Group IIA & IVA Elements

Sr	Questions	Answers Choice
1	Which of the element is not alkali metal	A. Lithium B. Rubidium C. Francium D. Magnesium
2	Which of the element is not an alkaline earth metal	A. Beryllium B. Strontium C. Barium D. Caesium
3	The alkaline earth elements have in their s-orbital	A. One electron B. Two electron C. No electron D. Three electron
4	Which of the following is lighter	A. Li B. k C. Na D. Ca
5	Borax is a common mineral of alkali metal sodium. Its formula is	A. Na₂B₄O₇ B. Na₂,B₄O₇. 10H₂O C. Na₂B₃O₆. 10H₂O D. Na₂B₄O₇-5H₂O
6	Gypsum is a common mineral of	A. Magnesium B. Strontium C. Calcium D. Barium
7	Which of the following is not the reactions of lithium	
8	Potassium superoxide has a use in breathing equipment in space crafts. The balanced equation for the reaction is	
9	The maximum number of electrons in the outermost shall of s-black elements is	A. One B. Two C. Three D. Four
10	S-block elements consist of	A. Alkali metals B. Alkaline earth metals C. Alkali and alkaline earth metals D. None of these
11	Which is an essential constituent of chlorophyll	A. Be B. Fe C. Mg D. Ca
12	Alkaline earth metals posses two electrons in their outermost	A. F-orbital B. D-orbital C. S-orbital D. P-orbital
13	In the earth crust sodium is	A. 2.50% B. 2.30% C. 2.40% D. 3.50%
14	The chemical formula of magnesite is	A. MgCl₂ B. Mg(HCO₃)₂ C. MgCO₃ D. None of these
15	Which colour is imparted by sodium	A. Yellow B. Violet C. Red D. Crimson
		A. More soluble

16	LiOH _____ soluble than NaOH	B. Less soluble C. Equally soluble D. None
17	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
18	_____ reacts with alkalis to give hydrogen	A. Be B. Mg C. Ca D. None
19	Which carbonate of alkali metals is insoluble in water	A. Na₂CO₃ B. K₂CO₃ C. Li₂CO₃ D. Cs₂CO₃
20	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
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	The alkali metals form	A. Ionic bond B. Covalent bond C. Co-ordinate bond D. H-bond
24	The formula of lime stone is	A. CaCl₂ B. MgCO₃ C. Na₂CO₃ D. CaCO₃
25	Alkali metals react violently with halogens to form	A. Hydrides B. Halides C. Anyhydrides D. None of these
26	Which of the following salt is soluble in water	A. CaCO₃ B. CaSO₄ C. MgSO₄ D. BaSO₄
27	Which of the following is the hardest metal among following	A. Li B. Na C. Rb D. K
28	Which of the following form normal oxide	A. K B. Li C. Na D. None
29	_____ gives peroxide	A. Li B. Ba C. Sr D. Be
30	$NaHCO_3$is commonly called	A. Soda ash B. Baking soda C. Washing soda D. None of these
31	Carbonates of alkali metals dissolves freely in water to form	A. Acidic solutions B. Neutral solution C. Alkaline solution D. None of these
32	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
33	_____ is used in breathing equipments for mountaineers and in space craft	A. Li₂O B. BeO C. N₂ D. KO₂
34	_____ is called milk of magnesia	A. NaOH B. KOH C. LiOH

		D. None
35	Lithium reacts with air to form	A. Peroxide B. Normal oxide C. Superoxide D. None of these
36	The chemical formula of chile salt peter is	A. Na₂CO₃ B. KNO₃ C. NaNO₃ D. NaNO₂
37	CaC_2on hydrolysis form	A. CH₄ B. C₂H₄ C. C₂H₂ D. C₆H₆
38	Sodium forms largely	A. Normal oxides B. Per-oxides C. Superoxides D. None of these
39	Which of the following element is most reactive	A. Li B. Na C. K D. Cs
40	The oxidation number of each element of group I-A is	A. 0 B. +1 C. +2 D. -1
41	The oxidation number of each element of group II-A is	A. 0 B. +1 C. +2 D. -1
42	Which of the following are electropositive in nature	A. Alkali metals B. Alkaline earth metals C. Halogens D. Alkali and alkaline earth metals
43	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
44	$NaHCO_3$is prepared by	A. Down's process B. Solvay's process C. Nelson's process D. None of these
45	The chemical formula of Epson salt is	A. MgSO₄ B. MgCl₂ C. MgSO₄. 7H₂O D. MgCl₂. 7H₂O
46	Which of the following salt is used as purgative	A. CaSO₄ B. MgSO₄ C. BeSO₄ D. NaCl
47	Which salt is used for the treatment of hyperacidity in stomach	A. NaCl B. KCl C. NaHCO₃ D. Na₂CO₃
48	Which salt is used for preserving food	A. BaCl₂ B. CaCl₂ C. NaCl D. Na₂SO₄
49	Marble is chemically	A. CaCl₂ B. CaCO₃ C. Na₂CO₃ D. NaHCO₃
50	Which one of the following equations represent the reaction that occurs when calcium nitrate is heated strongly	
51	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
52	Which of the following equations represents the action of heat on $NaHCO_3$	

