following has highest dipole moment?	A. NH₃ B. PH₃ C. AsH₃ D. SbH₃
160	Sometimes a yellow turbidity appears while passing H_2S gas even in the absence of II group radicals. This is because	A. Sulphur is present in the mixture as impurity B. IV group radicals are precipitated as sulphides C. Of the oxidation of H₂S gas by some acid radicals D. III group radicals are precipitated as hydroxides
161	Alkaline earth metals are usually	A. Reducing agent B. Oxidizing agent C. Amphoteric D. Acidic
162	Which of the following salt is used as purgative	A. CaSO₄ B. MgSO₄ C. BeSO₄ D. NaCl
163	_____ reacts with alkalis to give hydrogen	A. Be B. Mg C. Ca D. None
164	When sulphur is boiled with Na_2SO_3solution, the compound formed is	A. Sodium sulphides B. Sodiums sulphates C. Sodium persulphate D. Sodium thiosulphate
165	Down's cell is used to prepare	A. Sodium carbonate B. Sodium bicarbonate C. Sodium metal D. Sodium hydroxide
166	Alkali metals react violently with halogens to form	A. Hydrides B. Halides C. Anyhydrides D. None of these
167	Which of the following salt is soluble in water	A. CaCO₃ B. CaSO₄ C. MgSO₄ D. BaSO₄
168	The chemical formula of Epson salt is	A. MgSO₄ B. MgCl₂ C. MgSO₄. 7H₂O D. MgCl₂. 7H₂O
169	Crystalline form of sulphur stable at room temperature is	A. Rhombic sulphur B. Monoclinic sulphur C. Plastic sulphur D. Prismatic sulphur
170	The chemical formula of Trona is	A. KCl . MgCl₂. 6H₂O B. Na₂CO₃. 2NaHCO₃. 2H₂O C. Na₂CO₃. H₂O D. KCl