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XII - STD	2019 - 2020	Marks : 50	1.00 : Hr.
ONE MARK	CHEMISTRY		
TEST NO : 1	Vol I : 1. Metallurgy 2. p - Block Elements - I 3. p - Block Elements - II		

I. Choose the correct answer : 50 x 1 = 50

1. The metal oxide which cannot be reduced to metal by carbon is .....
(a) PbO (b) Al_2O_3 (c) ZnO (d) FeO

2. Wolframite ore is separated from tinstone by the process of .....
(a) Smelting (b) Calcination (c) Roasting (d) Electromagnetic separation

3. Zinc is obtained from ZnO by ..... (a) Carbon reduction
(b) Reduction using silver (c) Electrochemical process (d) Acid leaching

4. In the electrolytic refining of copper, which one of the following is used as anode ? .....
(a) Pure copper (b) Impure copper (c) Carbon rod (d) Platinum electrode

5. Electrochemical process is used to extract .....
(a) Iron (b) Lead (c) Sodium (d) Silver

6. Extraction of gold and silver involves leaching with cyanide ion. Silver is later recovered by .....
(a) Distillation (b) Zone refining (c) Displacement with zinc (d) Liquation

7. The incorrect statement among the following is .....
(a) Nickel is refined by Mond's process
(b) Titanium is refined by Van Arkel's process
(c) Zinc blende is concentrated by froth floatation
(d) In the metallurgy of gold, the metal is leached with dilute sodium chloride solution

8. Bauxite has the composition .....
(a) Al_2O_3 (b) $Al_2O_3.nH_2O$ (c) $Fe_2O_3.2H_2O$ (d) None of these

9. Which among the following reaction represents the formation of slag ? .....
(a) $CaO_{(s)} + SiO_{2(s)} \rightarrow CaSiO_{3(s)}$ (b) $2C_{(s)} + O_{2(g)} \rightarrow 2CO_{(g)}$
(c) $Fe_2O_3 + 3CO_{(g)} \rightarrow 2Fe_{(l)} + 3CO_{2(g)}$ (d) $CaCO_{3(s)} \rightarrow CaO_{(s)} + CO_{2(g)}$

10. Which of the following mineral contains calcium as well as magnesium ?.....
(a) Zinc blende (b) Aragonite (c) Dolomite (d) Carnallite

11. Identify the halide ore among the following .....
(a) Epsom Salt (b) Pyrolusite (c) Anglesite (d) Rock Salt

12. Magnetic separation it is based on the difference in the ..... of the ore and the impurities.
(a) magnetic properties (b) chemical properties
(c) physical properties (d) melting point

13. Concentration of copper glance is done by ..... (a) leaching
(b) magnetic separation (c) froth flotation (d) hydraulic washing

14. Sulphide ore is converted to oxide form using the process .....
(a) Calcination (b) Roasting (c) Smelting (d) Leaching

15. Metal oxide is converted into metal by the ..... process.
(a) Calcination (b) roasting (c) smelting (d) beesemerisation

16. Magnesite is .....
(a) Magnesium oxide (b) Magnesium carbonate
(c) Magnesium sulphate (d) Magnesium chloride

17. In Hall - Herold process, ... act as an anode.
(a) Carbon blocks (b) Hydrogen (c) Copper rods (d) Zinc rods

18. The element that does not show catenation among the following p-block elements is .....
(a) Carbon (b) silicon (c) Lead (d) germanium

19. Oxidation state of carbon in its hydrides .....
(a) +4 (b) -4 (c) +2 (d) +2

20. Boric acid is an acid because its molecule .....
(a) contains replaceable H+ ion (b) gives up a proton
(c) combines with proton to form water molecule
(d) accepts OH^- from water, releasing proton.

21. The compound that is used in nuclear reactors as protective shields and control rods is .....
(a) Metal borides (b) Metal oxides (c) Metal carbonates (d) Metal carbide

22. Which of the following is not sp^2 hybridised ? .....
(a) Graphite (b) graphene (c) Fullerene (d) dry ice

Which of the following metals has the largest abundance in the earth's crust ?.....
(a) Aluminium (b) Calcium (c) Magnesium (d) Sodium

24. Duralumin is an alloy of .....
(a) Cu, Mn (b) Cu, Al, Mg (c) Al, Mn (d) Al, Cu, Mn, Mg

[PTO

25. Chemical formula of phosgene is .....
(a) $COCl_2$ (b) $CaOCl_2$ (c) $CaCO_3$ (d) $COCl$

26. Silicones are .....
(a) ortho silicates (b) water repellent thermal insulators
(c) both (a) and (b) (d) None of these

27. Boron compounds behave as Lewis acid, because of their .....
(a) ionisation property (b) acidic nature
(c) covalent nature (d) electron deficient nature

28. Select the incorrect statement regarding B_2H_6 .....
(a) It contains B - B ionic bond (b) Each boron is sp^3 hybridised
(c) It has two types of hydrogen bonds (d) It is used as a reducing agent

29. Graphite has ..... (a) 2 - d sheet structure
(b) Vander waals force between successive layers of carbon sheets
(c) sp^2 hybridised carbon linked with other three carbon atoms in hexagonal planar structure. (d) All the above

30. Group 14 elements have general electronic configuration .....
(a) ns^2 (b) ns^2np^2 (c) ns^2np^6 (d) ns^2np^4

31. Aluminium is used for making alloys because of its .....
(a) resistance to corrosion (b) poor conductivity
(c) heaviness (d) all of these

32. Which of the following oxide is amphoteric ? .....
(a) SiO_2 (b) CO_2 (c) SnO_2 (d) CaO

33. SiO_4^{4-} ion has .... geometry.
(a) Triangular (b) Tetrahedral (c) Linear (d) Pentagonal bipyramidal

34. Allotropy is due to ..... (a) difference in chemical properties
(b) difference in the number of atoms in the molecules
(c) difference in the arrangement of atoms in the molecules in the crystal
(d) none of these

35. Among the following, which is the strongest oxidizing agent ? .....
(a) Cl_2 (b) F_2 (c) Br_2 (d) I_2

36. Which is true regarding nitrogen ? .....
(a) least electronegative element (b) has low ionisation enthalpy than oxygen
(c) d - orbitals available (d) ability to form $p\pi$ - $p\pi$ bonds with itself