53	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
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	Sodium should be stored in	A. Air free from moisture B. Air free form carbon dioxide C. Under water D. Under kerosene oil
56	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
57	The chemical formula of Trona is	A. KCl . MgCl₂. 6H₂O B. Na₂CO₃. 2NaHCO₃. 2H₂O C. Na₂CO₃. H₂O D. KCl
58	Which of the following sulphates has the highest solubility in water	A. BaSO₄ B. CaSO₄ C. MgSO₄ D. BeSO₄
59	Which element has highest oxidation potential	A. Li B. Be C. Ba D. Ra
60	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
61	Solvay process is used in the manufacture of	A. Na₂CO₃ B. NaHCO₃ C. CaCl₂ D. All
62	Which metal of Group-II A of the periodic Table, will form the least ionic chloride	A. Be B. Mg C. Ca D. Sr
63	The silver bromide in hypo $(Na_2S_2O_3)$ solution is	A. Soluble B. Not soluble C. Precipitated D. Not effect
64	Baking powder has which one of the following formula	A. Na₂CO₃ B. Na₂SO₄ C. NaHCO₃ D. K₂CO₃
65	Which of the following compound is industrially prepared by the electrolysis of solution of NaCl	A. Na₂CO₃ B. NaHCO3 C. NaOH D. NaOCl
66	Alkaline earth metals are usually	A. Reducing agent B. Oxidizing agent C. Amphoteric D. Acidic
67	Which one of the following does not belong to alkaline earth metals	A. Be B. Ra C. Ba D. Rn
68	The oxide of beryllium is	A. Acidic B. Amphoteric C. Superoxide D. Basic
69	Which will have the maximum value of heat of hydration	A. Na⁺ B. Cs⁺ C. Ba⁺² D. Mg⁺²
		A. Francium B. Caesium

70	Which one of the following is not an alkali metal	C. Rubidium D. Radium
71	Which of the following sulphates is not soluble in water	A. Sodium sulphate B. Potassium sulphate C. Zinc sulphate D. Barium sulphate
72	The element caesium bears resemblance with	A. Ca B. Cr C. Rubidium D. None of the above
73	Chile saltpetre has the chemical formula	A. NaNO₃ B. KNO₃ C. Na₂B₄O₇ D. Na₂CO₃H₂O
74	The ore $CaSO_4 2H_2O$ has the general name	A. Gypsum B. Dolomite C. Calcite D. Epsom salt
75	Down's cell is used to prepare	A. Sodium carbonate B. Sodium bicarbonate C. Sodium metal D. Sodium hydroxide
76	Gypsum is applied to the soil to provide calcium and	A. Oxygen B. Nitrogen C. Phosphorous D. Sulphur
77	Plaster of pares is obtained by heating	A. Gypsum B. Epsom C. Lime stone D. Dolomite
78	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
79	Where lime is not used	A. In refining or metals B. In paper industry C. In glass industry D. In the preparation of NaOH
80	Calcium carbide reacts with water to produce	A. Acetylene B. Methane C. Ethylene D. Ethane
81	Which one of the following elements occurs free in nature?	A. N B. P C. As D. Sb
82	Phosphide ion has the electronic structure similar to that of	A. Nitride ion B. Fluoride ion C. Sodium ion D. Chloride ion
83	$BiCl_3$on hydrolysis forms a white precipitate of	A. Bismuthio acid B. Bismuth oxychloride C. Bismuth pentachloride D. Bismuth hydroxide
84	Which on of the following compounds does not exist?	A. NCl₅ B. AsF₅ C. SbCl₅ D. PF₅
85	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
86	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
87	White P when boiled with strong solution of caustic soda produces	A. Phosphine B. Posh acid C. Phosphorous acid D. None

