PHYSICAL SCIENCE

CLASS 10

MULTIPLE CHOICE QUESTIONS

BASED ON THE TELANGANA STATE SYLLABUS FOR THE ACADEMIC YEAR 2022 -23

USEFUL FOR ALL COMPETITIVE EXAMS

Prepared by : G.T.Ramesh, ZPHS Chilukodu , Dornakal ,Mahabubabad

REFLECTION OF LIGHT AT CURVED SURFACES

CHOOSE THE CORRECT ANSWER GIVEN BELOW

1.The mirror which is bent inwards is called---------- ( )

(a) Plane (b) concave (c) convex (d) all the above

2.The mirror which is bent outwards is called---------- ( )

(a) Concave (b) convex (c) plane (d) all the above

3. The centre of mirror is called--------- ( )

(a) Centre of curvature (b) pole (c) radius of curvature (d) none

4. The rays coming from object parallel to principal axis of a concave mirror will converge at---------- ( )

(a) focus (b) pole (c) radius of curvature (d) none

5. The centre of sphere to which a spherical mirror belongs, is called -------- ( )

(a) focus (b) radius of curvature (c) centre of curvature (d) pole

6. -------mirror always produce virtual image ( )

(a) convex (b) concave (c) spherical (d) all the above

7. A mirror has focal length '-15cm'. Then the mirror is ------ ( )

(a) convex (b) concave (c) spherical (d) all the above

8. Image distance is positive(+ve) for --------- ( )

(a) real image (b) virtual image (c) both (d) none the above

9. If we want to get the image of same size of the object , the object should be -------- ( )

(a) at F (b) between F and C (c) at C (d) none the above

10. When the object is placed between mirror and focus , the image is ---------- ( )

(a) diminished (b) same size (c) highly diminished (d) enlarged

Answers

1(b) 2(b) 3(b) 4(a) 5(c) 6(a) 7(b) 8(b) 9(c) 10(d)

11. For a convex mirror the focal length is -------- ( )

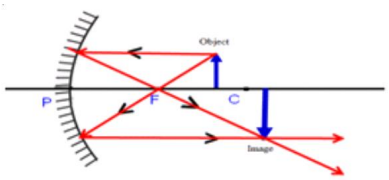
(a) positive (b) negative (c) zero (d) all of the above

12. A concave mirror forms a point sized image for an object placed at ------- ( )

(a) focus (b) infinity (c) at C (d) between F and P

13. -------image cannot be caught on screen. ( )

(a) virtual (b) real (c) blurred (d) none



14. this ray diagram shows, the image is ----- ( )

(a) real, enlarged (b) virtual, enlarged (c) real, same size (d) real, point size

15. The image that we get by extending the rays backwards is called---------- ( )

(a) virtual (b) real (c) magnified (d) diminished

16. The light ray passes through the ------does not undergo any deviation. ( )

(a) centre of curvature (b) focus (c) pole (d) none

17. The equation for mirror formula is ---------- ( )

(a) $1/f = 1/u + 1/v$ (b) $1/f = 1/u - 1/v$ (c) $f = u + v$ (d) none

18. Magnification (m) = --------- ( )

(a) h_i / h_o (b) u/v (c) v/u (d) h_o / h_i

19. Magnification is ------for inverted image ( )

(a) positive (b) negative (c) zero (d) all of the above

20. The height of object and image are positive if measured -----from the axis ( )

(a) upward (b) downward (c) mirror side (d) all of the above

11(a) 12(b) 13(a) 14(a) 15(a) 16(a) 17(a) 18(a) 19(b) 20(a)

21. For which mirror the magnification is always less than 1 . ( )

(a) convex (b) concave (c) spherical (d) all the above

22. The rear- view mirror used in vehicles is ------- ( )

(a) concave (b) convex (c) plane (d) all the above

23. The mirror used by Dentist is ------ ( )

(a) convex (b) concave (c) plane (d) none

24. The headlights of a car uses -------mirror ( )

(a) convex (b) concave (c) plano-concave (d) plano-convex

25. If an object is placed at C of a concave mirror has size 10 cm , then the size of the image ---------- ( )

(a) 5 cm (b) 10 cm (c) 15 cm (d) none

26. ------mirror always produce virtual image. ( )

(a) convex (b) concave (c) spherical (d) all the above

27. The shaving mirrors works on when the object is at ------ ( )

(a) in between C and F (b) at C (c) at F (d) in between P and F

28. If focal length of the concave mirror is 15 cm, we get virtual image if the object placed at a distance ------than 15 cm. ( )

(a) less (b) more (c) equal (d) double

29. The scientist who used mirrors to burn ships was------- ( )

(a) Fermat (b) Newton (c) Bohr (d) Archimedes

30. ---------mirror is used in solar cookers ( )

(a) convex (b) concave (c) spherical (d) all the above

21(a) 22(b) 23(b) 24(b) 25(b) 26(a) 27(d) 28(a) 29(d) 30(b)

31. Which of the following does not lie in the plane of reflection ? ( )

(a) reflecting surface (b) incident ray

(c) normal at the point of incidence (d) reflected ray

32. The outer surfaces of stainless steel utensils, spoons, plates etc., act as ------ ( )

(a) convex mirrors (b) concave mirrors (c) both (d) none

33. Any bulged surface with high polish act as a -------- ( )

(a) concave mirror (b) convex mirror (c) both (d) none

34. If focal lenth is 30 cm then what is radius of curvature of mirror ? ( )

(a) 40 cm (b) 50 cm (c) 60 cm (d) 70 cm

35. The rays which are very nearer to the principle axis are called------ ( )

(a) incident rays (b) reflected rays (c) paraxial rays (d) none

36. The minimum distance from real object to a real image in a concave mirror is ----- ( )

(a) 2f (b) f (c) 0 (d) f/2

37. The magnification produced by a mirror is '+3'. Then the mirror is------ ( )

(a) concave mirror (b) convex mirror (c) both (d) none

38. Which mirror has a wider field of view ? ( )

(a) convex mirror (b) concave mirror (c) a & b (d) none

31(a) 32(a) 33(b) 34(c) 35(c) 36(c) 37(a) 38(a)

CHEMICAL EQUATIONS

1 -------change occurs when there is change in state, colour and odour. ( )

(a) chemical change (b) physical change (c) a & b (d) none

2. rusting of iron is ------change ( )

(a) physical change (b) chemical change (c) both (d) none

3. The substance that are present on left side of a chemical equation are called---- ( )

(a) reactants (b) producs (c) gases (d) precipitates

4. A chemical reaction should be balanced because the law --------should be verified. ( )

(a) law of equality (b) conservation of mass (c) law of balance (d) none

5. If some amount of heat is released in a chemical reaction , then it is called-------- ( )

(a) exothermic reaction (b) endothermic reaction (c) oxidation (d) all

6. $C + O_2 \rightarrow CO_2 + Q$. This reaction is known as an ---------- ( )

(a) endothermic reaction (b) exothermic reaction (c) reduction (d) oxidation

7. If the gas is liberated in an experiment allows the burning splinter to continue burning more brightly in its presence , the gas is ---------- ( )

(a) oxygen (b) nitrogen (c) hydrogen (d) carbon dioxide

8. The chemical reaction in which heat is absorbed to form a new compound is called---- ( )

(a) exothermic reaction (b) endothermic reaction (c) reduction (d) oxidation

9. $Zn + 2HCl \rightarrow ZnCl_2 + H_2$ is an example for---------- ( )

(a)chemical combination (b) chemical decomposition

(c) chemical displacement (d) chemical double displacement

1(b) 2(b) 3(a) 4(b) 5(a) 6(b) 7(a) 8(b) 9 (c)

10.The common name of $Ca(OH)_2$ is --------- ( )

(a) lime stone (b) quick lime (c) slaked lime (d) dry ice

11. The common name of CaO is --------- ( )

(a) lime stone (b) quick lime (c) slaked lime (d) rust

12. The process of preparing slaked lime by adding water to quick lime is this type of chemical reaction. ( )

(a) decomposition rection (b) exothermic reaction

(c) endothermic reaction (d) displacement reaction

13. Downward arrow ($\downarrow$) in a chemical equation indicates---------- ( )

(a) gas (b) precipitate (c) equal (d) none

14. $Na_2SO_4 + BaCl_2 \rightarrow BaSO_4 \downarrow + 2NaCl$. In this reaction the precipitate name is ---- ( )

(a) sodium sulphate (b) barium chloride (c) barium sulphate (d) sodium chloride

15. If a gas is evolved in a reaction , it is denoted by----- ( )

(a) $\downarrow$ (b) $\uparrow$ (c) $\updownarrow$ (d) $\rightarrow$

16. $Zn + 2HCl \rightarrow ZnCl_2 + H_2 \uparrow$ in this reaction the gas evolved is ---------- ( )

(a) oxygen (b) nitrogen (c) hydrogen (d) carbon dioxide

17. $Fe_2O_3 + 2\ Al \rightarrow 2\ Fe +$ --------- ( )

(a) Al_2O_3 (b) Al (c) $2\ Al_2O_3$ (d) none

18. Balance the given chemical equation ( )

$C_3H_8 + O_2 \rightarrow CO_2 + H_2O$

(a) $C_3H_8 + 3O_2 \rightarrow CO_2 + H_2O$ (b) $C_3H_8 + O_2 \rightarrow 4CO_2 + H_2O$

(c) $C_3H_8 + O_2 \rightarrow CO_2 + 5H_2O$ (d) $C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4\ H_2O$

19. $N_{2(g)} + O_{2(g)} \rightarrow 2NO_{(g)}$ - Q. This reaction is example for------- ( )

(a) exothermic reaction (b) endothermic reaction (c) reduction (d) oxidation

10(c) 11(b) 12(b) 13(b) 14(c) 15(b) 16(c) 17(a) 18(d) 19(b)

20.The reactant available in less amount is called---------- ( )

(a) atomic mass (b) S.T.P (c) Avagadro number (d) limiting agent

21.One atomic mass unit is defined as exactly one twelfth of the mass of ^{12}C . It is equal to ---------- ( )

(a) 1.66054×10^{-24} g (b) 2.66054×10^{-24} g

(c) 3.66054×10^{-24} g (d) 3.66054×10^{-24} g

22. S.T.P means the standard temperature pressure is 273K and standard pressure is 1 bar .

1 bar = -------- ( )

