

Choose the correct answer:

- \_\_\_\_\_ isotope is used in industries as a smoke detector.  
a) Californium b) Americium c) Phosphorous d) Sodium
- Which year was the first nuclear reactor built?  
a) 1952 b) 1942 c) 1932 d) 1922
- One Curie is equal to \_\_\_\_\_ disintegrations per second  
a)  $3.7 \times 10^{10}$  b)  $4.7 \times 10^{10}$  c)  $10^6$  d)  $2.58 \times 10^{-4}$
- \_\_\_\_\_ is the speed of sound in sea water.  
a) 5010 b) 1324 c) 1533 d) 343
- The velocity of sound in air at a particular temperature is  $330 \text{ ms}^{-1}$ . What will be its value when temperature is doubled and the pressure is halved?  
a)  $330 \text{ ms}^{-1}$  b)  $165 \text{ ms}^{-1}$  c)  $330 \times \sqrt{2} \text{ ms}^{-1}$  d)  $320/\sqrt{2} \text{ ms}^{-1}$
- If a sound wave travels with a frequency of  $1.25 \times 10^4 \text{ HZ}$  at  $344 \text{ ms}^{-1}$ , the wave length will be \_\_\_\_\_.  
a) 27.52m b) 275.2m c) 0.02752m d) 2.752m
- If the medium is at rest, then the velocity of the medium is considered to be \_\_\_\_\_.  
a) one b) two c) zero d) none
- Wavelength of light ranges from \_\_\_\_\_ to \_\_\_\_\_.  
a) 1.65cm, 1.65m b)  $3 \times 10^8 \text{ ms}^{-1}$ ,  $4 \times 10^{-8} \text{ ms}^{-1}$   
c)  $4 \times 10^3 \text{ m}$ ,  $7 \times 10^3 \text{ m}$  d)  $4 \times 10^{-7} \text{ m}$ ,  $7 \times 10^{-7} \text{ m}$
- Unit of radioactivity is \_\_\_\_\_.  
a) Roentgen b) Curie c) Becquerel d) all the above
- If the radiation exposure is 100R, it may cause \_\_\_\_\_.  
a) Death b) Cancer c) Fatal diseases d) both b & c
- Which of the following is correct?  
a) Rate of change of charge is electrical power  
b) Rate of change of charge is current  
c) Rate of change of energy is current  
d) Rate of change of current is charge
- In a simple circuit, why does the bulb glow when you close the switch?  
a) The switch produces electricity  
b) Closing the switch completes the circuit  
c) Closing the switch breaks the circuit  
d) The bulb is getting charged
- \_\_\_\_\_ introduced the first commercial LED television.  
a) LG b) SONY c) SAMSUNG d) VIDEOCON
- \_\_\_\_\_ is the expression for Joule's law of heating.  
a)  $H=R^2 It$  b)  $H=I^2R^2t$  c)  $H=IRt$  d)  $H=I^2Rt$
- Nichrome is used as the heating element because  
a) It has high resistivity  
b) It has a high melting point  
c) It is not easily oxidized  
d) All the above
- Temperature is the average \_\_\_\_\_ of the molecules of a substance.  
a) difference in K.E and P.E  
b) sum of P.E and K.E  
c) difference in T.E and P.E  
d) difference in K.E and T.E
- \_\_\_\_\_ is the value of Boltzmann constant.  
a)  $1.38 \times 10^{-20} \text{ Jk}^{-1}$  b)  $1.38 \times 10^{-21} \text{ Jk}^{-1}$   
c)  $1.38 \times 10^{-22} \text{ Jk}^{-1}$  d)  $1.38 \times 10^{-23} \text{ Jk}^{-1}$
- If a substance is heated or cooled, the linear expansion occurs along the axis of \_\_\_\_\_.  
a) x or -x b) y or -y  
c) both (a) and (b) d) (a) or (b)
- Covert  $30^\circ\text{C}$  into Kelvin.  
a) 300k b) 302k c) 303k d) 305k
- \_\_\_\_\_ is the coefficient of cubical expansion in glass.  
a)  $7 \times 10^{-5}$  b)  $2.5 \times 10^{-5}$  c)  $18.2 \times 10^{-5}$  d)  $20.7 \times 10^{-5}$
- Power of a lens is -4D, then its focal length is \_\_\_\_\_.  
a) 4m b) -40m c) -0.25m d) -2.5m
- A convex lens forms a real, diminished point sized image at focus. Then the position of the object is at \_\_\_\_\_.  
a) focus b) infinity c) at 2f d) between f and 2f
- \_\_\_\_\_ is the back surface of the eye.  
a) Iris b) Pupil c) Retina d) Cornea
- In Raman lines, the lines having higher frequency than the incident frequency are called \_\_\_\_\_.  
a) stokes lines b) anti stokes lines  
c) newton lines d) scattered lines
- The refractive index of a medium is dependent on the \_\_\_\_\_ of the light.  
a) wavelength b) frequency c) distance d) amplitude