88	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
89	Phosphorus pentoxide finds use as	A. An oxidizing agent B. A reducing agent C. A bleaching agent D. A dehydrating agent
90	Which of the following fluorides does not exists?	A. NF₅ B. PF₅ C. AsF₅ D. SbF₅
91	Which of the following elements is most metallic?	A. P B. As C. Sb D. Bi
92	Which one of the following pentafluorides cannot be formed?	A. PF₅ B. AsF₅ C. SbF₅ D. BiF₅
93	The structure of white phosphorus is	A. Square planar B. Pyramidal C. Tetrahedral D. Trigonal planer
94	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
95	Which element form group 15 gives most basic compound with hydrogen?	A. Nitrogen B. Bismuth C. Arsenic D. Phosphorus
96	Which of the following phosphorus is most reactive?	A. Red phosphorus B. White phosphorus C. Scrlet phosphorus D. Violet phosphorous
97	The most acidic of the following compounds is	A. P₂O₃ B. Sb₂O₃ C. B₂O₃ D. As₂O₃
98	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
99	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
100	Orthophosphoric acid is	A. Monobasic B. Dibasic C. Tribasic D. Tetrabasic
101	Which of the following has highest dipole moment?	A. NH₃ B. PH₃ C. AsH₃ D. SbH₃
102	White phosphorus is	A. A mono atomic gas B. P₄, a tetrahedral solid C. P₈, a crown D. A linear diatomic molecule
103	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
104	Which of the following compounds is explosive in nature?	A. Phosphorus trichloride B. Nitrogen trichloride C. Hyponitrous acid D. Nitrosyl chloride
105	HNO_2acts as an/a	A. Acid B. Oxidizing agent C. Reducing agent D. All the three

106	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
107	Sodium hexametaphophate is known as	A. Calgon B. Permutite C. Natalite D. Nitrolim
108	$P_2O_5$is heated with water to give	A. Hypophosphorus acid B. Phosphorus acid C. Hypophosphorus acid D. Orthophosphorus acid
109	Basicity of orthoposphoric acid is	A. 2 B. 3 C. 4 D. 5
110	Which of the following is a tetrabasic acid?	A. ORthophosphoric acid B. Hyposphosphorus acid C. Metaphosphoric D. Pyrophosphoric acid
111	The acid used in lead storage cells is	A. Phosphoric acid B. Nitric acid C. Sulphuric acid D. Hydrochloric acid
112	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
113	Hypo is used in photography for	A. Developing picture B. Picture printed C. The colour of picture D. The fixation of picture
114	Bond angle is minimum for	A. H₂O B. H₂S C. H₂Se D. H₂Te
115	Which of the following oxides is peroxide?	A. Na₂O₂ B. MnO₂ C. BaO D. SO₂
116	Which of the following is acidic?	A. SO₃ B. N₂O C. BeO D. HgO
117	Ozone is not	A. An allotrope B. A powerful oxidizing agent C. Paramagnetic D. A bent molecule
118	The number of unpaired electrons in the p-subshell of oxygen atom	A. 1 B. 2 C. 3 D. 4
119	Oleum is	A. Castor oil B. Oil of vitriol C. Fuming of H₂SO₄ D. None of them
120	When sulphur is boiled with Na_2SO_3solution, the compound formed is	A. Sodium sulphides B. Sodiums sulphates C. Sodium persulphate D. Sodium thiosulphate
121	Polyanion formation is maximum in	A. Nitrogen B. Oxygen C. Sulphur D. Boron
122	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
123	All the following decompose easily on heating to give oxygen	A. Lead nitrate B. Potassium chlorate