(a) 460 mm of Hg (b) 560 mm of Hg

(c) 660 mm of Hg (d) 760 mm of Hg

23. The number of molecules present in one mole of substance is called Avagadro's number . This number is equal to ---------- ( )

(a) 6.023×10^{23} (b) 7.023×10^{23}

(c) 8.023×10^{23} (d) 9.023×10^{23}

24. At S.T.P one mole of gas occupies 22.4 litres of volume which is called--------- ( )

(a) atomic mass (b) molar mass (c) gram molar volume (d) none

25. Colour of silver bromide is--------- ( )

(a) green (b) red (c) light yellow (d) pink

20(d) 21(a) 22(d) 23(a) 24(c) 25(c)

ACIDS, BASES AND SALTS

1.Acids are sour to taste and turn blue llitmus to ---------- ( )

(a) green (b) red (c) light yellow (d) black

2.------are soapy to tuch and turn red litmus to---------- ( )

(a) bases,red (b) bases, blue (c) acids, blue (d) acids, red

3.Litmus solution is a dye extracted from--------- ( )

(a) lily (b) rose (c) lichen (d) lotus

4.Which of the following turns methyl orange to red . ( )

(a) NH_4OH (b) HCl (c) NaOH (d) $Mg(OH)_2$

5. Bases turn phenolphthalein to -------colour ( )

(a) green (b) red (c) pink (d) yellow

6.Colour of methyl orange in alkali conditions---------- ( )

(a) green (b) yellow (c) pink (d) red

7.A universal indicator ( )

(a) is used in the filtration of a weak acid against weak base

(b) is a mixture of several indicators

(c) non-electrolytes

(d) all the above

8.The substances whose odour changes in acidic or basic media are called--------- ( )

(a) basic indicators

(b) acidic indicators

(c) olfactory indicators

(d) all the above

1(b) 2(b) 3(c) 4(b) 5(c) 6(b) 7(b) 8(c)

9.Which one of the following metals reacts both acid and base and releases hydrogen gas ( )

(a) Na (b) Fe (c) Cu (d) Zn

10.Metal hydrogen carbonate produces------gas when reacts with acids. ( )

(a) oxygen (b) carbon dioxide (c) hydorgen (d) all

11.The neutralization reaction is------- ( )

(a) Metal oxide + Acid $\rightarrow$ Salt + Water

(b) Metal + Acid $\rightarrow$ Salt + Hydrogen

(c) Acid + Base $\rightarrow$ Salt + Water

(d) None

12.Non-metallic oxides are------in nature ( )

(a) basic (b) neutral (c) acidic (d) all

13.Acid solutions have------which carry electric current ( )

(a) OH^- (b) H^- (c) H^+ (d) OH^+

14.The correct process is ------- ( )

(a) adding water to an acid with constant stirring

(b) adding water to a base with constant stirring

(c) adding an acid to water with constant stirring

(d) None

15. In glucose and alcohol solution------are absent ( )

(a) bases (b) acids (c) ions (d) none

16.The acid is ------- ( )

(a) KOH solution (b) dry HCl gas (c) NH_4OH solution (d) aqueous solution of HCl

17.Bases which are soluble in water are called------ ( )

(a) non-aqueous (b) aqueous (c) alkalis (d) none

9(d) 10(b) 11(c) 12(c) 13(c) 14(c) 15(c) 16(d) 17(c)

18.Acids or bases are mixed with ------ to dilute ( )

(a) water (b) oxygen (c) hydrogen (d) sulphur

19.------is slightly soluble in water ( )

(a) NH_4OH (b) $Mg(OH)_2$ (c) NaOH (d) $Be(OH)_2$

20.The p^H scale was invented by------- ( )

(a) Newton (b) Rutherford (c) Sorensen (d) Thomson

21.The p in p^H stands for-------- ( )

(a) potenz (b) polarity (c) positive (d) plasma

22.Higher the hydronium ion concentration lower is the--------value ( )

(a) OH^- (b) p^H (c) H^+ (d) p^{OH}

23.The p^H value in acidc solution is-------- ( )

(a) < 7 (b) > 7 (c) 7 (d) all

24.Acids that give more H_3O^+ ions are said to be--------- ( )

(a) weak bases (b) strong bases (c) strong acids (d) weak acids

25.Our body works within the p^H range of ----- ( )

(a) 4.0 – 5.1 (b) 7.0 – 7.8 (c) 8.4 – 9.4 (d) 11.0 – 12.1

26. p^H of neutral solution is ---------- ( )

(a) 7 (b) > 7 (c) < 7 (d) none

27. p^H value of lemon juice is ( )

(a) 7 (b) 6 (c) 2.2 (d) 5.2

28. Which of the following is the wekest base? ( )

(a) NaOH (b) KOH (c) NH_4OH (d) $Ca(OH)_2$

29. Approximate p^H value of milk is-------- ( )

(a) 7.2 (b) 6.6 (c) 2.6 (d) 5.6

18(a) 19(d) 20(c) 21(a) 22(b) 23(a) 24(c) 25(b) 26(a) 27(c) 28(c) 29(b)

30.Teeth will be corroded when p^H in the is below--------- ( )

(a) 5.5 (b) 6.5 (c) 7 (d) 7.5

31.If the p^H of rain water is less than 5.6, it is called--------- ( )

(a) normal rain (b) heavy rain (c) acid rain (d) none

32.Stinging hair of leaves of nettle plant , inject--------acid causing burning pain ( )

(a) Citric acid (b) Methanoic aicd (c) Tartaric acid (d) None

33.To get rid of stomach pain caused by indigestion , people use bases called----- ( )

(a) strong base (b) weak base (c) antacid (d) None

34.--------is called milk of magnesia ( )

(a) Magnesium chloride (b) Magnesium oxide

(c) Magnesium hydroxide (d) Magnesium sulphate

35.A solution turns red litmus blue, its p^H is likely to be--------- ( )

(a) 1 (b) 4 (c) 5 (d) 10

36.Which of the following substances when mixed together will produce table salt? ( )

(a) Sodium thiosulphate and sulphur dioxide

(b) Hydrochloric acid and sodium hydoxide

(c) Chlorine and oxygen

(d) Nitric acid and sodium hydrogen carbonate

37. What colour would hydrochloric acid (p^H = 1) turn universal indicator? ( )

(a) Orange (b) Purple (c) Yellow (d) Red

38.Brine solution is called------- ( )

(a) $CuSO_4$ sol (b) $MgCl_2$ sol (c) $CaCl_2$ sol (d) NaCl sol

39.The deposits of solid salts are large crystals are often brown due to impurities . This is called-------- ( )

(a) pink salt (b) rock salt (c) Yellow salt (d) none

30(a) 31(c) 32(b) 33(c) 34(c) 35(d) 36(b) 37(d) 38(d) 39(b)

40.------is produced by the action of chlorine on dry slaked lime ( )

(a) Bleaching powder (b) Baking soda (c) Washing soda (d) none

41.Formula of bleaching powder--------- ( )

(a) $CuSO_4$ (b) $NaHCO_3$ (c) Na_2CO_3 (d) $CaOCl_2$

42.The pain due to honey-bee stung can be relieved by using--------- ( )

(a) Bleaching powder (b) Baking soda (c) Washing soda (d) calcium chloride

43.The reagent used in the preparation of chloroform is-------- ( )

(a) $CaSO_4$ (b) $NaHCO_3$ (c) Na_2CO_3 (d) $CaOCl_2$

44.------- is added for fast cooking ( )

(a) copper sulphate (b) Baking soda (c) Washing soda (d) calcium chloride

45.-------is a mild non-corrosive base. ( )

(a) gypsum (b) Baking soda (c) Washing soda (d) calcium chloride

46.Bleaching powder act as------- ( )

(a) reducing agent (b) oxidizing agent (c) decolourizing agent (d) b & c

47.--------is a mixture of baking soda and tartaric acid ( )

(a) plaster of paris (b) Baking powder (c) Bleaching powder (d) calcium chloride

48.Which is the formula of washing soda ? ( )

(a) $CaSO_4$ $2H_2O$ (b) $NaHCO_3$ (c) Na_2CO_3 $10H_2O$ (d) Na_2CO_3

49.Chemical formula of hydrated copper sulphate is--------- ( )

(a) $CaSO_4$ $2H_2O$ (b) $NaHCO_3$ (c)$CuSO_4$ 5H2O (d) Na_2CO_3

50.The fixed number of water molecules present in one formula unit of a salt is known as----
---------- ( )

(a) mole number (b) water of crystalisation (c) atomic mass (d) none

51. Calcium sulphate hemi hydrate is called as----- ( )

(a) Plaster of Paris (b) Gypsum (c) Washing soda (d) Chloroform

40(a) 41(d) 42(b) 43(d) 44(b) 45(b) 46(d) 47(b) 48(c) 49(c) 50(b) 51(a)

52.Gypsum formula ------- ( )

(a) $CaSO_4$ $2H_2O$ (b) $NaHCO_3$ (c)$CuSO_4$ 5H2O (d)) $CaSO_4$ ½ H_2O

53.--------is the substance which doctors use as plaster for supporting fractured bones in the right positon. ( )

(a) Plaster of Paris (b) Gypsum (c) Baking soda (d) Chloroform

54.------- is used for making toys, materials for decoration and for making surfaces

Smooth ( )

(a) Plaster of Paris (b) Gypsum (c) Baking soda (d) Baking powder

52(a) 53(a) 54(a)

REFRACTION OF LIGHT AT CURVED SURFACES

1.The lemon in the water of glass tumbler appears ------than its the actual size. ( )

(a) diverged (b) bulged (c) converged (d) none

2.If a ray travels from a rarer medium to denser medium it bends------ ( )

(a) towards the normal (b) perpendicular to the normal

(c) away from the normal (d) parallel to the normal

3.twinkling of stars is due to---------- ( )

(a) reflection (b) refraction (c) dispersion (d) none

4. A------is formed when a transparent material is bounded by two surfaces of which one (or) both surfaces are spherical. ( )

(a) lens (b) mirror (c) both (d) none

5.Which one of the following materials cannot be used to make a lens? ( )