37. In the brown ring test, brown colour of the ring is due to .....
(a) A mixture of NO and NO_2 (b) Nitroso ferrous sulphate
(c) Ferrous nitrate (d) Ferric nitrate

38. On oxidation with iodine, sulphite ion is transformed to .....
(a) $S_4O_6^{2-}$ (b) $S_2O_6^{2-}$ (c) SO_4^{2-} (d) SO_3^{2-}

39. The molarity of given orthophosphoric acid solution is 2M. its normality is .....
(a) 6N (b) 4N (c) 2N (d) None of these

40. In which of the following, NH_3 is not used ? .....
(a) Nessler's reagent (b) Reagent for the analysis of IV group basic radical
(c) Reagent for the analysis of III group basic radical (d) Tollen's reagent

41. Which is dibasic ? .....
(a) Orthophosphoric acid (b) Pyrophosphoric acid
(c) Orthophosphorus acid (d) Hypophosphorus acid

42. Which of the following is correct ? .....
(a) H_3PO_3 is dibasic and reducing (b) H_3PO_3 is dibasic and non-reducing
(c) H_3PO_4 is tribasic and reducing (d) H_3PO_3 is tribasic and non-reducing

43. S - S bond is present in .....
(a) $H_2S_2O_7$ (b) H_2SO_5 (c) $H_2S_2O_8$ (d) $H_2S_2O_6$

44. Least volatile hydrogen halide is .....
(a) HF (b) HCl (c) HBr (d) HI

45. The ionisation energy of Ga is higher than that of Al because of .....
(a) more effective nuclear charge of Ga (b) smaller atomic size of Ga
(c) larger size of Ga (d) both (a) and (b)

46. Repeated use of which one of the following fertilizers would increase the activity of the soil ..... (a) Ammonium sulphate
(b) Superphosphate of lime (c) Urea (d) Potassium nitrate

47. The high reactivity of fluorine is due to ..... (a) high ionisation energy
(b) low bond dissociation energy (c) low electron affinity (d) high electronegativity

48. The hybridisation and shape of SF_6 is respectively .....
(a) sp^3d^2, square planar (b) sp^3d^2, octahedral
(c) sp^3d, see-saw (d) sp^2d, trigonal bipyramidal

49. Which among the following ion is not formed ? .....
(a) F_2 (b) Cl_2 (c) Br_2 (d) I_2

50. Orthophosphorus acid on heating gives ..... (a) Hypophosphorus
(b) Orthophosphoric acid (c) Phosphine gas (d) Both (b) and (c)

XII - STD	2019 - 2020	Marks : 50	1.00 : Hr.
ONE MARK	CHEMISTRY		
TEST NO : 2	Vol I : 4. Transition and Inner Transition Elements 5. Coordination Chemistry 6. Solid State		

50 x 1 = 50

I. Choose the correct answer :

1. Which of the following d block element has half filled penultimate d sub shell as well as half filled valence sub shell ? .....
   (a) Cr (b) Pd (c) Pt (d) None of these
2. The magnetic moment of Mn^{2+} ion is .....
   (a) 5.92BM (b) 5.80BM (c) 8.95BM (d) 3.90BM
3. The alloy of copper that contain Zinc is .....
   (a) Monel metal (b) Bronze (c) Bell metal (d) Brass
4. In acid medium, potassium permanganate oxidizes oxalic acid to ....
   (a) Oxalate (b) Carbon dioxide (c) Acetate (d) Acetic acid
5. The actinoid elements which show the highest oxidation state of +7 are .....
   (a) Np, Pu, Am (b) U, Fm, Th (c) U, Th, Md (d) Es, Ho, Lr
6. Which one of the following statements related to lanthanons is incorrect ? ....
   (a) Europium shows +2 oxidation state
   (b) The basicity decreases as the ionic radius decreases from Pr to Lu.
   (c) All the lanthanons are much more reactive than aluminium
   (d) Ce^{4+} solutions are widely used as oxidising agents in volumetric analysis.
7. Oxygen stabilises higher oxidation state because .....
   (a) it is electronegative (b) of its tendency to form multiple bond
   (c) of large size (d) of small size
8. Hybridisation of chromium ions and dichromate ions is .....
   (a) Sp^2 (b) Sp^3d (c) both (a) and (b) (d) None of these
9. Identify the paramagnetic species .....
   (a) Cu^+ (b) Cr^+ (c) MnO_4^- (d) Zn^{2+}
10. Identify the correct reason for lanthanide contraction .....
    (a) Decreasing nuclear charge (b) Decreasing screening effect
    (c) Increasing nuclear charge (d) Negligible screening effect
11. Coinage metals are .....
    (a) normal metals (b) transition metals (c) active metals (d) alkali metals
12. A mixture of $TiCl_4$ and trialkyl aluminium is .....
    (a) hydroformylation of obfine (b) Zeigler - Natta Catalyst
    (c) interstitial compounds (d) Ferromagnetic
13. In black and white photography, the developed film is fixed by washing with ...
    (a) Hypo solution (b) AgBr solution (c) $Na_2S_4O_6$ solution (d) FeC_2O_4 solution
14. In chromyl chloride test, A ..... precipitate of lead chromate is obtained.
    (a) White (b) Red (c) Yellow (d) Blue
15. ..... is known as Bayer's reagent.
    (a) Hot dilute alkaline $KMnO_4$ (b) Cold dilute alkaline $KMnO_4$
    (c) Hot Conc. acidic $KMnO_4$ (d) Cold Conc. acidic $KMnO_4$
16. ..... has the highest electrical conductivity at room temperature.
    (a) Chromium (b) Copper (c) Silver (d) Cadmium
17. IUPAC name of the complex $K_3[Al(C_2O_4)_3]$ is .....
    (a) potassium trioxalato aluminium (III) (b) potassium trioxalato aluminate (II)
    (c) potassium trisoxalato aluminate (III) (d) potassium trioxalato aluminate (III)
18. The sum of primary valance and secondary valance of the metal M in the complex $[M(en)_2(Ox)]Cl$ is .....
    (a) 3 (b) 6 (c) -3 (d) 9
19. In which of the following coordination entities the magnitude of Δ_o will be maximum ? ....
    (a) $[Co(CN)_6]^{3-}$ (b) $[Co(C_2O_4)_3]^{3-}$ (c) $[Co(H_2O)_6]^{3+}$ (d) $[Co(NH_3)_6]^{3+}$
20. Which kind of isomerism is possible for a complex $[Co(NH_3)_4Br_2]Cl$? .....
    (a) geometrical and ionization (b) geometrical and optical
    (c) optical and ionization (d) geometrical only
21. Which type of isomerism is exhibited by $[Pt(NH_3)_2Cl_2]$? .....
    (a) Coordination isomerism (b) Linkage isomerism
    (c) Optical isomerism (d) Geometrical isomerism
22. How many geometrical isomers are possible for [Pt(Py)(NH3)(Br)Cl] ? .....
    (a) 3 (b) 4 (c) 0 (d) 15
23. A complex in which the oxidation number of the metal is zero is .....
    (a) $K_4[Fe(CN)_6]$ (b) $[Fe(CN)_3(NH_3)_3]$ (c) $[Fe(CO)_5]$ (d) both (a) and (c)
24. Formula of tris (ethane–1, 2–diamine) iron (II) phosphate .....
    (a) $[Fe(CH_2-CH(NH_2)_2)_3](PO_4)_2$ (b) $[Fe(H_2N-CH_2-CH_2-NH_2)_3](PO_4)$
    (c) $[Fe(H_2N-CH_2-CH_2-NH_2)_3](PO_4)_2$ (d) $[Fe(H_2N-CH_2-CH_2-NH_2)_3]_3(PO_4)_2$

