

CHAPTER – 4

SECTION – MCQ'S

GROUP V – A, AND GROUP VI – A ELEMENTS

1. Out of the elements of group V A, the highest ionization energy is possessed by. **LHR, MTN- 2016**
 (a) N (b) P (c) Sb (d) Bi
2. In group VA elements the most electronegative elements is. **SGD-2014, FBD-2017, RWP - 2014**
 (a) Sb (b) N (c) P (d) As
3. Oxidation of NO in air produces. **SWL-2014, RWP, SWL, MTL-2015, LHR-2016, MTN, RWP - 2017**
 (a) N₂O (b) N₂O₃ (c) N₂O₄ (d) N₂O₆
4. The brown gas formed when metal reduces HNO₃ is. **MTN - 2015**
 (a) N₂O₃ (b) N₂O₅ (c) NO₂ (d) NO
5. Laughing gas is chemically. **BWP, RWP, FBD, LHR-2014, LHR, BWP-2015, SWL, DGK-2016, RWP, GRW-2017**
 (a) NO (b) N₂O (c) NO₂ (d) N₂O₄
6. Out of all the elements of group VI A the highest melting and boiling points is shown by the element
 (a) Te (b) Se (c) S (d) Po
7. SO₂ is not absorbed in water directly to form H₂SO₄ because.
 (a) The reaction does not go to completion.
 (b) The reaction is quite slow.
 (c) The reaction is exothermic
 (d) SO₂ is insoluble in water.
8. Which catalyst is used in contact process?
LHR -2014, BWP, FBD, SGD, -2015, SGD-2016, LHR, MTN, SGD-2017
 (a) Fe₂O₂ (b) V₂O₅ (c) SO₃ (d) Ag₂O
- 9/ Lowest oxidation state of nitrogen in present in.
 (a) NH₃ (b) NO₂ (c) NO (d) HNO₃
10. Which element does not have allotropic form?
 (a) Nitrogen (b) Phosphorous (c) Arsenic (d) Antimony
11. Which one of the following oxide is brown in colour?
 (a) No (b) NO₂ (c) N₂O (d) N₂O₅
12. NH₄NO₃ on heating at 200 °C changes to.
 (a) N₂O (b) NO (c) NO₂ (d) N₂O₄
13. Which of the following acids possesses oxidizing and reducing properties?
 (a) HCl (b) HNO₃ (c) HNO₂ (d) H₂SO₄
14. Which raw material is used for manufacture of HNO₃ by Birkland eyed process?
 (a) NH₂ and CO₂ (b) Air (c) Air and gypsum (d) Lime stone and urea

15. Bone ash contain calcium phosphate.
(a) 40% (b) 50% (c) 70% **(d) 80%**
16. Which form of phosphorus is more stable?
(a) White (b) Red **(c) Black** (d) Both a and b
17. P_2O_5 is usually used as.
(a) Drying agent only (b) Reducing agent
(c) Both drying and reducing agent **(d) Both drying agent and oxidizing agent**
18. Each of the following is true for white and red phosphorus except one.
(a) Both are soluble in CCl_4
(b) Both can be oxidized by heating in air
(c) Both consists of same kind of atoms
(d) Both can be converted into each other.
19. PCl_3 reacts with water to form.
(a) PH_3 (b) $POCl_3$ (c) H_3PO_4 **(d) H_3PO_3**
20. Basicity of ortho phosphoric acid to.
(a) 1 **(b) 2** (c) 3 (d) 4
21. Which allotrope of phosphorus has layers like graphite?
(a) White phosphorus (b) Red phosphorus **(c) Black phosphorus** (d) Amorphous phosphorus
22. In aqua regia, the ration of conc. HCl to conc. HNO_3 is.
(a) 1:1 (b) 2:1 (c) 1:2 **(d) 3:1**
23. What are the number of the electrons in Valence shell of P in PCl_3 .
(a) 4 (b) 6 **(c) 8** (d) 10
24. In which substances phosphorus is not present.
(a) Yolk of egg (b) Bones (c) Apatite **(d) Galena**
25. Which one is metaphosphoric acid?
(a) HPO_3 (b) H_3PO_3 (c) H_3PO_4 (d) $H_4P_2O_7$
26. Which one of the following group of Periodic Table called chalcogen family?
(a) Group –III A (b) Group –VA **(c) Group – VI A** (d) Group VII A
27. Role of H_2S in the given chemical reaction is $H_2S + I_2 \longrightarrow 2HI + S$.
(A) Oxidizing agent **(b) Reducing agent** (c) Dehydrating agent (d) As an acid
28. an element has oxidation state -2, +4, +6 in its compounds, In which group in the periodic Table is this element likely to be.
(a) Group – III A (b) Group – IV A (c) Group V A **(d) Group VI A**
29. The element which is present in earth crust about 50% is.
(a) Oxygen (b) Sulphur (c) Carbon (d) Nitrogen
30. Chemical formula of stibnite on.
(a) $BaSO_4$ **(b) Sb_2S_3** (c) FeS_2 (d) ZnS