(a) water (b) glass (c) plastic (d) clay

6.A lens which have two spherical surfaces bulging outwards is called-------- ( )

(a) plano concave lens (b) double convex lens

(c) plano convex lens (d) double concave lens

7.Double concave lens is-------at the middle and thicker at the edge. ( )

(a) bulged (b) thin (c) thick (d) none

8.The mid point of lens is called-------- ( )

(a) focus (b) optic centre (c) centre of curvature (d) all the above

9.The centre of sphere which contains the part of the curved surface is called------- ( )

(a) focus (b) optic centre (c) centre of curvature (d) none

10.The point where the refracted ray through a curved surface intersects the axis is called---------- ( )

(a) radius of curvature (b) optic centre (c) centre of curvature (d) focal point

1(b) 2(a) 3(b) 4(a) 5(d) 6(b) 7(b) 8(b) 9(c) 10(d)

11.Which of the following is used as a magnifying glass? ( )

(a) plano concave lens (b) double convex lens

(c) plano convex lens (d) double concave lens

12.The line joining the centre of curvature and the pole is called--------- ( )

(a) focus (b) principal axis (c) centre of curvature (d) focal length

13.The ray which passes through -------undeviated. ( )

(a) focus (b) optic centre (c) centre of curvature (d) focal length

14.Any ray passing through the principal axis is -------- ( )

(a) undeviated (b) parallel ray (c) deviated (d) all the above

15.------lens always forms a virtual ,diminished image. ( )

(a) plano concave lens (b) double convex lens

(c) plano convex lens (d) double concave lens

16.-------image can be seen with eyes. ( )

(a) real (b) virtual (c) diminished (d) erected

17.-------image is captured on screen. ( )

(a) real (b) virtual (c) diminished (d) none

18.Virtual image form--------side of lens. ( )

(a) other (b) same (c) a & b (d) none

19.If the focal length is negative then the lens is--------- ( )

(a) concave (b) convex (c) a & b (d)

20.A magnified and real image is formed when the object is------- ( )

(a) beyond C (b) at C (c) at infinity (d) between C and F

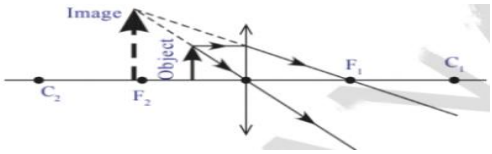
21.A convex lens can be represented by a symbol ( )

(a) ↓ (b) ↕ (c) 〖 (d) 〗

11(b) 12(b) 13(b) 14(a) 15(d) 16(b) 17(a) 18(b) 19(a) 20(d) 21(b)

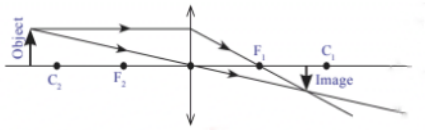
22.The parallel rays to principal axis after refraction converge at--------- ( )

(a) beyond C (b) at C (c) at infinity (d) focus



23. in this diagaram the virtual image formed ( )

(a) at C (b) beyond C (c) in between F and P (d) at F



24. in this diagram the image properties are------- ( )

(a) real, inverted,diminished (b) virtual ,inverted (c) enlarged (d) diminished

25.The value of focal length of the lens is equal to the value of the image distance when the rays are------- ( )

(a) parallel to the principal axis (b) passing through the optic centre

(c) passing through the focus (d) in all cases

26.Lens formula is ---- ( )

(a) $1/f = 1/v - 1/u$ (b) $1/f = 1/v + 1/u$

(c) $1/f = 1/u$ (d) $1/f = (n-1)(1/R_1 - 1/R_2)$

27.If the convex lens is placed in water , its focal length is-------- ( )

(a) increases (b) either increase or decrease

(c) remains same (d) decreases

28. Focal length of the plano-convex lens is ------when its radius of curvature of the surface is R and n is the refractive index of the lens. ( )

(a) f = R (b) f = R/2 (c) f = R/(n – 1) (d) f = (n -1)/R

22(a) 23(d) 24(a) 25(a) 26(a) 27(a) 28(c)

29.A double convex lens has two surfaces of equal radii ‘R’ and refractive index n = 1.5 .The focal length ‘ f ’ is ( )

(a) f = R (b) f = R/2 (c) f = -R (d) f = 2R

30. A convex lens is made up of three materials as shown in the figure. How many of images does it form? ( )

(a) 1 (b) 2 (c) 3 (d) 4

31.A hunter wants to shoot a fish, the image of which can be seen through clear water. It is to be aimed. ( )

(a) in any direction (b) above the image of fish

(c) directly towards the image (d) below the image of fish

32.A man wants to get a picture of a zebra . He photographed a white donkey after fitting a glass, with black stripes , on to the lens of his camera . What photo will he get ? ( )

(a) white stripes (b) black stripes (c) black & white stripes (d) none

33.Uses of convex lenses…. ( )

(a) cameras (b) microscopes (c) projectors (d) all the above

34.Suppose you are inside the water in a swimming pool near an edge. A friend is standing on the edge. Do you find your friend -------than his usual height. ( )

(a) taller (b) shorter (c) same (d) none

29(a) 30(c) 31(d) 32(c) 33(d) 34(a)

35.An object is placed at a distance of 15 cm from a convex lens of focal length 10 cm . Then the position of the object will produce------image ( )

(a) real ,diminished & inverted (b) magnified ,real, inverted

(c) magnified,virtual & erect (d) an image of same size

36.All the distances of a curved surface is measured from the------ ( )

(a) pole (b) radius of curvature (c) focus (d) centre of curvature

37.Distances measured opposite to the direction of the incident light ray taken as ---- ( )

(a) positive (b) negative (c) any sign (d) no sign

38.The heights measured vertically above from the points on axis are taken as------- ( )

(a) positive (b) negative (c) both (d) none

39.If the size of image is larger, then the image is-------- ( )

(a) diminished (b) erected (c) magnified (d) inverted

40.When a convex lens is kept in a medium whose refractive index is more than that of the lens, it behaves as a------lens ( )

(a) divergent (b) convergent (c) both (d) none

41.Air bubble in water behaves like a ---------lens ( )

(a) convergent (b) divergent (c) both (d) none

35(b) 36(a) 37(b) 38(a) 39(c) 40(a) 41(b)

HUMAN EYE AND COLOURFUL WORLD

1.The value of least distance of clear vision is about-------cm ( )

(a) 25 (b) 35 (c) 45 (d) 60

2.The maximum angle at which we are able to see the whole object is------- ( )

(a) 50° (b) 60° (c) 70° (d) 80°

3.The coloured diaphragm between the cornea and lens is-------- ( )

(a) pupil (b) iris (c) cornea (d) retina

4.The middle point of the iris has a hole , which is called------- ( )

(a) ciliary muscle (b) iris (c) pupil (d) retina

5.The screen on which the image is formed by the lens system of the human eye is called----------- ( )

(a) lens (b) iris (c) pupil (d) retina

6.The distance between the eye lens and retina is about-------- cm ( )

(a) 2.5 (b) 3.5 (c) 4.5 (d) 6.5

7.Let us assume that on a hot summer day , you stand outside the sunshine observing the surroundings. Which one of the following is correct? ( )

(a) Your iris makes pupil contract (b) your iris makes pupil to expand

(c) No change in the pupil (d) No change in the iris

8.The front portion of eye ball is covered by a transparent protective membrane called---------- ( )

(a) pupil (b) iris (c) cornea (d) retina

9.When the eye lens is focused on an object very far away, the focal length of the eye-lens is---------- ( )

(a) minimum (b) maximum (c) half of its focal length (d) none

1(a) 2(b) 3(b) 4(c) 5(d) 6(a) 7(a) 8(c) 9(b)

10.A camera employs a ---------lens to form-----images ( )

(a) diverging , virtual (b) diverging , real (c) converging, real (d) converging, virtual

11.The size of an object as perceived by an eye depends primarily on------- ( )

(a) actual size of the object (b) distance of the object from the eye

(c) aperture of the pupil (d) size of the image formed on the retina

12. When an object at different distance are seen by the eye which of the following remains constant ?

(a) focal length of the eye lens (b) object distance from the eye-lens

(c) the radii of curvature of eye-lens (d) image distance from eye-lens

13.The time for which the sensation of vision of an object continues in the eye is called 'persistance of visison' . It is about ----------part of a second. ( )

(a) $1/15^{th}$ (b) $1/16^{th}$ (c) $1/17^{th}$ (d) $1/18^{th}$

14----------are the receptors which identify colour. ( )

(a) cones (b) rods (c) optic nerves (d) none

15.----------are the receptors which identify intensity of light. ( )

(a) rods (b) cones (c) ciliary muscles (d) none

16.The eye which cannot simultaneously see with the same distinctness all objects or lines making different inclinations is called to suffer from---------- ( )

(a) colour blindness (b) astigmatism (c) chromatic abberation (d) none

17.The defect of the eye due to which a person is unable to distinguish between certain colours , known as ---------- ( )

(a) colour blindness (b) astigmatism (c) chromatic abberation (d) all

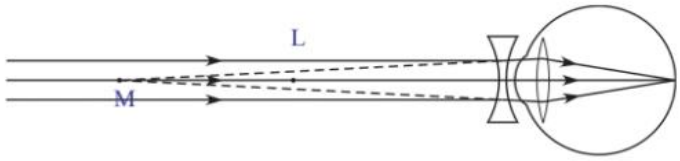
18.Common defects of vision are---------- ( )

(a) Myopia (b) Hypermetropia (c) Presbyopia (d) all the above

19. A person suffering from myopia cannot see the objects at ---------- ( )

(a) longer distance (b) near distance (c) close to eye (d) all the above

10(c) 11(b) 12(d) 13(b) 14(a) 15(a) 16(b) 17(a) 18(d) 19(a)



20. this image is about correctness of ------- ( )

(a) Myopia (b) Hypermetropia (c) Presbyopia (d) all the above

21.The smallest distance at which the eye can see objects clearlly without strain , is called the -------of the eye. ( )

(a) near point (b) far point (c) focal point (d) none

22.A person suffering from hypermetropia cannot see the objects at-------- ( )

(a) near distance (b) longer distance (c) any distance (d) none

23.Hypermetropia can be corrected by using ----------lens ( )