25. Identify the ambidentate ligand among the following .....
(a) NH_3 (b) $C_2O_4^{2-}$ (c) NO_2^- (d) SCN^-

26. The total number of electrons donated by ligands to platinum ion in $[Pt(en)_2Cl_2]$ is ..... (a) 8 (b) 10 (c) 12 (d) 14

27. An example of a chelating ligand is .....
(a) NO^{-2} (b) Chloro (c) Bromo (d) en

28. Paramagnetic moment is expressed in .....
(a) Debye unit (b) k Joules (c) BM (d) ergs

29. Paramagnetism is the property of .....
(a) paired electrons (b) completely filled electronic sub-shells
(c) unpaired electrons (d) completely vacant electronic sub-shells

30. According to IUPAC, No is .....
(a) nitro (b) nitrosyl (c) nitrato (d) nitrito

31. Crystal field stabilization energy for high spin d^4 octahedral complex is .....
(a) $-0.6\ \Delta_o$ (b) $-1.8\ \Delta_o$ (c) $-1.6\ \Delta_o$ (d) $-1.4\ \Delta_o$

32. Primary valency corresponds to the .....
(a) oxidation state of the metal (b) co - ordination number
(c) number of ligands (d) charge on the complex

33. The ligand capable of coordinating in two or more ways with the central metal ion are called ..... ligands.
(a) didentate (b) tridentate (c) ambidentate (d) none of the above

34. Graphite and diamond are .....
(a) Covalent and molecular crystals (b) ionic and covalent crystals
(c) both covalent crystals (d) both molecular crystals

35. Solid CO_2 is an example of .....
(a) Covlaent solid (b) Metallic solid (c) Molecular solid (d) Ionic solid

36. The yellow colour in NaCl crystal is due to .....
(a) excitation of electrons in F centers
(b) reflection of light from Cl^- ion on the surface
(c) refraction of light from Na^+ ion (d) all of the above

37. In calcium fluoride, having the fluorite structure the coordination number of Ca^{2+} ion and F^- ion are .....
(a) 4 and 2 (b) 6 and 6 (c) 8 and 4 (d) 4 and 8

38. Schottky defect in a crystal is observed when .....
(a) unequal number of anions and anions are missing from the lattice
(b) equal number of cations and anions are missing from the lattice
(c) an ion leaves its normal site and occupies an interstitial site
(d) no ion is missing from its lattice

39. The crystal with a metal deficiency defect is .....
(a) NaCl (b) FeO (c) ZnO (d) KCl

40. The number of carbon atoms per unit cell of diamond is .....
(a) 8 (b) 6 (c) 1 (d) 4

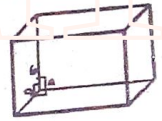
41. What is the relation between diamond and graphite ? .....
(a) Polymorphous (b) Isomer (c) Isotope (d) Isomorphous

42. Which of the following defects decreases the density of the crystal ? .....
(a) Interstitial defect (b) Vacancy defect
(c) Frankel defect (d) None of these above

43. Amorphous solids have .....
(a) Orderly arrangement of atoms (b) Long range of melting point
(c) Anisotropy (d) both (a) and (c)

44. Calculate the number of atoms in a cubic unit cell having one atom on each corner and one atom on each body diagonal ..... .
(a) 2 (b) 3 (c) 4 (d) 5

45. Crystalline solids are also called as .....
(a) supercooled liquids (b) true solids (c) pseudo solids (d) all the above

46. The type of crystal system shown is .....

(a) Cubic (b) Orthorhombic
(c) Mono clinic (d) Tetragonal

47. The point defects shown by FeO and FeS respectively .....
(a) Metal deficiency defect (b) Metal excess defect
(c) Schottky defect (d) Frenkel defect

48. The force that binds a metal ion to a number of electrons within its sphere of influence is known as ..... bond.
(a) covalent (b) ionic (c) metallic (d) co-ordinate

49. The Bragg's equation is .....
(a) $\lambda = 2d \sin\theta$ (b) $nd = 2\lambda \sin\theta$ (c) $2\lambda = nd \sin\theta$ (d) $n\lambda = 2d \sin\theta$

50. Structure of B_2O_3 is .....
(a) trigonal planar (b) tetrahedral (c) octahedral (d) cubic

XII - STD	2019 - 2020	Marks : 50	1.00 : Hr.
ONE MARK	CHEMISTRY		
TEST NO : 3	Vol I : 7. Chemical Kinetics Vol II : 8. Ionic Equilibrium 9. Electro Chemistry		