31. When concentrated H_2SO_4 and solid sodium chloride react together at room temperature, the products are.
 (a) Two salts only (b) A salt and base **(c) A salt and an acid** (d) A salt and water
32. The reaction between concentrated H_2SO_4 and glucose give carbon and water, in this reaction H_2SO_4 acts as.
 (a) An acid (b) An oxidizing agent **(c) Dehydrating agent** (d) A reducing agent
33. Sulphuric acid acts as dehydrating agent in its reaction with.
 (a) Sodium chloride (b) Potassium nitrate (c) Copper **(d) Ethyl alcohol**
34. The composition of oleum is.
 (a) HSO_4 (b) $\text{H}_2\text{S}_2\text{O}_3$ **(c) $\text{H}_2\text{S}_2\text{O}_7$** (d) $\text{H}_3\text{S}_3\text{O}_7$
35. In pyrite burner, the gas produced is.
 (a) SO_3 **(b) SO_2** (c) CO_2 (d) NO
36. Which one of the following does not react with dilute sulphuric acid?
 (a) $\text{Mg}(\text{OH})_2$ (b) Mg (c) MgO **(d) $\text{Mg}(\text{NO}_3)_2$**
37. Arsenic impurities in contact process are removed.
 (a) By prolong heating the gases
(b) By treatment with $\text{Fe}(\text{OH})_3$
 (c) In scrubbing tower
 (d) In absorption tower
38. Most likely product formed when formic acid is dehydrated in the presence of con. H_2SO_4 is.
 (a) SO_3 **(b) SO_2** (c) H_2 (d) Cu^{1+} ions
39. Which statement is incorrect about H_2SO_4 .
 (a) Dehydration agent (b) Dibasic acid (c) Oxidizing agent **(d) Reducing agent**
40. Which element does not use its d-orbital for bond formation?
(a) N (b) S (c) P (d) Sb
41. Which metal forms laughing gas when react with dilute HNO_3 .
 (a) Hg **(b) Zn** (c) Ag (d) Pb
42. Ring Test is used for confirmation of _____ salt.
 (a) Nitride (b) Nitrite **(c) Nitrate** (d) Sulphate
43. Which compound of phosphorus acts as dehydrating agent.
 (a) PCl_2 (b) PCl_3 **(c) P_2O_5** (d) H_3PO_4
44. Which acid is deliquescent and absorb moisture.
 (a) H_2SO_4 (b) H_3PO_3 **(c) H_3PO_4** (d) HNO_3
45. Catalyst used in contact process is.
 (a) Iron oxide **(b) V_2O_5** (c) As_2O_3 (d) Ni
46. Which element evolve H_2 gas when reacts with dilute H_2SO_4 .
(a) Zn (b) Cu (c) Au (d) C
47. Which substance turns black when conc. H_2SO_4 is added to it?
 (a) Sucrose (b) Glucose (c) Starch **(d) All of these**

48. Chile saltpeter has chemical formula:
(a) NaNO_3 (b) KNO_3 (c) $\text{Na}_2\text{B}_4\text{O}_7$ (d) $\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$
49. Which of the following elements is not present abundantly in earth crust?
 (a) Calcium (b) Sodium (c) Phosphorous **(d) Nitrogen**
50. Point out the element whose inorganic minerals are not much abundant in earth.
 (a) Li **(b) N** (c) Na (d) O
51. Among group V A elements, the most electronegative is.
 (a) Sb **(b) N** (c) P (d) As
52. Gold dissolves in "Aqua Regia" due to formation of Halide. Point out correct halide. **MTN -2016**
 (a) AuF_3 **(b) AuCl_3** (c) AuBr_3 (d) AuI_3
53. Out of all the elements of group VI –A the highest melting and boiling points is shown by the element.
 (a) Te (b) Se (c) S **(d) PO**
54. NO_2 is called. **DGK - 2011**
(a) Nitrogen peroxide (b) Nitrous oxide (c) Nitric oxide (d) Nitric anhydride
55. The most reactive allotropic form of phosphorus is.
(a) White (b) Red (c) Black (d) None of these
56. If N_2O is exposed to a person it cause disease:
 (a) Cancer (b) Sleeping sickness **(c) Hysterical laughter** (d) Tumor
57. Phosphorus helps the growth of.
 (a) Seed **(b) Root** (c) Leaves **(d) Stem**
58. Which of the following species has the maximum number of unpaired electrons?
MTN, GRW-2014, AJK , GRW, SGD-2015
 (a) O_2 (b) O_2^1 **(c) O_3** (d) O^{-1}_3
59. Which metal is rendered passive by HNO_3 due to formation of a film of metal oxide over the metal?
 (a) Pt (b) Sn **(c) CO** (d) Mn
60. Acetamide is prepared by heating.
(a) Ammonium acetate (b) Methyl cyanide (c) Ophitic acid (d) of ethyl acetate
61. What is %age of calcium phosphate in bone ash? **DGK - 2015**
 (a) 20 (b) 40 **(c) 80** (d) 60
62. Which halogen will react spontaneously with Au to produce Au^{3+} ? **GRW-2014**
 (a) Br_2 (b) F_2 (c) I_2 **(d) Cl_2**
63. Which of the elements gives acidic oxide? **RWP -2016**
(a) N (b) As (c) Sb (d) Bi
64. Which of the following contain 48% oxygen? **BWP - 2014**
 (a) SiO_2 (b) BaCO_3 **(c) CaCO_3** (d) H_2O_2
65. The brown gas formed, when metal reduces HNO_3 is.
GRW-2014, MTN, DGK-2015, DGK-2016, SWL, DGK-2017
 (a) N_2O_5 (b) N_2O_3 **(c) NO_2** (d) NO