(a) convex (b) concave (c) plano-convex (d) plano-concave

24.The ability of accommodation of the eye usually decreases with ageing. This defect is called-------- ( )

(a) Myopia (b) Hypermetropia (c) Presbyopia (d) all the above

25.To correct presbyopia -------lens is used. ( )

(a) convex (b) concave (c) bi-focal lenses (d) none

26.The ability of the eye to focus both near and disticnt objects by adjusting its focal length is called the---------- ( )

(a) opening of the eye (b) expansion of the eye

(c)contraction of the eye (d) accommodation of the eye

27.Power of lens (P) = ------- ( )

(a) 1/f (b) f (c) D (d) 1/D

28.The power of lens is 2D. Then the focal length is---------- ( )

(a) 25 cm (b) 50 cm (c) 75 cm (d) 100 cm

20(a) 21(a) 22(a) 23(a) 24(c) 25(c) 26(d) 27(a) 28(b)

29.---------causes the blue colour of sky and the reddsih of the sun at sunshine and sunset( )

(a) Scattering of light (b) Dispersion of light

(c) Reflection of light (d) Refraction of light

30.The phenomenon of light scattering in gases and liquid was explained by-------- ( )

(a) Huygen (b) Newton (c) C.V.Raman (d) Michael Faraday

31.Whcih colour is best for school buses ? ( )

(a) Orange (b) Yellow (c) Red (d) Blue

32.Which coloured suits did rescue workers wear ? ( )

(a) Orange (b) Yellow (c) Red (d) Green

33.Sky appears ----- to passengers flying at very high altitudes. ( )

(a) Dark (b) Yellow (c) Red (d) Green

34.A rainbow is formed when the sun shines on raindrops ---------- ( )

(a) before the rain (b) after the rain (c) sunny day (d) cool day

35. Imagine the shape of rainbow when observed during travel in an airplane? ( )

(a) rectangle (b) circle (c) triangle (d) none

36.When was Raman effect discovered ? ( )

(a) Jan28, 1928 (b) Feb 28, 1928 (c) Mar28, 1928 (d) Apri,28, 1928

37.When did C.V.Raman got Nobel prize ? ( )

(a) 1930 (b) 1931 (c) 1932 (d) 1933

38.Which year was national science day first celebrated ? ( )

(a) 1888 (b) 1928 (c) 1930 (d) 1987

39. Who got first Bharat Ratna Award ? ( )

(a) C.Rajagopalachari (b) Sarvepalli Radhakrsihnan (c) C.V.Raman (d) All the above

29(a) 30(c) 31(b) 32(a) 33(a) 34(b) 35(b) 36(b) 37(a) 38(d) 39(d)

STRUCTURE OF ATOM

1.Who proposed that paramanu(atom) is an indestructible particle of matter ? ( )

(a) Rishi Sushruta (b) Rishi charaka (c) Rishi Kanada (d) All the above

2. Who is the father of ancient surgery ? ( )

(a) Rishi Sushruta (b) Rishi charaka (c) Rishi Kanada (d) None

3.speed of light is -------- ( )

(a) 1 $X10^8$ m/s (b) 2 $X10^8$ m/s (c) 3 $X10^8$ m/s (d) 4 $X10^8$ m/s

4.When electric charge vibrates---------are produced ( )

(a) magnetic waves (b) electric waves (c) electromagnetic waves (d) none

5.The range of wave lengths covering red colour to violet colour is called the-------- ( )

(a) Visible spectrum (b) I.R.spectrum (c) U.V.spectrum (d) none

6.The wavelength range of visible spectrum is ---------- ( )

(a) 300nm - 400 nm (b) 400nm – 500nm (c) 400nm – 700nm (d) 500nm – 700nm

7.Radar are ----------waves ( )

(a) Radio (b) Micro (c) UV (d) IR

8.Light is considered as an -------wave according to wave theory. ( )

(a) longitudinal (b) heatwave (c) electromagnetic (d) none

9.A group of wavelength is called--------- ( )

(a) spectrum (b) rainbow (c) frequency (d) band

10.A---------is a natural spectrum appearing in the sky just after a rain shower. ( )

(a) rainbow (b) thunder (c) dust (d) cloud

11.Electromagnetic energy is characterized by---------- ( )

(a) frequency (b) wavelength (c) a & b (d) none

1(c) 2(a) 3(c) 4(c) 5(a) 6(c) 7(b) 8(c) 9(a) 10(a) 11(c)

12.Radar is used to detect and track ---------- ( )

(a) Aircrafts (b) Spacecrafts (c) Ships (d) All the above

13.-------rays are used to help diagnose ( )

(a) γ - rays (b) x – rays (c) β – rays (d) none

14.--------- rays are used in radiotherapy / radiooncology to kill cancer cells.

(a) gamma rays (b) beta rays (c) alpha rays (d) none

15.Planck's equation ---------- ( )

(a) E = h (b) h = Eν (c) E = hν (d) none

16.Planck's constant is---------- ( )

(a) 4.62 x 10^{-34} Js (b) 5.62 x 10^{-34} Js (c) 6.62 x 10^{-34} Js (d) 7.62 x 10^{-34} Js

17.----------colour flame is produced with cupric chloride ( )

a) Red (b) Green (c) Yellow (d) Blue

18.Strontium chloride produce --------coloured flame ( )

a) Blue (b) Green (c) Yellow (d) Red

19.The yellow colour of street lights is due to---------- ( )

a) Mercury (b) Copper (c) Silver (d) Sodium vapour

20.--------produces band spectrum. ( )

a) Atoms (b) Molecules (c) Electrons (d) Neutrons

21. .--------produces line spectrum. ( )

a) Gaseous atoms (b) Liquid atoms (c)Solid atoms (d) None

22.Bohr model successfully explains the spectrum of -------atoms. ( )

a) Helium (b) Hydrogen (c) Boron (d) Berylium

23.When an electron jumps from lower energy state to higher energy state---------- spectrum emits. ( )

a) absorption (b)emission (c) visible (d) all the above

12(d) 13(b) 14(a) 15(c) 16(c) 17(b) 18(d) 19(d) 20(b) 21(a) 22(b) 23(a)

24.Stationary states are also called---------- ( )

a) shells (b) energy levels (c) sub-stationary shells (d) all the above

25.Who modified Bohr's theory by introducing elliptical orbits for electron path? ( )

a) Sommerfeld (b) Rutherford (c) Aufbau (d) Hund

26.Stark effect is splitting of spectral lines in ------field ( )

a) magnetic (b) electric (c) a & b (d) none

27.The region or space arround the nucleus where the probability of finding the electron is maximum is called an---------- ( )

a) electron (b) orbit (c) orbital (d) none

28.To understand the properties of electrons in an atom, a quantum mechanical model of atom was developed by-------- ( )

a) Erwin Schrodinger (b) Max Planck (c) Aufbau (d) All the above

29.Quantum theory was developed by--------- ( )

a) Erwin Schrodinger (b) Max Planck (c) Aufbau (d) Hund

30.The size and energy of the main shell is given by--------- ( )

(a) principal quantum number (b) magnetic quantum number

(c) angular momentum quantum number (d) spin quantum number

31.If n = 3 , the main shell is --------- ( )

a) K (b) M (c) L (d) N

32.The orbit of least energy--------- ( )

a) N (b) M (c) L (d) K

33.The quantum number which give the shape of orbital ( )

a) n (b) l (c) m_l (d) m_s

34.For 'l ' , the minimum value is----------and the maximum value is-------- ( )

a) o (b) (n – 1) (c) 0 , (n – 1) (d) none

24(b) 25(a) 26(b) 27(c) 28(a) 29(b) 30(a) 31(b) 32(d) 33(b) 34(c)

35.Who introduced angular momentum quantum number ( )

a) Bohr (b) Sommerfeld (c) Lande (d) Uhlenbeck & Goudsmit

36.The maximum value of l for n = 4 is---------- ( )

a) 1 (b) 2 (c) 3 (d) 4

37. Who introduced magnetic quantum number ( )

a) Bohr (b) Sommerfeld (c) Lande (d) Uhlenbeck & Goudsmit

38.magnetic quantum number m_l describes the --------of an atomic orbital ( )

a) size (b) Shape (c) energy (d) orientation

39. The magnetic quantum number extends from----to------for a given 'l' value. ( )

a) l to (l + 1) (b) –l to + l (c) l to (l – 1) (d) all the above

40.The ' l ' value for the sub-shell d is---------- ( )

a) 0 (b) 1 (c) 2 (d) 3

41.If n = 2, the sub -shells present in it are---------- ( )

a) 1s and 1p (b) 2s and 2p (c) 3s and 3p (d) 4s and 4p

42.If a sub-shell is denoted as 2p then its magnetic quantum number values are----- ( )

a) 0 (b) -1, 0 (c) -1 , 0, +1 (d) -2,-1,0,+1 ,+2

43.Maximum number of electrons in a shell contain is---------- ( )

a) n^2 (b) $2n^2$ (c) $3n^2$ (d) $4n^2$

44.Maximum number of electrons that M – shell contain is /are---------- ( )

a) 2 (b) 8 (c) 18 (d) 32

45.Number of orbitals present in a sub-shell are---------- ( )

a) l + 1 (b) 2l + 1 (c) 3l + 1 (d) 4l + 1

46.The maximum number of electrons that can occupy in a sub-shell are ------ ( )

a) 2(l + 1) (b) 2(2l + 1) (c) 2(3l + 1) (d) 2(4l + 1)

35(b) 36(c) 37(c) 38(d) 39(b) 40(c) 41(b) 42(c) 43(b) 44(c) 45(b) 46(b)

47.Shape of s - orbital is--------- ( )

(a) spherical (b) dumbell (c) double dumbell (d) all the above

48. Shape of p - orbital is--------- ( )

(a) spherical (b) dumbell (c) double dumbell (d) none

49. Shape of d - orbital is--------- ( )

(a) spherical (b) dumbell (c) double dumbell (d) all the above

50.How many orbitals in ' d ' ( )

(a) 2 (b) 3 (c) 4 (d) 5

51.The clockwise or anti-clockwise orientation of electron in an orbital is given by---- ( )