I. Choose the correct answer : **50 x 1 = 50**

1. A zero order reaction X → Product, with an initial concentration 0.02 M has a half life of 10 min. if one starts with concentration 0.04 M, then the half life is ..... (a) 10 s (b) 5 min (c) 20 min (d) cannot be predicted using the given information
2. The decomposition of phosphine (PH_3) on tungsten at low pressure is a first order reaction . It is because the .....
   (a) rate is proportional to the surface coverage
   (b) rate is inversely proportional to the surface coverage
   (c) rate is independent of the surface coverage
   (d) rate of decomposition is slow
3. The addition of a catalyst during a chemical reaction alters which of the following quantities ? ..... (a) Enthalpy (b) Activation energy (c) Entropy (d) Internal energy
4. In a first order reaction $x \rightarrow y$; if k is the rate constant and the initial concentration of the reactant x is 0.1 M, then, the half life is .....
   (a) $\left(\frac{\log 2}{k}\right)$ (b) $\left(\frac{0.693}{(0.1)k}\right)$ (c) $\left(\frac{\ln 2}{k}\right)$ (d) none of these
5. If the initial concentration of the reactant is doubled, the time for half reaction is also doubled. Then the order of the reaction is ..... (a) Zero (b) One (c) Fraction (d) None
6. The correct difference between first and second order reactions is that .....
   (a) A first order reaction can be catalysed ; a second order reaction cannot be catalysed.
   (b) The half life a first order reaction does not depend on $[A_0]$; the half life of a second order reaction does depend on $[A_0]$.
   (c) The rate of a first order reaction does not depend on reactant concentrations ; the rate of a second order reaction does depend on reactant concentrations.
   (d) The rate of a first order reaction does depend on reactant concentrations ; the rate of a second order reaction does not depend on reactant concentrations.
7. What is the activation energy for a reaction if its rate doubles when the temperature is raised from 200 K to 400 K ? ..... ($R = 8.314\ JK^{-1}\ mol^{-1}$)
   (a) 234.65 kJ $mol^{-1}K^{-1}$ (b) 434.65 kJ $mol^{-1}K^{-1}$
   (c) 434.65 J $mol^{-1}K^{-1}$ (d) 334.65 J $mol^{-1}K^{-1}$
8. For a first order reaction, the rate constant is 6.909 min^{-1}. the time taken for 75% conversion in minutes is .....
   (a) $\left(\frac{3}{2}\right)$ log 2 (b) $\left(\frac{2}{3}\right)$ log 2 (c) $\left(\frac{3}{2}\right) \log\left(\frac{3}{4}\right)$ (d) $\left(\frac{2}{3}\right) \log\left(\frac{4}{3}\right)$
9. What would be the rate of disappearance of oxygen, if the rate of formation of nitric oxide (NO) is 3.6×10^{-3} mol L^{-1} s^{-1} ? ..... (a) 4×10^{-3} mol $L^{-1}s^{-1}$ (b) 4×10^{-3} mol^{-1} $L^{-1}s^{-1}$ (c) 4.5×10^{-3} mol $L^{-1}s^{-1}$ (d) 4.5×10^{-3} mol^{-1} $L^{-1}s^{-1}$
10. The Unit of rate constant and rate of reaction are same for ..... (a) First order (b) Second order (c) Third order (d) Zero order
11. Which order reaction obeys the expression $t_{1/2} \propto \frac{1}{[A]}$? ..... (a) First (b) Second (c) Third (d) Zero
12. The given reaction $2FeCl_2 + SnCl_2 \rightarrow 2FeCl_2 + SnCl_4$ is an example of ..... (a) I order (b) II order (c) III order (d) None of these
13. The excess energy which a molecule must posses to become active is known as ..... (a) kinetic energy (b) threshold energy (c) potential energy (d) activation energy
14. When the E_a of a reaction zero then the rate constant of the reaction is equal to ..... (a) 2.303 K (b) $\frac{K}{2.303}$ (c) $\left(\frac{\gamma_1}{2}\right)$ (d) a
15. $CH_3COOCH_3 + H_2O \xrightarrow{H^+} CH_3COOH + CH_3CH$ is an example of ..... order reaction. (a) first (b) zero (c) third (d) pseudo
16. The half - life period of a first order reaction is 69.3 seconds. Its rate constant is ..... (a) $10^{-2}s^{-1}$ (b) $10^{-4}s^{-1}$ (c) $10s^{-1}$ (d) $10^{2}s^{-1}$
17. Activation energy of a reactant is reduced by ..... (a) increased temperature (b) reduced temperature (c) increased pressure (d) reduced pressure
18. Which of the following fluoro - compounds is most likely to behave as a Lewis base ? ..... (a) BF_3 (b) PF_3 (c) CF_4 (d) SiF_4
19. Concentration of the Ag^+ ions in a saturated solution of $Ag_2C_2O_4$ is 2.24×10^{-4} mol L^{-1} solubility product of $Ag_2C_2O_4$ is ..... (a) 2.42×10^{-8} mol^3L^{-3} (b) 2.66×10^{-12} mol^3L^{-3} (c) 4.5×10^{-11} mol^3L^{-3} (d) 5.619×10^{-12} mol^3L^{-3}
20. The solubility of $BaSO_4$ in water is 2.42×10^{-3} gL^{-1} at 298K. The value of its solubility product (K_{sp}) will be. (Given molar mass of $BaSO_4$ = 233 g mol^{-1}) ..... (a) 1.08×10^{-14} mol^2L^{-2} (b) 1.08×10^{-12} mol^2L^{-2} (c) 1.08×10^{-10} mol^2L^{-2} (d) 1.08×10^{-8} mol^2L^{-2}
21. The solubility of AgCl (s) with solubility product 1.6×10^{-10} in 0.1 M NaCl solution would be ..... (a) 1.26×10^{-5} M (b) 1.6×10^{-9} M (c) 1.6×10^{-11} M (d) Zero
22. $H_2PO_4^-$ the conjugate base of ..... (a) PO_4^{3-} (b) P_2O_5 (c) H_3PO_4 (d) HPO_4^{2-}

23. Pick the odd one out .....
(a) Cl^- (b) CaO (c) SO_2 (d) CH_4

24. A solution which is resistant to changes of pH on addition of small amounts of an acid or a base is known as .....
(a) buffer solution (b) true solution (c) isohydric solution (d) ideal solution

25. An acid is a substance that dissociates to give hydrogen ions in water. The above concept of acids was proposed by .....
(a) Lewis (b) Arrhenius (c) Bronsted (d) Lowry

26. Electrophiles are .....
(a) Lewis acid (b) Lewis base (c) Bronsted acid (d) Bronsted base

27. If ionic product < solubility product then the solution is .....
(a) saturated (b) super saturated (c) unsaturated (d) none of the above

28. NH_4OH is a weak base because .....
(a) it has low vapour pressure (b) it is only partially ionised
(c) It is completely ionised (d) it has low density

29. Which among the following is incorrect regarding acids ? .....
(a) It produces H^+ ions in aqueous solution
(b) It can donate a proton to another substance
(c) It can accept a proton from another substance
(d) It accepts a pair of electrons.