	except	C. Mercuric oxide D. Manganese dioxide
124	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
125	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
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	When a colourless gas is passed through bromine water only decolourisation takes place the gas is	A. SO₂ B. HBR C. HCl D. H₂S
128	The acid which has a peroxy linkage is	A. Sulphurous acid B. Pyrosulphuric acid C. Dithionic acid D. Caro's acid
129	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
130	Crystalline form of sulphur stable at room temperature is	A. Rhombic sulphur B. Monoclinic sulphur C. Plastic sulphur D. Prismatic sulphur
131	The element which has a simple cubic lattice in solid state is	A. Se B. Te C. Po D. None of these
132	Permonosulphuric acid is known as	A. Marshall's acid B. Carlo's acid C. Sulphuric acid D. None of these
133	Sulphuric acid reacts with $PCl_5$to give	A. Thionyl chloride B. Sulphur monochloride C. Sulphuryl chloride D. Sulphur tetrachloride
134	Which shows maximum catenation property?	A. S B. Se C. Te D. O
135	All the elements of oxygen family are	A. Non metals B. Metalloids C. Radioactive D. Polymorphic
136	The metal with highest electrical resistance at room temperature is	A. Pb B. Te C. Po D. Fe
137	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
138	Which of the following is formed by the action of water on sodium peroxide?	A. H₂ B. N₂ C. O₂ D. CO₂
139	The number of electron that are paired in oxygen molecule are	A. 16 B. 12 C. 14 D. 7
140	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

		D. Green Cr₂(SO₄)₃is formed
141	Which metal is used in the thermit process because of its activity?	A. Iron B. Copper C. Alumnium D. Zinc
142	Aluminium oxide is:	A. Acidic oxide B. Basic oxide C. Amphoteric oxided D. None of these
143	Chemical composition of colemnite is:	A. Ca₂B₆O₁₁.5H₂O B. CaB₄O₇ .4 H₂O C. Na₂B₇O₇. 4 H₂O D. CaNaB₅O₉.8H₂O
144	Which element forms an iron with charge *3*+?	A. Berylium B. Aluminium C. Carbon D. Silicon
145	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
146	Which element among the following belongs to Group IV-A of the periodic table?	A. Barium B. Iodine C. Lead D. Oxygen
147	Boric acid cannot be used:	A. An antiseptic in medicine B. For washing eyes C. In soda bottles D. For enamels and glazes
148	Which of the following elements is not present abundantly in earth's crust?	A. Silicon B. Aluminium C. Sodium D. Oxygen
149	Tincal is a mineral of:	A. Al B. B C. Si D. C
150	Chief ore of aluminium is:	A. Na₃AlF₆ B. Al₂O₃.2H₂O C. Al₂O₃ D. Al₂O₃ .H₂O
151	What is the formula of asbestos?	A. CaMg₃(SiO₃)₄ B. CaSiO₃ C. Na₂SiO₃ D. Mg₃H₂(SiO₃)₄
152	What is going to replace the petroleum?	A. Silica B. Silicates C. Silicones D. Silicon
153	Which is litharge or massicot?	A. PbO B. Pb₂O C. Pb₃O₄ D. PbO₂
154	What is chrome yellow?	A. Pbo B. Pb₂O C. PbCrO₄ D. Pb₃O₄
155	Borax is hydrated:	A. Penta B. Deca C. Hepta D. Octa
156	Silicon atom is hybridized:	A. sp B. sp² C. sp³ D. dsp²
		A. Amethyst quatz

157	Which is not the form of silica?	B. Rose quatz C. Smoky D. None of these
158	Pb has inert pair of electrons:	A. One B. Two C. Three D. Four
159	Which is used in navigational equipments?	A. B B. Be C. Mg D. Al
160	Which is used to remove air bubbles form metals?	A. B B. Be C. Mg D. Al
161	Copper oxide is dedected by borax bead test with colour:	A. Blue B. Red C. Yellow D. Black
162	Which has soapy touch?	A. Na2B4O7 B. H3BO3 C. Ca2B6O11 D. HBO2
163	Density of aluminium is (g cm^{-3}):	A. B B. Al C. Si D. Ge
164	Al is the most element in earth crust:	A. O B. Si C. Al D. Pb
165	Which property is not present in Al?	A. Reacts with acid B. Reacts with bases C. Changes litmus paper D. Changes methyle orange colour
166	Corrundam is ore of:	A. Li B. Be C. B D. Al
167	A compound used as eye wash:	A. Borax B. Boric acid C. Metabolic acid D. Pyroboric acid
168	Dipole moment of CO molecule is:	A. 0.0 B. 1.112 D C. 0.112 D D. 2.112 D
169	Hybridized in carbon is:	A. sp B. sp² C. sp³ D. d²sp
170	Hybridized in oxygen is:	A. sp B. sp² C. sp³ D. dsp³