(a) n (b) l (c) m_l (d) m_s

52. Who introduced spin quantum number ( )

(a) Bohr (b) Sommerfeld (c) Lande (d) Uhlenbeck & Goudsmit

53.If both are postive values , then the spins are ---------- ( )

(a) parallel (b) anti- parallel (c) both (d) none

54.The distribution of electrons in shells, sub – shells and orbital in an atom is known as ---------- ( )

(a) orbital (b) degenerated orbitals (c) electronic configuration (d) none

55.The shorthand notation for electronic configuration is ---------- ( )

(a) nl (b) n^x (c) l^x (d) nl^x

56.It is not possible to find the exact positiion and velocity of an electron simultaneously---------- ( )

(a) Erwin Schrodinger (b) Heisenberg uncertainity principle

(c) Aufbau principle (d) Hund's rule

47(a) 48(b) 49(c) 50(d) 51(d) 52(d) 53(a) 54(c) 55(d) 56(b)

57.No two electrons of the same atom can have all the four quantum numbers the same. This is ---------- principle ( )

(a) Pauli exclusion principle (b) Heisenberg uncertainity principle

(c) Aufbau principle (d) Hund's rule

58.The set of quantum numbers for the electrons in a $3p_z$ orbital as shown below

Orbital	n	l	m_l	m_s
First electron	3	1	+ 1	+1/2
Second electron	3	1	+ 1	-1/2

This table refers ------ principle ( )

(a) Pauli exclusion principle (b) Aufbau principle

(c) Heisenberg uncertainity principle (d) Hund's rule

59.The lowest energy orbitals are filled first . This is known as---------- ( )

(a) Pauli exclusion principle (b) Aufbau principle

(c) Hund's rule (d) None

60.The German word "Aufbau" means--------- ( )

(a) breaking up (b) building up (c) pushing down (d) none

61.In which of the following Aufbau principle is violated? ( )

(a) $1s^2\ 2s^2\ 2p^4$ (b) $1s^2\ 2s^2\ 2p^5$ (c) $1s^2\ 2s^2\ 2p^6$ (d) $1s^0\ 2s^2\ 2p^4$

62.Among 3s, 3p, 4s, 3d which has lowes energy? ( )

(a) 3s (b) 4s (c) 3p (d) 3d

63.Which is the correct orbital designation for the electron with the quantum numbers n =4, l =3, m_l = 2, m_s = + ½ ( )

(a) 4s (b) 4p (c) 4d (d) 4f

64.The (n+ l) value of 3d energy level is------- ( )

(a) 4 (b) 5 (c) 6 (d) 7

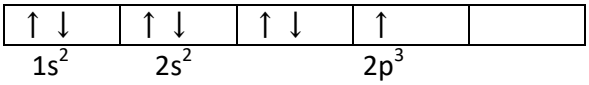
57(a) 58(a) 59(b) 60(b) 61(d) 62(a) 63(d) 64(b)

65.The orbitals of equal energy(degenerate) are occupied with one electron each before pairing of electrons starts. This is known as ------- ( )

(a) Pauli exclusion principle (b) Aufbau principle

(c) Hund's rule (d) None

66.Following orbital diagram shows the electron configuration of nitrogen atom. Which rule does not support this ? ( )



(a) Pauli exclusion principle (b) Aufbau principle

(c) Hund's rule (d) None

67.Choose the correct four quantum numbers for $2s^1$ electron ( )

(a) n = 2, l =0 , m_l = 0, m_s = + 1/2 (b) n = 2, l =0 , m_l = 0 ,m_s = - 1/2

(c) n = 1, l =0 , m_l = 0 , m_s = + 1/2 (d) n = 3, l =0 , m_l = 0. m_s = + 1/2

68.The wavelength of a radio wave is 1.0m . Find its frequency. ( )

(a) 1 x 10^8 Hz (b) 2 x 10^8 Hz (c) 3x 10^8 Hz (d) 4 x 10^8 Hz

65(c) 66(c) 67(a) 68(c)

CLASSIFICATION OF ELEMENTS – THE PERIODIC TABLE

1.Number of elements discovered in 18^{th} century------- ( )

(a) 11 (b) 21 (c) 31 (d) 41

2. Number of elements discovered upto 2016 ---------- ( )

(a) 63 (b) 90 (c) 118 (d) 130

3.Law of triads was proposed by--------- ( )

(a) Dobereiner (b) Newlands (c) Mendeleeff (d) Moseley

4.In Dobereiner traid , the atomic mass of the middle elements is the -------of the atomic masses of the other two elements. ( )

(a) product (b) sum (c) difference (d) average

5.Which set is not a triad ? ( )

(a) Cl, Br, I (b) S, Se, Te (c) Li, Na, K (d) Cu, Ag, Au

6.Law of octaves was proposed by ---------- ( )

(a) Dobereiner (b) Newlands (c) Mendeleeff (d) Moseley

7.Newlands octaves first element resembles-------- ( )

(a) 5^{th} element (b) 6^{th} element (c) 7^{th} element (d) 8^{th} element

8.Mendeleeff tried to explain similarities of elements in the same group by using their---------- ( )

(a) valency (b) weight (c) mass (d) configuration

9.Eka is a Sanskrit word it means---------- ( )

(a) one (b) two (c) three (d) four

10.Eka aluminium is --------- ( )

(a) gallium (b) germanium (c) scandium (d) nickel

1(a) 2(c) 3(a) 4(d) 5(d) 6(b) 7(d) 8(a) 9(a) 10(a)

11. The properties of eka- boron , were close to ------which was discovered later. ( )

(a) gallium (b) germanium (c) scandium (d) cobalt

12. The properties of eka- silicon , were close to ------which was discovered later. ( )

(a) gallium (b) germanium (c) scandium (d) silver

13.The anomalous series contained elements with more atomic weights placed before the elements with ---------- atomic weights. ( )

(a) equal (b) less (c) more (d) none

14.The name of 101^{th} element is---------- ( )

(a) lanthanivium (b) mendelivium (c) scandinavium (d) all the above

15.The physical and chemical properties of the elements are the periodic functions of their Atomic numbers. This law is known as---------- ( )

(a) Dobereiner's law of triads (b) Newlands' law of octaves

(c) Mendeleeff 's periodic law (d) Moseley 's periodic law

16.Modern periodic table was constructed on the basis of -------of elements. ( )

(a) atomic weight (b) atoic mass uint

(c) electronic configuratioin (d) chemical properties

17.Modern periodic table consists of --------periods-------groups. ( )

(a) 5, 15 (b) 6, 16 (c) 7, 17 (d) 7, 18

18.1^{st} period contains ---------elements. ( )

(a) 2 (b) 8 (c) 18 (d) 32

19.---------block elements are only metals . ( )

(a) s (b) p (c) d (d) f

20.--------block elements contains non-metals, metals and metalloids. ( )

(a) s (b) p (c) d (d) f

11(c) 12(b) 13(b) 14(b) 15(d) 16(c) 17(d) 18(a) 19(a) 20(b)

21.Elements from $_{58}Ce$ to $_{71}Lu$ are called---------- ( )

(a) lanthanides (b) actinides

(c) alkali metal family (d) halogen family

22.Elements from $_{90}Th$ to $_{103}Lr$ are called-------- ( )

(a) lanthanides (b) actinides

(c) alkali earth metal family (d) chalcogen family

23.Elements with electronic configuration ns^1 to ns^2 are called-------- ( )

(a) s - block elements (b) p - block elements

(c) d - block elements (d) f - block elements

24.Electronic configuration from ns^2np^1 to ns^2np^6 are called-------- ( )

(a) s - block elements (b) p - block elements

(c) d - block elements (d) f - block elements

25. s and p block elements are called---------- ( )

(a) representative elements (b) transition elements

(c) zero group elements (d) inner transition elements

26. "aliquili" means ---------- ( )

(a) ore product (b) least active (c) plant ash (d) sea product

27."chalcogenous " means---------- ( )

(a) least active (b) ore product (c) sea product (d) plant ash

28.halos means---------and genus means---------- ( )

(a) least active, sea salt (b) ore product , sea salt (c) sea salt, produced (d) plant ash

29.--------gases are chemically least active ( )

(a) Noble (b) Inert (c) a & b (d) none

30.The element with similar outer shell configuration are placed in a--------- ( )

(a) period (b) group (c) table (d) block

21(a) 22(b) 23(a) 24(b) 25(a) 26(c) 27(b) 28(c) 29(c) 30(b)

31.Noble gases belong to -------group of periodic table. ( )

(a) 1^{st} group (b) 16^{th} group (c) 17^{th} group (d) 0 group (or) 18^{th} group

32.Elements with electronic configuration ns^2np^6 are called------ ( )

(a) Representative elements (b) Transition elements

(c) Noble gases (d) Inner transition elements

33. 4f elements are called--------- ( )

(a) lanthanides (b) actinides

(c) alkali earth metal family (d) all the above

34. 5f elements are called---------- ( )

(a) lanthanides (b) actinides

(c) representative elements (d) all the above

35. 'd' block elements are called-------- ( )

(a) Representative elements (b) Transition elements

(c) Noble gases (d) Inner transition elements

36.The elements with three or less than three electrons in the outer shell are considered as ---------- ( )

(a) non-metals (b) metals (c) metalloids (d) none

37.The elements with five or more electrons in the outer shell are considered as-------- ( )

(a) metals (b) non- metals (c) metalloids (d) none

38.The elements which have properties that are intermediate between the properties of metals and non-metals are called---------- ( )

(a) metals (b) non- metals (c) metalloids (d) all the above

39. Si and Ge are ---------- ( )

(a) metalloids (b) semi-metals (c) non- metals (d) a & b

31(d) 32(c) 33(a) 34(b) 35(b) 36(b) 37(b) 38(c) 39(d)

40.--------of an element was defined as combining power of an element with respect of hydrogen and oxygen ( )

(a) Reactivity (b) Reducation (c) Oxidation (d) Valence

41.In given below which are semi conductors ------ ( )

(a) Boron(B) (b) Silicon(Si) (c) Germanium(Ge) (d) All the above

42. 1 pm = ---------- m ( )

(a) 10^{-8} (b) 10^{-10} (c) 10^{-12} (d) 10^{-14}

43.In a group as we are move down , atomic radius-------- ( )