30. The ionic product of water at 25°C is .....
(a) 1×10^{-7} (b) 1×10^{7} (c) 1×10^{-14} (d) 1×10^{14}

31. An example of basic buffer is ..... (a) NH_4OH and NH_4Cl
(b) NH_4OH and NaOH (c) NaOH and NH_4Cl (d) NaOH and KOH

32. Which one among the following in the strongest Bronsted base .....
(a) $ClO\,\overline{4}$ (b) $ClO\,\overline{3}$ (c) $ClO\,\overline{2}$ (d) ClO^-

33. K_w represents .....
(a) Ionic product constant of water (b) Solubility product of water
(c) Equilibrium constant of water (d) Buffer index

34. Faradays constant is defined as .....
(a) charge carried by 1 electron (b) charge carried by one mole of electrons
(c) charge required to deposit one mole of substance
(d) charge carried by 6.22×10^{19} electrons.

35. During electrolysis of molten sodium chloride, the time required to produce 0.1 mol of chlorine gas using a current of 3A is .....
(a) 55 minutes (b) 107.2 minutes (c) 220 minutes (d) 330 minutes

36. Among the following cells ..... (I) Leclanche cell
(II) Nickel - Cadmium cell (III) Lead storage battery (IV) Mercury cell
Primary cells are .....
(a) I and IV (b) I and III (c) III and IV (d) II and III

37. Which of the following electrolytic solution has the least specific conductance .....
(a) 2N (b) 0.002N (c) 0.02N (d) 0.2N

38. A certain current liberated 0.504 gm of hydrogen in 2 hours. How many grams of copper can be liberated by the same current flowing for the same time in a copper sulphate solution .....
(a) 31.75 (b) 15.8 (c) 7.5 (d) 63.5

39. A current strength of 3.86 A was passed through molten Calcium oxide for 41 minutes and 40 secods. The mass of Calcium in grams deposited at the cathode is (atomic mass of Ca is 40g / mol and IF = 96500C). .....
(a) 4 (b) 2 (c) 8 (d) 6

40. The laws of electrolysis were enunciated first by .....
(a) Dalton (b) Faraday (c) Kekule (d) Avogadro

41. 1mho is equal to.....
(a) 1 siemen (b) 1 second (c) 1 ohm (d) None of the above

42. What happens during the electrolysis of molten sodium chloride ? .....
(a) Cl_2 is released at the cathode (b) Liquid sodium is obtained at the anode
(c) The emf of the overall reaction is – 4.07 V (d) Both (a) and (c)

43. The emf of a cell with 1 M solution of reactants and products in solution at 25°C is called ..... (a) Half cell potential (b) Standard emf
(c) Single electrode potential (d) Redox potential

44. The cell constant of a conductivity cell is .....
(a) $l \times a$ (b) $\frac{a}{l}$ (c) $\frac{l}{a}$ (d) $\frac{l^2}{a}$

45. How many half cells are present in an electrochemical cell ? .....
(a) 3 (b) 4 (c) 2 (d) 6

46. Leclanche cell is .....
(a) Primary battery (b) Secondary battery (c) Rechargeable (d) Both (b) and (c)

47. The electrolyte used in mercury button cell is ..... (a) KOH and ZnO
(b) NH_4Cl and $ZnCl_2$ in water (c) 38% H_2SO_4 (d) Li salt in organic solvent

48. ..... is the reciprocal of resistance. (a) specific conductance
(b) molar conductance (c) specific resistance (d) conductance

49. The emf of the cell is measured in .....
(a) ohm (b) amperes (c) volts (d) coulomb

50. SHE is .....
(a) Standard Helium Electrode (b) Standard Hydrogen Electrode
(c) Standard Mercury Electrode (d) None of these

XII - STD	2019 - 2020	Marks : 50	1.00 : Hr.
ONE MARK	CHEMISTRY		
TEST NO : 4	Vol II : 10. Surface Chemistry 11. Hydroxy Compounds and ethers 12. Carbonyl Compounds		

50 x 1 = 50

I. Choose the correct answer :

1. Which one of the following characteristics are associated with adsorption ? .....

(a) ΔG and ΔH are negative but ΔS is positive

(b) ΔG and ΔS are negative but ΔH is positive

(c) ΔG is negative but ΔH and ΔS are positive

(d) ΔG, ΔH and ΔS all are negative

2. Fog is colloidal solution of .....

(a) solid in gas (b) gas in gas (c) liquid in gas (d) gas in liquid

3. Which one of the following is correctly matched ? .....

(a) Emulsion - Smoke

(b) Gel - Butter

(c) Foam - Mist

(d) Whipped cream - Sol

4. On which of the following properties does the coagulating power of an ion depend ? ..... (a) Both magnitude and sign of the charge on the ion

(b) Size of the ion alone (c) The magnitude of the charge on the ion alone

(d) The sign of charge on the ion alone

5. The phenomenon observed when a beam of light is passed through a colloidal solution is .....

(a) Cataphoresis (b) Electrophoresis (c) Coagulation (d) Tyndall effect

6. The most effective electrolyte for the coagulation of As_2S_3 Sol is .....

(a) $NaCl$ (b) $Ba(NO_3)_2$ (c) $K_3[Fe(CN)_6]$ (d) $Al_2(SO_4)_3$

7. Which one of the following is an example for homogeneous catalysis ? .....

(a) manufacture of ammonia by Haber's process

(b) manufacture of sulphuric acid by contact process

(c) hydrogenation of oil (d) hydrolysis of sucrose in presence of dil. HCl

8. Which of the following interface cannot be obtained ? .....

(a) solid - solid (b) solid - liquid (c) gas - gas (d) liquid - liquid

9. Pick the odd one out :

(a) dialysis (b) electro dialysis (c) electrophoresis (d) ultrafiliteration

10. The multilayer adsorption of gases on solids take place in .....

(a) physical adsorption (b) chemisorption (c) sols (d) active centres

11. The phenomenon of Tyndall's effect is not observed in .....

(a) emulsion (b) colloidal soluton (c) true solution (d) none

12. The flocculation and setting down of the sol particles is called .....

(a) Tyndall effect (b) Brownian movement (c) Electro osmosis (d) Coagulation

13. Silica gel is utilised for the ..... of the number of gases.

(a) adsorption (b) absorption (c) desorption (d) all of these

14. ..... enzyme hydrolyses starch into maltose.

(a) pepsin (b) diastase (c) zymase (d) urease

15. Sulphur in water is an example of ..... colloids.

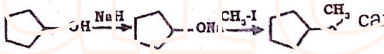
(a) lyophilic (b) lyophobic (c) emulsion (d) gel

16. The platinum catalyst used in the oxidation of SO_2 by contact process is poisoned by .....

(a) As_2O_3 (b) V_2O_5 (c) Fe_2O_3 (d) $CuCl_2$

17. Carbolic acid is .....

(a) Phenol (b) Picric acid (c) benzoic acid (d) phenylacetic acid

18. The reaction  can be class fied as .....

(a) Dehydration (b) Williams on alcoholysntnesis

(c) Williamson ether synthesis (d) Dehydrogenation of alcohol

19. Williamson synthesis of preparing dimethyl ether is a / an / .....

(a) SN^1 reactions (b) SN^2 reactions

(c) Electrophilic addition (d) Electrophilic substitution

20. $HOCH_2CH_2 - OH$ on heating with periodic acid gives .....

(a) Methanoic acid (b) Glyoxal (c) Methanal (d) CO_2

21. Which among the following reagent is not used to differentiate ethanol and phenol ? .....

(a) neutral $FeCl_3$ (b) $C_6H_5N_2Cl$ (c) NaOH (d) anhy $ZnCl_2$

22. Which is soluble in H_2O ? .....

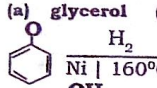
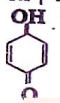
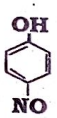
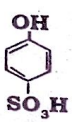
(a) Phenol (b) Alkanes (c) Alcohols (d) Alkenes

23. When phenol is distilled with zinc dust it gives .....
(a) benzaldehyde (b) benzoic acid (c) toluene (d) benzene

24. The carbinol name of $CH_3 - \underset{\underset{CH_3}{|}}{\overset{CH_3}{|}}{C} - OH$ ..... (a) ethyl propyl carbinol
(b) ethyl methyl cabinol (c) trimethyl carbinol (d) dimethyl isopropyl carbinol

25. Alcohols are isomeric with .....
(a) aldehyde (b) ketones (c) ethers (d) esters

26. The common name of this compound $CH_2 = CH–CH_2–OH$ is .....
(a) glycerol (b) vinyl alcohol (c) allyl alcohol ether (d) prop–2–en–1–ol

27.  $\xrightarrow[Ni \mid 160^oC]{H_2}$ 'X'. 'X' is .....
(a)  (b)  (c)  (d) 

28. Baeyer's reagent is .....
(a) Zn|Hg in Conc HCl (b) acidified $K_2Cr_2O_7$ (c) cold alkaline $KMnO_4$ (d) Sodium borohydride

29. The major product obtained when phenol is treated with sodium hydroxide and carbon dioxide is .....
(a) Salicyaldehyde (b) Salicylic acid (c) Benzaldehyde (d) Benzoic acid

30. Isomerism exhibited by ethylene glycol is .....
(a) position isomerism (b) chain isomerism (c) functional isomerism (d) both (a) and (c)

31. Phenol is used to manufacture .....
(a) plastics and drugs (b) explosives and pesticides (c) antiseptics and germicides (d) all the above

32. The common name for 4-hydroxy toluene is .....
(a) p–cresol (b) m–cresol (c) resoricinol (d) catechol

33. The number of possible isomers for molecular formula $C_4H_{10}O$ is .....
(a) 3 (b) 4 (c) 6 (d) 7

34. The correct structure of the product 'A' formed in the reaction  $\xrightarrow[Pd/C, \text{ ethanol}]{H_2(gas,\ 1\ atm)}$ A is .....
(a)  (b)  (c)  (d) 

35. Which one of the following reduces tollens reagent .....
(a) formic acid (b) acetic acid (c) benzophenone (d) none of these

36. Which one of the following reaction is an example of disproportionation reaction ..... (a) Aldol condensation (b) Cannizaro reaction
(c) Benzoin condensation (d) None of these

37. In which of the following reactions new carbon - carbon bond is not formed ? ...
(a) Aldol condensation (b) Friedel craft reaction
(c) Kolbe's reaction (d) Wolf kishner reduction

38. The reagent used to distinguish between acetaldehyde and benzaldehyde is ..... (a) Tollens reagent (b) Fehling's solution
(c) 2,4 - dinitrophenyl hydrazine (d) Semicarbazide

39. The formation of cyanohydrin from acetone is an example of .....
(a) nucleophilic substitution (b) electrophilic substitution
(c) electrophilic addition (d) nucleophilic addition

40. Which among the carbonyl compounds cannot be prepared by Rosenmund reduction ? .....
(a) Ketones (b) Formaldehyde (c) Acetaldehyde (d) Both (a) and (b)

41. Tincture benzoin is obtained from .....
(a) benzoyl chloride (b) benzoin (c) benzyl alcohol (d) benzoic acid

42. Ketones when reduced in the presence of Pt forms .....
(a) Primary alcohols (b) Secondary alcohols (c) Tertiary alcohols (d) Acids

43. On Kolbe's electrolysis, formic acid gives .....
(a) H_2 (b) methane (c) ethane (d) none

44. The number of N-N bond in urotropine is .....
(a) 6 (b) 4 (c) 2 (d) 0

45. Esters have a ..... odour.
(a) fishy (b) fruity (c) garlic (d) carbolic

46. 6 - 8% solution of acetic acid in water is called .....
(a) Vinegar (b) Glacial acetic acid (c) Formalin (d) Both (a) and (b)

47. Tollen's reagent is .....
(a) ammoniacal cuprous chloride (b) ammoniacal cuprous oxide
(c) ammoniacal silver nitrate (d) ammoniacal silver chloride