(a) same (b) decreases (c) increases (d) All the above

44. The atomic radii of Na^+ ion --------than Na atom ( )

(a) same (b) lesser (c) greater (d) none

45. The atomic radii of Cl^- ion --------than Cl atom ( )

(a) lesser (b) same (c) greater (d) none

46.The energy required to remove an electron from the outer most orbit or shell of a neutral gaseous atom is called------- ( )

(a) Ionization energy (b) Electron affinity

(c) Electropositivity (d) Electronegativity

47.The energy liberated when an electron is added to a neutral gaseous atom is known as---------- ( )

(a) Ionization energy (b) Electron affinity

(c) Electropositivity (d) Electronegativity

48.The units of ionization energy and for the electron affinity--------- ( )

(a) J/m (b) K J /m (c) J/cm (d) K J /cm

49.Correct order of size ( )

(a) $I > I^+ > I^-$ (b) $I > I^- > I^+$ (c) $I^- > I^+ > I$ (d)) $I^- > I > I^+$

40(d) 41(d) 42(c) 43(c) 44(b) 45(c) 46(a) 47(b) 48(b) 49(d)

50.Decreasing order of electron affinity among Halogens------- ( )

(a) I > Br > Cl > F (b) Cl > Br > F > I

(c) Cl > F > Br > I (d) F > Cl > Br >I

51.The maximum atomic radius exists for---------- ( )

(a) P (b) Mg (c) Si (d) Al

52.More the screening effect, less is the -------- ( )

(a) Electron affinity (b) Ionization energy (c)Electronegativity (d) All the above

53.According to Milliken, electronegativity = ---------- ( )

(a) (I.E + E.A) / 2 (b) I.E + E.A (c) 2(I.E + E.A) (d) None

54.------ ----assigned the electronegativity values for elements on the basis of bond energies. ( )

(a) Milliken (b) Pauling (c) Kossel (d) Lewis

55.Electronegativity values ---------from left to right in a period ( )

(a) increases (b) decreases (c) same (d) none

56.The most electronegative element is---------- ( )

(a) Chlorine (b) Oxygen (c) Nitrogen (d) Fluorine

57. The most electropositive element is---------- ( )

(a) Hydrogen (b) Cesium (c) Barium (d) Fluorine

58.As we move from top to bottom in a group electropositivity---------- ( )

(a) increases (b) decreases (c) same (d) none

59.In a period from left to right metallic nature---------- ( )

(a) increases (b) decreases (c) same (d) all the above

60.An element has atomic number 19. Where would you expect this element in the periodic table ? ( )

(a) 1^{st} group, 2^{nd} period (b) 2^{nd} group, 3^{rd} period (c) 1^{st} group,4^{th} period (d) none

50(c) 51(b) 52(b) 53(a) 54(b) 55(a) 56(d) 57(b) 58(a) 59(b) 60(c)

CHEMICAL BONDING

1 . Electrons in -----shall are called valence electrons. ( )

(a) inner most (b) outer most (c) free (d) all the above

2. Except ----gas all other noble gases have octet in their valence shell. ( )

(a) He (b) Ne (c) Ar (d) Kr

3.The chloride ion has a ------charge ( )

(a) positive (b) negative (c) no charge (d) All the above

4. A metal and non-metal element are likely to combine to form------bond ( )

(a) Covalent (b) Ionic (c) Polar covalent (d) None

5. Na^+ and Cl^- ions combine together to form an -----solid. ( )

(a) Covalent (b) Ionic (c) non-metallic (d) All the above

6. In sodium chloride crystal each Na^+ ion is surrounded by ---- ions ( )

(a) 3 Cl^- (b) 4 Cl^- (c) 5 Cl^- (d) 6 Cl^-

7. Covalent bond is formed by------- ( )

(a) Electron transfer (b) Electron sharing (c) Electron acceptance (d) None

8. Two atoms of nitrogen form a nitrogen molecule by sharing -----pairs of electrons ( )

(a) one (b) two (c) three (d) four

9.Molecular formula of Ammonia is----- ( )

(a) NH_3 (b) CH_4 (c) H_20 (d) BF_3

10. Which of the following molecules contains a double bond---- ( )

(a) NH_3 (b) O_2 (c) H_20 (d) N_2

11.VSEPRT was proposed by ---- ( )

(a) Lewis (b) Milliken (c) Sidgwick and Powell (d) Kossel

1(b) 2(a) 3(b) 4(b) 5(b) 6(d) 7(b) 8(c) 9(a) 10(b) 11(c)

12. The shape of $BeCl_2$ molecule is --------- ( )

(a) Triagonal Pyramidal (b) Linear (c) V - shape (d) Trigonal –planar

13. -----are known as electron deficient compound ( )

(a) $BeCl_2$ (b) BF_3 (c) NH_3 (d) a & b

14. Bond angle in methane molecule is-------- ( )

(a) $109^o\ 28^l$ (b) $104^o\ 31^l$ (c) $107^o\ 48^l$ (d) 180^o

15. The shape of Ammonia molecule is------- ( )

(a) Triagonal Pyramidal (b) Linear (c) V - shape (d) Trigonal –planar

16. The shape of water molecule is------ ( )

(a) Triagonal Pyramidal (b) V - shape (c)) Linear (d) Trigonal –planar

17. Oxygen has -----lone pairs of electrons in water molecule. ( )

(a) one (b) two (c) three (d) four

18. A sigma (σ) bond is formed by-----overlap orbitals ( )

(a) axial (b) co-axial (c) without overlap (d) None

19.A pi (Π) bond is formed by----overlap of orbitals ( )

(a) axial (b) lateral (c) without overlap (d) None

20. Nitrogen has -----sigma and ------- pi bonds ( )

(a) one , two (b) two , three (c) three , three (d) three, four

21. Which of the following is polar covalent compound ( )

(a) C_2H_6 (b) HCl (c) NaCl (d) None

22. Covalent compounds are soluble in ------ ( )

(a) polar solvents (b) non-polar solvents (c) both (d) none

23. Electronic configuration of noble gas ------ ( )

(a) ns^1 , np^2 (b) ns^2, np^3 (c) ns^2, np^4 (d) ns^2 , np^6

12(b) 13(d) 14(a) 15(a) 16(b) 17(b) 18(a) 19(b) 20(a) 21(b) 22(b) 23(d)

ELECTRIC CURRENT

1.------is an electric discharge between two clouds or between cloud and earth. ( )

(a) Thunder (b) Lightning (c) Rain (d) Sunlight

2.In the battery chemical energy is converted into -------- energy ( )

(a) electric (b) mechanical (c) heat (d) magnetic

3.-------conduct electricity ( )

(a) insulator (b) conductor (c) semi-conductor (d) none

4.The arrangement of the positive ions in a metal is called -------- ( )

(a) valency (b) energy gap (c) current (d) lattice

5.The ordered motion of electron is called---------- ( )

(a) electric current (b) resistance (c) voltage (d) none

6.The S.I unit of electric current is---------- ( )

(a) Volt (b) Ampere (c) Ohm (d) All the above

7.-------is used to measure electric current,it is always connected in series to the circuit ( )

(a) Voltmeter (b) Voltameter (c) Resistor (d) Ammeter

8.The magnitude of electric charge is ---------- C. ( )

(a) 0.602×10^{-19} (b) 1.602×10^{-19} (c) 2.602×10^{-19} (d) 3.602×10^{-19}

9.Work done by the electric force on unit positive charge to move it through a distance is called------- ( )

(a) Voltage (b) Electric current (c) Resistor (d) Conductivity

10.The S.I unit of voltage (potential difference) is ---------- ( )

(a) Volt (b) Ampere (c) Mho (d) Ohm

11.-----is used to measure potential difference, connected parallel to the circuit. ( )

(a) Voltmeter (b) Resistor (c) Ammeter (d) All the above

1(b) 2(a) 3(b) 4(d) 5(a) 6(b) 7(d) 8(b) 9(a) 10(a) 11(a)

12.------is defined as the work done by the chemical force to move unit positive charge from negative terminal to positive terminal of the battery. ( )

(a) Potentail difference (b) Electric current (c) Electromotive force(emf) (d) All the above

13.The current through a conductor element is proportional to the potential difference applied between its ends, provided the temperature remains constant ($V \propto I$). This is called as -------- ( )

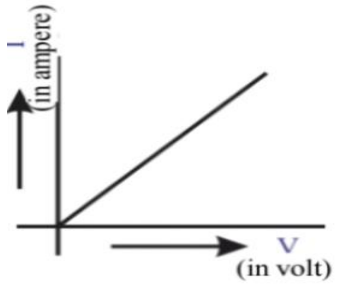
(a) Junction law (b) Loop law (c) Ohm's law (d) All the above

14.The metals which obey Ohm's law are called-------conductors. ( )

(a) Ohmic (b) Non-ohmic (c) a & b (d) None

15.-------obey Ohm's law. ( )

(a) Metals (b) Non- metals (c) Alloys (d) All the above



16. This graph is for---------- ( )

(a) conductor (b) semi conductor (c) a & b (d) None

17.The obstruction of flow of current is called--------- ( )

(a) current (b) voltage (c) resistance (d) none

18.The material which offers resistance to the motion of electrons is called-------- ( )

(a) conductor (b) non-conductor (c) resistor (d) none

19.Which of the following factor is effect of electric shock for human body ? ( )

(a) potential difference (b) resistance of the human body

(c) electric current (d) all the above

20.A multi meter is an electronic measuring instrument that combines several measuring functions like -------- ( )

(a) Potentail difference (b) Electric current (c) Resistance (d) All the above

12(c) 13(c) 14(a) 15(a) 16(b) 17(c) 18(c) 19(d) 20(d)

21.Whch of the following factors are influence the resistance ? ( )

(a) Temperature (b) Length (c) Nature of the substance (d) All the above

22.A thick wire has a----------resistance than a thin wire. ( )

(a) less (b) equal (c) more (d) All the above

23.The S.I unit of resistivity is ---------- ( )

(a) ohm (b) ampere (c) mho (d) ohm(Ω) - metre

24.The reciprocal of resistivity is called------- ( )

(a) condutor (b) resistivity (c) conductivity (d) none

25.The filament of an electric bulb is made of ------ ( )

(a) Copper (b) Silver (c) Gold (d) Tungsten

26.--------are used to make transistors, diodes & integrated circuits (ICs) . ( )