48. Among the halogen acids, the weakest acid is .....
(a) HF (b) HCl (c) TNT (d) HI

49. The hybridisation of carbon in CHO group is .....
(a) dsp^2 (b) sp^3 (c) sp^2 (d) sp

50. The decarboxylating agent is .....
(a) soda lime (b) lime water (c) quick lime (d) lime of milk

XII - STD	2019 - 2020	Marks : 50	1.00 : Hr.
ONE MARK	CHEMISTRY		
TEST NO : 5	Vol II : 13. Organic Nitrogen Compounds 14. Biomelcules 15. Chemistry In Everyday Life		

I. Choose the correct answer : 50 x 1 = 50

1. When aniline reacts with acetic anhydride the product formed is .....
   (a) 0 - aminoacetophenone (b) m - aminoacetophenone
   (c) p - aminoacetophenone (d) acetanilide
2. The product formed by the reaction an aldehyde with a primary amine.....
   (a) carboxylic acid (b) aromatic acid (c) schiff's base (d) ketone
3. Nitrobenzene on reaction with fuming nitric acid at 80 - 100°C forms which one of the following product ? .....
   (a) 1, 4 - dinitrobenzene (b) 2, 4, 6 - tirnitrobenzene
   (c) 1, 2 - dinitrobenzene (d) 1, 3 - dinitrobenzene
4. Secondary nitro alkanes react with nitrous acid to form ..... .
   (a) red solution (b) blue solution (c) green solution (d) yellow solution
5. Ammonium salt of benzoic acid is heated strongly with P_2O_5 and the product so formed is reduced and then treated with $NaNO_2$ / HCl at low temperature. The final compound formed is .....
   (a) Benzene diazonium chloride (b) Benzyl alcohol (c) Phenol (d) Nitrosobenzene
6. Which of the following amines does not undergo acetylation ? .....
   (a) t - butylamine (b) ethylamine (c) diethylamine (d) triethylamine
7. Which one of the following will not undergo Hofmann bromamide reaction .....
   (a) $CH_3CONHCH_3$ (b) $CH_3CH_2CONH_2$ (c) CH_3CONH_2 (d) $C_6H_5CONH_2$
8. Which of the following cannot be prepared by Sandmeyer's reaction ? .....
   (a) Iodobenzene (b) Fluorobenzne (c) both (a) and (b) (d) Neither (a) nor (b)
9. Nitromethane condenses with acetaldehyde to give ..... (a) nitro propane
   (b) 1-nitro-2-propanol (c) 2-nitro-1-propanol (d) 3-nitro propanol
10. The gas leaked from storage tank of the union Carbide plant in Bhopal gas tragedy was .....
    (a) Phosgene
    (b) Methyl isocyanide (c) Methyl isocyanate (d) Methyl isothiocyanide
11. The test for aniline is ..... (a) Fehling's test
    (b) Ferric chloride test (c) Bromination (d) Riemer Tiemann Test
12. Teriary amine is less basic than secondary amine because of .....
    (a) delocalisation of π electrons (b) resonance effect
    (c) inductive effect (d) steric effect
13. Amines have ..... odour.
    (a) carbolic (b) mustard oil (c) fishy (d) garlic
14. p-amino phenol is the product of reducing nitrobenzene in .....
    (a) acid medium (b) basic medium (c) electrolytic reduction (d) neutral medium
15. Nitro-acinitro tautomerism is exhibited by .....
    (a) nitromethane (b) nitrobenzene (c) chloropicrin (d) o-toluidine
16. The intermediate formed in the nitration of benzene is .....
    (a) Arenium ion (b) Carbanion (c) Oxonium ion (d) Nitrite ion
17. Use of chloropicrin is as .....
    (a) explosive (b) dye (c) anaesthetic (d) sterilising agent
18. Which one of the following rotates the plane polarized light towards left ? .....
    (a) D(+) Glucose (b) L(+) Glucose (c) D(-) Fructose (d) D(+) Galactose
19. In a protein, various amino acids linked together by .....
    (a) Peptide bond (b) Native bond (c) α - Glycosidic bond (d) β - Glycosidic bond
20. The central dogma of molecular genetics states that the genetic information flows from .....
    (a) Amino acids, Protein, DNA (b) DNA, Carbohydrates, Proteins
    (c) DNA, RNA, Proteins (d) DNA, RNA, Carbohydrates
21. Vitamin B_2 is also known as .....
    (a) Riboflavin (b) Thiamine (c) Nicotinamide (d) Pyridoxine
22. Insulin, a hormone chemically is .....
    (a) Fat (b) Steriod (c) Protein (d) Carbohydrates
23. Which of the following vitamin is water soluble ? .....
    (a) Vitamin E (b) Vitamin K (c) Vitamin A (d) Vitamin B
24. Glucose is an aldose. Which one of the following reactions is not expected with glucose ? .....
    (a) It does not form oxime (b) It does not react with Grignard reagent
    (c) It does not form osazones (d) It does not reduce tollens reagent

25. The building block of proteins are ..... (a) α - hydroxy acids
(b) α - amino acids (c) β - hydroxy acids (d) β - amino acids

26. Alkaline hydrolysis of cooking oil gives :.....
(a) soap (b) glycerol (c) fatty acic (d) both (a) and (b)

27. Fructose is not oxidised by bromine water indicates .....
(a) the presence of aldehydic group (b) presence of ketonic group
(c) absence of aldehydic group (d) absence of ketonic group

28. Glucose + acetic anhydride $\xrightarrow{\text{pyridine}}$? .....
(a) di acetate (b) tetra acetate (c) penta acetate (d) hexa acetate

29. Sucrose is commonly known as .....
(a) fruit sugar (b) table sugar (c) grape sugar (d) table salt

30. The number of optical isomers depend on .....
(a) number of chiral carbon (b) number of carbon present
(c) number of oxygen present (d) both (a) and (c)

31. Ribose is .....
(a) Ketopentose (b) Ketotetrose (c) Aldotriose (d) Aldopentose

32. The zwitter ion accepts and donates a proton at ..... and ..... pH values
(a) low and high (b) high and low (c) low and zero (d) high and 7

33. Cholesterol is an example of .....
(a) protein (b) vitamin (c) carbohydrate (d) lipid

34. The properties of protein are determined by .....
(a) nature of the amino acids (b) the position of NH_2 group
(c) the position of COOH group (d) all