(a)Non- metals (b) Metals (c) Semi conductors (d) All the above

27.------- is an equipment to store small quantity of current in a circuit. ( )

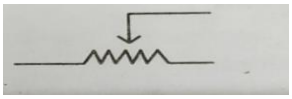
(a) Rheostat (b) Capacitor (c) Transistor (d) All the above

28.------- is used to amplify or switch electronic signals and electric power. ( )

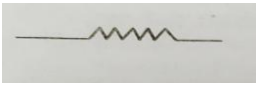
(a) Rheostat (b) Transistor (c) Capacitor (d) None

29.Nichrome alloy is made of ---------- ( )

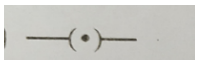
(a) Iron (b) Nickel (c) Chromium (d) All the above

30.  This symbol is for------- ( )

(a) Rheostat (b) Transistor (c) Capacitor (d) None

31.  This symbol belongs to------- ( )

(a) Resistance (b) Voltmeter (c) Switch (d) Ammeter

32.  This symbol is for---------- ( )

(a) Resistance (b) Ammeter (c) Switch (d) Voltmeter

21(d) 22(a) 23(d) 24(c) 25(d) 26(c) 27(b) 28(b) 29(d) 30(a) 31(a) 32(c)

33.Two resistors are conncected in series , then the equivalent resistance in the circuit is-- ( )

(a) $R_1 + R_2$ (b) $R_1 - R_2$ (c) $1/R_1 + 1/R_2$ (d) None

34.If two or more resistors are connected in series, then----flows through them is same ( )

(a) resistance (b) current (c) potential difference (d) none

35.The equivalent resistance due to series connection of 10Ω and 10Ω resistors is----- ( )

(a) 5Ω (b) 10Ω (c) 0Ω (d) 20Ω

36.Two resistors are conncected in parallel, then the equivalent resistance in the circuit is-- ( )

(a) $R_1 + R_2$ (b)) $R_1 - R_2$ (c) $1/R_1 + 1/R_2$ (d) all the above

37.If two or more resistors are connected in parallel, then-----is same. ( )

(a) resistance (b) current (c) potential difference (d) none

38.Three resistors of values 3Ω ,6Ω ,18Ω are conncected in parallel. The equivalent resistance in the circuit is--------- ( )

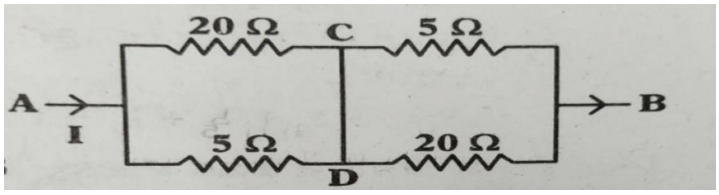
(a) 12Ω (b) 36Ω (c) 18Ω (d) 1.8Ω

39.In a home ,there is a television in one room and a computer in another room connected in a single circuit. They are connected in------- ( )

(a) series (b) parallel (c) one in series ,another in parallel (d) none

40.A uniform wire of resistance 50 is cut into five equal parts.These parts are now connected in parallel. Then the equivalent resistance of the combination is---- ( )

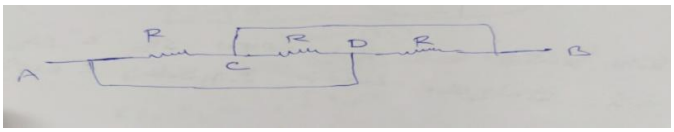
(a) 2Ω (b) 12Ω (c) 250Ω (d) 6250Ω

41. 

The resultant resistance between A and B is ------- ( )

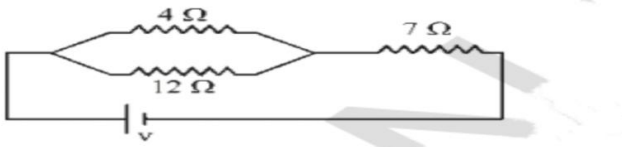
(a) 8Ω (b) 12Ω (c) 0Ω (d) 25Ω

33(a) 34(b) 35(d) 36(c) 37(c) 38(d) 39(b) 40(a) 41(a)

42. 

The resulatant resistance between A and B is--------- ( )

(a) RΩ (b) 2RΩ (c) 3RΩ (d) R/3 Ω



43. Observe the given circuit and calculate the resultant resistance ( )

(a) 3Ω (b) 4Ω (c) 7Ω (d) 10Ω

44.According to Kirchhoff, the algebraic sum of the increases and decreases in potential difference across various components of a closed circuit loop must be---- ( )

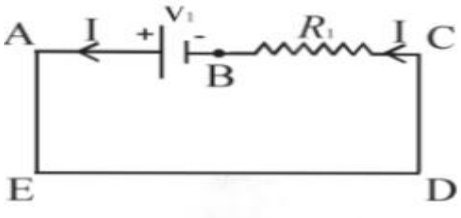
(a) zero (b) equal (c) sum of all resistance (d) none

45.According to junction law of Kirchhoff , at any junction point in a circuit when the current can divide , the sum of the current into the junction must be equal to the sum of the ----------the junction. ( )

(a) resistance at (b) voltage at (c) current leaving (d) none

46.Electricity enters our homes through two wires called---------- ( )

(a) line wires (b) copper wires (c) parallel wires (d) all the above

47. 

Find the resultant potential difference from the given figure based on Loops law.

(a) $-V_1$ (b) IR_1 (c)) $V_1 + IR_1$ (d) $- V_1 + IR_1 = 0$

42(d) 43(d) 44(a) 45(c) 46(a) 47(d)

48.Loop law is based on the ---------- ( )

(a) conservation of charge (b) conservation of energy (c) conservation of mass (d) none

49.Junction law is based on the---------- ( )

(a) conservation of charge (b) conservation of energy (c) conservation of mass (d) all

50.Electric power (P) = ( )

(a) pt (b) IR (c) VI (d) all

51.The S.I unit of power is-------- ( )

(a) Ampere (b) Volt (c) KWH (d) Watt

52.The SI unit of electric energy is---------- ( )

(a) Watt (b) Volt (c) KWH (d) Ampere

53. 1KWH = -------- Joules ( )

(a) 3.6×10^6 (b) 2.6×10^6 (c) 1.6×10^6 (d) 4.6×10^6

54.All the electric devices of our home are connected in ---------- ( )

(a) series (b) parallel (c) both (d) none

55.The disaster caused due to an overload can be avoided by using a/an------- ( )

(a) ammeter (b) voltmeter (c) fuse (d) switch

56.A thick wire has a ------ resistance than a thin wire ( )

(a) less (b) more (c) equal (d) none

57.The headlights of a car connected in ---------- ( )

(a) series (b) parallel (c) a & b (d) none

58.If the resistance of your body is 100000Ω ,what would be the current that flows in your body when you touch the terminals of a 12V battery ? ( )

(a) 0.12A (b) 0.012A (c) 0.0012A (d) 0.00012A

59.A uniform wires of resistance 100Ω is melted and recast into wire of length double that of the original .What would be the resistance of the new wire formed ? ( )

(a) 100Ω (b) 200Ω (c) 300Ω (d) 400Ω

48(b) 49(a) 50(c) 51(d) 52(c) 53(a) 54(b) 55(c) 56(a) 57(b) 58(d) 59(d)

ELECTROMAGNETISM

1 . Magnetic field is produced by the flow of current in a straight wire. This phenomenon was discovered by ( )

(a) Ampere (b) Oersted (c) Fleming (d) Maxwell

2. At the centre of magnet , the magnetism is------- ( )

(a) zero (b) minimum (c) maximum (d) none

3. For making strong electromagnet , the material of the core should be----- ( )

(a) Brass (b) Steel strips (c) Soft iron (d) None

4. Magnetic flux is the product of magnetic field induction and ------ ( )

(a) magnetic moment (b) area (c) magnetic intensity (d) None

5. The SI unit of magnetic field induction is ---------- ( )

(a) weber /m^2 (or) tesla (b) weber (c) weber - m^2 (d) None

6. The charge is moving along the direction of magnetic field , then force acting on it is----- ( )

(a) maximum (b) minimum (c) zero (d) None

7. The energy resides in a current carrying inductor in the form of -------- ( )

(a) heat (b) resistance (c) magnetic field (d) none

8. The shape of magnetic field line around straight wire carrying the current ------ ( )

(a) straight (b) circular (c) parabolic (d) curved

9. The magnetic force on a current carrying wire place in uniform magnetic field if the wire is oriented θ angle to magnetic field is ------ ( )

(a) ILB (b) ILB cos θ (c) ILB sin θ (d) 0

10. The law of induction were given by-------- ( )

(a) Faraday (b) Oersted (c) Fleming (d) Lenz

1(b) 2(a) 3(c) 4(b) 5(a) 6(c) 7(c) 8(b) 9(c) 10(a)

11. The device used to convert electrical energy into mechanical energy is called ----- ( )

(a) Electric motor (b) Electric generator (c) both (d) none

12. The moving part of the electric motor is called-------- ( )

(a) magnets (b) shaft (c) brushes (d) armature

13. The device used to convert mechanical energy into electrical energy is called ----- ( )

(a) generator (b) motor (c) fan (d) bulb

14. Which of the following electrical devices works on the principle of electro-magnetic induction---- -------- ( )

(a) electric fan (b) electric bulb (c) electric cooker (d) LED

15. Who invented electric generator-------- ( )

(a) Michael Faraday (b) Oersted (c) Fleming (d) Lenz

16. The principle of electromagnetic induction are applicable for -------- ( )

(a) Tape recorder (b) ATM cards (c) Induction stove (d) All

17. A DC generator is based on the principle of ---- ( )

(a) energy dissipation (b) heating effect of current

(c) magnetic effect of current (d) electromagnetic induction

18. ------law gives direction of induced current ( )

(a) Michael Faraday (b) Oersted (c) Lenz's (d) None

19. The frequency of household supply of A.C in India is -------- ( )

(a) 0 (b) 50 Hz (c) 60 Hz (d) 80 Hz

11(a) 12(b) 13(a) 14(a) 15(a) 16(d) 17(d) 18(c) 19(b)

PRINCIPLES OF METALLURGY

1.------is the process of extraction of metals from their ores. ( )

(a) Metalification (b) Metallurgy (c) Refining (d) None

2.Bronze is an alloy of ---------- ( )

(a) Copper and Zinc (b) Copper and Tin (c) Iron and Nickel (d) Aluminium and Nickel

3.The elements or compounds of metals which occur in the nature in the earth's crust are called---------- ( )

(a) Ores (b) Minerals (c) Metalloids (d) None

4.The minerals from which the metals are extracted without economical loss are called---------- ( )

(a) Ores (b) Minerals (c) Flux (d) Gangue

5.The metal that occurs in the native form is--------- ( )

(a) Pb (b) Au (c) Fe (d) Hg

6.The most abundant metal in the earth's crust is-------- ( )

(a) Silver (b) Aluminium (c) Zinc (d) Iron

7.Whcih of the following is the correct formula of Gypsum ? ( )

(a) $CuSO_4 . 2H_2O$ (b) $CaSO_4 . ½ H_2O$ (c) $CuSO_4 . 5H_2O$ (d) $CaSO_4 . 2H_2O$

8.Which of the following is a carbonate ore ? ( )

(a) Magnesite (b) Bauxite (c) Gypsum (d) Galena

9.Aluminium is profitable to extract from------ ( )

(a) Haematite (b) Lime stone (c) Gypsum (d) Bauxite

10.Epsom salt contains -------water molecules ( )

(a) 4 (b) 5 (c) 6 (d) 7

11.The ore of mercury is ----- ( )

(a) Galena (b) Cinnabar (c) Gypsum (d) Bauxite

1(b) 2(b) 3(b) 4(a) 5(b) 6(b) 7(d) 8(a) 9(d) 10(d) 11(b)

12.Chalcogens means-------- ( )

(a) ore producing (b) coal producing (c) chalk producing (d) none

13.------metals are never found in free state. ( )

(a) low reactive (b) high reactive (c) oxidative (d) none

14.Which of the following metal is low reactivity metal ? ( )

(a) Ag (b) Au (c) Na (d) a & b

15.The impurity present in the ore is called as ---------- ( )

(a) Flux (b) Mineral (c) Slag (d) Gangue

16.Which method is used for the purification of sulphide ore ? ( )

(a) Magnetic seperation (b) Froth floatation (c) Hand picking (d) Washing

17.Arranging metals in the decreasing order of their reactivity is called------ ( )

(a) activity series (b) periodicity (c) reactivity series (d) all the above

18.High reactivity metals are extracted by ----- of their fused compounds. ( )

(a) calcinatioin (b) electrolysis (c) distillation (d) roasting

19.------- is used to convert sulphide ore into oxide orre . ( )

(a) calcinatioin (b) smelting (c) distillation (d) roasting

20.Thermite process involve the reaction of metal oxides with------ ( )

(a) Aluminium (b) Copper (c) Oxygen (d) Zinc

21.The process of obtaining the pure metal from the impure metal is called---- ( )

(a) Extractiion (b) Purification (c) Refining (d) None

22.----------is the method in which low melting metal can be made to flow on a slope surface ( )

(a) Liquation (b) Floatation (c) Refining (d) Distillation

23. -----reaction is used in joining railings of railway tracks. ( )

(a) Thermite (b) Calcination (c) Smelting (d) All the above

12(a) 13(b) 14(d) 15(d) 16(b) 17(a) 18(b) 19(d) 20(a) 21(c) 22(a) 23(a)

24.Blister copper is purified by-------method ( )

(a) Thermite (b) Calcination (c) Smelting (d) Electrolytic refining

25.The method suitable for prurification of low boiling metals is----- ( )

(a) Thermite (b) Calcination (c) Smelting (d) Distillation

26.The impurities are oxidized in this method ( )

(a) Poling (b) Liquation (c) Smelting (d) Distillation

27.Tarnishing of silver is due to formation of ----- ( )

(a) silver oxide (b) silver sulphide (c) silver nitrate (d) silver chloride

28.Development of green coating on copper is due to --------- ( )

(a) copper oxide (b) copper sulphide (c) copper carbonate (d) copper chloride

29.Corrosion of iron occurs in the presence of ------- ( )

(a) air (b) water (c) vaccum (d) a & b

30.Rust means------ ( )

(a) Fe_2O_3 (b) $CuCO_3$ (c) Ag_2S (d) MgO

31.Smelting is carried out on -------furnace ( )

(a) Reverbaratory (b) Blast (c) Open hearth (d) None

32.The substance added to remove the impurity is ------ ( )

(a) gangue (b) flux (c) fuel (d) all the above

33.Calcination is pyrochemical process in which the ore is heated in the --- ( )

(a) presence of air (b) absence of air (c) absence of flux (d) presence of flux

34.The formula for slag is--------- ( )

(a) Fe_2O_3 (b) $CuCO_3$ (c) CaO (d) $FeSiO_3$

35------furnace has both fire box and hearth separated ( )

(a) Reverbaratory (b) Blast (c) Open hearth (d) None

24(d) 25(d) 26(a) 27(b) 28(c) 29(d) 30(a) 31(b) 32(b) 33(b) 34(d) 35(a)

CARBON AND ITS COMPOUNDS

1 . Carbon has -----electrons in its valence shell. ( )

(a) 1 (b) 2 (c) 3 (d) 4

2. Compounds made up of carbon and hydrogen only are called----- ( )

(a) alkanes (b) alkenes (c) alkynes (d) hydrocarbons

3. Open chain saturated hydrocarbons are called ------- ( )

(a) paraffins(alkanes) (b) alkenes(olefins) (c) alkynes (d) none

4. General formula for saturated hydrocarbon is--------- ( )

(a) C_nH_{2n} (b) C_nH_{2n+2} (c) C_nH_{2n-2} (d) none

5. The first member of homologous series among alkynes is ------- ( )

(a) ethyne (b) propyne (c) butyne (d) pentyne

6. C_nH_{2n} is the general formula of ------hydrocarbons ( )

(a) alkanes(saturated) (b) alkenes(unsaturated) (c) semi saturated (d) all

7. Compounds with same molecular formula but different properties are known as ( )

(a) isomers (b) homologous (c) monomers (d) all

8. n- butane and iso- butane are called------ ( )

(a) isomers (b) carboxyles (c) monomers (d) all

9. ------ is also known as 'marsh gas' ( )

(a) methane (b) ethane (c) propane (d) butane

10. Biogas on burning does not create------- ( )

(a) isomers (b) noise (c) hydrocarbons (d) smoke

11. The liquid form of petroleum gas is called------- ( )

(a) HPG (b) LPG (c) CNG (d) none

12. Synthetic detergent is called ------detergent ( )

(a) surf (b) washing detergent (c) soapless (d) none

1(d) 2(d) 3(a) 4(a) 5(a) 6(b) 7(a) 8(a) 9(a) 10(d) 11(b) 12(c)

13. Carbon compounds containing double and triple bonds are called---- ( )

(a) saturated hydrocarbons (b) unsaturated hydrocarbons

(c) semi saturated hydrocarbons (d) all

14. What property of carbon allows it to form a large number of carbon compounds ( )

(a) electropositivity (b) catenation (c) electronegativity (d) none

15. Diamond and Graphite are ------- ( )

(a) homologous (b) allotropes (c) isomers (d) none

16. sp^3 hybridization is found in ----- ( )

(a) CH_4 (b) C_2H_2 (c) C_2H_4 (d) C_2H_6

17. $2\ C_2H_6 + 7\ O_2 \rightarrow 4\ CO_2 + 6\ H_2O$ + energy. This reaction is---- ( )

(a) oxidation (b) reduction (c) combustion (d) addition

18. The distance between two graphite layers is ------ ( )

(a) 3A (b) 4A (c) 5A (d) 3.35 A

19. C_{60} has arranged by-----pentagons and -----hexagons. ( )

(a) 20, 12 (b) 12, 20 (c) 40, 32 (d) 50, 62

20. The functional group present in ethers is ------ ( )

(a) R -OH (b) R-CHO (c) R-O-R (d) R $-NH_2$

21. Natural rubber is a polymer of ------ ( )

(a) isoprene (b) neoprene (c) isobutane (d) ethylene

22. Chief component of cooking gas is ---- ( )

(a) butane (b) ethane (c) propane (d) methane

23. To detect leakage in cylinder , a strong smelling substance like ------- is added to the gas ( )

(a) ethyl mercaptan (b) ethane (c) calcium carbide (d) methane

24. IUPAC name of glycerol is ------ ( )

(a) propanol (b) propane (c) propane – 1,2,3-diol (d) propane – 1,2,3-triol

13(b) 14(b) 15(b) 16(a) 17(c) 18(d) 19(b) 20(c) 21(a) 22(a) 23(a) 24(d)

25. in CH_2 - CH – CHO , the numerical prefix is ------ ( )

| |

Cl Cl

(a) di (b) tri (c) mono (d) all

26. A compound which is basic constituent of many cough syrups----- ( )

(a) ethane (b) ethene (c) ethyne (d) ethanol

27. Very dilute solution of ethanoic acid is ------- ( )

(a) ethane (b) ethene (c) vinegar (d) butane

28. A sweet odour substance formed by the reaction of an alcohol and a carboxylic acid is ---- ( )

(a) benzene (b) ester (c) vinegar (d) ethyl alcohol

29. When sodium metal is dropped in ethanol ----gas will be released. ( )

(a) hydrogen (b) helium (c) chlorine (d) oxygen

30. Bad conductor of electricity is -------- ( )

(a) Graphen (b) Graphite (c) Diamond (d) Nanotube

31. A spherical aggregate of soap molecule in water is called…. ( )

(a) hydrophilic end (b) hydrophobic end (c) micelle (d) none

32. Alkaline hydrolysis of tristers , producing soaps is called-------- ( )

(a) calcination (b) esterfication (c) carbonation (d) saponification

O

||

33. In soap molecule the end with - C - O is called----- ( )

(a) hydrophilic end (b) hydrophobic end (c) micelle (d) dirt

25(a) 26(d) 27(c) 28(b) 29(a) 30(c) 31(c) 32(d) 33(a)

PREPARED BY : G.T. Ramesh, ZPHS CHILUKODU, DORNAKAL, MAHABUBABAD.