35. A mixture of chloroxylenol and terpinecol acts as .....
(a) antiseptic (b) antipyretic (c) antibiotic (d) analgesic

36. Which one of the following is a bio-degradable polymer ? .....
(a) HDPE (b) PVC (c) Nylon 6 (d) PHBV

37. Which of the following is an analgesic ? .....
(a) Streptomycin (b) Chloromycetin (c) Asprin (d) Penicillin

38. Nylon is an example of .....
(a) polyamide (b) polythene (c) polyester (d) saccharide

39. The drug used to induce sleep is ..... .
(a) paracetamol (b) bithional (c) chloroquine (d) equanil

40. Mental diseases like schizophrenia are treated using ..... drugs.
(a) tranquilizers (b) antacid (c) opioids (d) NSAID

41. Which among the following is a modification of penicillin ? .....
(a) amoxicillin (b) catecholamine (c) Crythromycin (d) all the above

42. The monomer of PVC is .....
(a) Vinyl carbonate (b) Vinyl Chloride
(c) Vanadium carbonate (d) Vanadium chloride

43. Aspirin is ..... (a) benzoyl salicylic acid
(b) acetyl salicylic acid (c) methyl salicylic (d) both (b) and (c)

44. Polyester is ..... (a) an addition polymer
(b) a condensation polymer (c) a copolymer (d) none

45. The medicine used for curing rabies is called .....
(a) antibacterial (b) antiviral (c) antifungal (d) antibiotics

46. Iodoform is .....
(a) antibiotic (b) antiseptic (c) disinfectant (d) Both (a) and (c)

47. Pick out the wrong statement among the following .....
(a) Antipyretics is used to reduce the body temperature
(b) Analgesics are drugs used to relieve pain
(c) Milk of magnesia is used to relieve symptoms of heat burn
(d) Tetracyclines are antifertility drugs

48. ..... is used mainly as preservative for the preparation of pickles.
(a) Sodium meta bisulphite (b) Potassiummeta bisulphite
(c) Benzoic acid (d) Acetic acid

49. The free radical polymerisation of the monomer 2 - chloro buta - 1, 3- diene gives .....
(a) Buna N (b) Buna S (c) Neoprene (d) PHB

50. The formulation of dettol contains .....
(a) chloroxylenol (b) terpineol (c) alcohol (d) all of these

XII - STD - ONE MARK TEST KEYS, 2019 - 2020

CHEMISTRY - EM

KEYS TEST NO : 1

1. (b)	2. (d)	3. (a)	4. (b)	5. (c)	6. (c)	7. (d)	8. (b)	9. (a)	10. (c)
11. (d)	12. (a)	13. (c)	14. (b)	15. (c)	16. (b)	17. (a)	18. (c)	19. (a)	20. (d)
21. (a)	22. (d)	23. (a)	24. (d)	25. (a)	26. (c)	27. (d)	28. (a)	29. (d)	30. (d)
31. (a)	32. (c)	33. (b)	34. (c)	35. (b)	36. (d)	37. (b)	38. (c)	39. (a)	40. (a)
41. (c)	42. (a)	43. (d)	44. (a)	45. (d)	46. (a)	47. (b)	48. (b)	49. (a)	50. (d)

KEYS TEST NO -2

1. (a)	2. (a)	3. (d)	4. (b)	5. (a)	6. (c)	7. (b)	8. (b)	9. (b)	10. (d)
11. (b)	12. (b)	13. (a)	14. (c)	15. (b)	16. (c)	17. (d)	18. (d)	19. (a)	20. (a)
21. (d)	22. (a)	23. (c)	24. (d)	25. (d)	26. (c)	27. (d)	28. (c)	29. (a)	30. (b)
31. (a)	32. (a)	33. (c)	34. (c)	35. (c)	36. (a)	37. (c)	38. (b)	39. (b)	40. (a)
41. (a)	42. (b)	43. (d)	44. (d)	45. (b)	46. (b)	47. (a)	48. (c)	49. (d)	50. (a)

KEYS TEST NO : 3

1. (c)	2. (c)	3. (b)	4. (c)	5. (a)	6. (b)	7. (c)	8. (b)	9. (c)	10. (d)
11. (b)	12. (c)	13. (d)	14. (d)	15. (d)	16. (a)	17. (a)	18. (b)	19. (d)	20. (c)
21. (b)	22. (c)	23. (c)	24. (a)	25. (b)	26. (a)	27. (c)	28. (b)	29. (c)	30. (c)
31. (a)	32. (d)	33. (a)	34. (b)	35. (b)	36. (a)	37. (b)	38. (b)	39. (b)	40. (b)
41. (a)	42. (c)	43. (b)	44. (c)	45. (c)	46. (a)	47. (a)	48. (d)	49. (c)	50. (b)

KEYS TEST NO : 4

1. (d)	2. (c)	3. (b)	4. (d)	5. (d)	6. (d)	7. (d)	8. (c)	9. (c)	10. (a)
11. (c)	12. (d)	13. (a)	14. (b)	15. (b)	16. (a)	17. (a)	18. (c)	19. (b)	20. (c)
21. (d)	22. (c)	23. (d)	24. (c)	25. (c)	26. (c)	27. (b)	28. (c)	29. (b)	30. (c)
31. (d)	32. (a)	33. (d)	34. (b)	35. (a)	36. (b)	37. (d)	38. (b)	39. (d)	40. (d)
41. (b)	42. (b)	43. (a)	44. (d)	45. (b)	46. (a)	47. (c)	48. (a)	49. (c)	50. (a)

KEYS TEST NO : 5

1. (d)	2. (c)	3. (d)	4. (b)	5. (b)	6. (d)	7. (a)	8. (c)	9. (b)	10. (c)
11. (c)	12. (d)	13. (c)	14. (c)	15. (a)	16. (a)	17. (d)	18. (c)	19. (a)	20. (c)
21. (a)	22. (c)	23. (d)	24. (b)	25. (b)	26. (d)	27. (c)	28. (c)	29. (b)	30. (a)
31. (d)	32. (a)	33. (d)	34. (a)	35. (a)	36. (d)	37. (c)	38. (a)	39. (d)	40. (a)
41. (a)	42. (b)	43. (b)	44. (b)	45. (b)	46. (b)	47. (d)	48. (d)	49. (c)	50. (d)