26. \_\_\_\_\_ is used to change the speed of car.  
 a) Accelerator                      b) Gear  
 c) Both a and b                      d) None of the above
27. By convention, anticlockwise moment is considered to be \_\_\_\_\_.  
 a) Negative      b) Positive      c) Zero      d) One
28. \_\_\_\_\_ is the S.I unit of moment.  
 a) Newton                      b) Newton/metre  
 c) Newton metre                      d) Metre
29. Find the resultant force, if the forces are 25N and 5N acting in the same direction.  
 a) 25N      b) 30N      c) 20N      d) 15N
30. Calculate the velocity of a moving body of mass 5Kg whose linear momentum is  $2.5\text{Kgms}^{-1}$ .  
 a)  $0.5\text{ms}^{-1}$       b)  $1.5\text{ms}^{-1}$       c)  $2.5\text{ms}^{-1}$       d)  $3.5\text{ms}^{-1}$
31. The gram molecular mass of oxygen molecule is \_\_\_\_\_.  
 a) 16g      b) 18g      c) 17g      d) 32g
32. How many moles of calcium carbonate are involved in this reaction?  
 $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$   
 a) 0.5 moles      b) 1 mole      c) 0.25 mole      d) 0.75 mole
33. Atoms of different elements having the same mass number, but different atomic numbers are called \_\_\_\_\_.  
 a) Isotones      b) Isotopes      c) isobars      d) None of these
34. Which of the following is a polyatomic molecule?  
 a) Helium      b) Hydrogen      c) Glucose      d) Carbon di oxide
35. Find the percentage of nitrogen in ammonia.  
 a) 100%      b) 82.35%      c) 17.65%      d) 50%
36. \_\_\_\_\_ =  $2 \times$  Vapour Density  
 a) Atomic mass                      b) Molecular mass  
 c) Atomic number                      d) Equal Volume
37. \_\_\_\_\_ is a relative periodic property  
 a) Atomic radii                      b) ionic radii  
 c) electron affinity                      d) electro negativity
38. True (or) False: (If false give the correct statement)  
 a) All ores are minerals; but all minerals cannot be called as ores.  
 b) An alloy is a heterogeneous mixture of metals.
39. Ionisation energy \_\_\_\_\_ down the group in the periodic table. (increases / decreases)
40. \_\_\_\_\_ is the process of reducing the roasted metallic oxide from the metal in its molten condition.  
 a) Mining      b) Flux      c) Smelting      d) Matrix
41. The scientist who propounded the modern periodic law is \_\_\_\_\_.  
 a) Henry Moseley                      b) Mendeleev  
 c) Dobereiner                      d) John Newland
42. \_\_\_\_\_ is an important metal to form amalgam  
 a) Ag      b) Hg      c) Mg      d) Al
43. Which of the following is the universal solvent?  
 a) Benzene      b) Water      c) Acetone      d) Alcohol
44. Match the following:  
 1. Blue Vitriol                      -       $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$   
 2. Gypsum                      -       $\text{CaO}$   
 3. Deliquescence                      -       $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$   
 4. Hygroscopic                      -       $\text{NaOH}$
45. Give the molecular formula for Epsom salt  
 a)  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$                       b)  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$   
 c)  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$                       d)  $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$
46. When the pressure is increased, the solubility of a gas in liquid \_\_\_\_\_. (increases/decreases)
47. Non-Polar compounds do not dissolve in \_\_\_\_\_.  
 (polar solvent / non-polar solvents)
48. \_\_\_\_\_ of a solution may be defined as the amount of solute present in a given amount of solution or solvent.  
 a) Solubility      b) Concentration      c) Pressure      d) None of these
49. The  $\text{pH}$  of a solution is 3. Its  $[\text{OH}^-]$  concentration is  
 a)  $1 \times 10^{-3}$       b)  $1 \times 10^{-11}\text{M}$       c)  $1 \times 10^3\text{M}$       d)  $1 \times 10^{-11}\text{M}$
50. The normal  $\text{pH}$  of human blood is \_\_\_\_\_.  
 a) 7.4      b) 6.4      c) 5.4      d) 4.4
51. The product of the concentration of the hydronium ion and the hydroxyl ion is called \_\_\_\_\_.  
 a)  $\text{pH}$       b) ionic product      c) Neutralisation      d) Equilibrium
52. State True (or) False  
 a) On dipping a  $\text{pH}$  paper in a solution, it turns into yellow. Then the solution is basic.  
 b) Silver metal cannot displace hydrogen gas from nitric acid.
53. Identify the type of reaction  
 $\text{Zn}_{(s)} + \text{CuSO}_{4(aq)} \rightarrow \text{ZnSO}_{4(aq)} + \text{Cu}_{(s)}$   
 a) single displacement                      b) combustion  
 c) thermal decomposition                      d) neutralisation

54. The  $p^H$  of 0.01M  $HNO_3$  is \_\_\_\_\_.  
 a) 1                      b) 2                      c) 3                      d) 4
55. Which of the following is used as anaesthetics?  
 a) Ethers    b) Aldehydes    c) Esters    d) Carboxylic acids
56. Assertion: Alkanes are saturated hydrocarbons  
 Reason: Hydrocarbons consist of covalent bonds  
 a) (A) and (R) are correct, (R) explains (A)  
 b) (A) is correct, (R) is wrong  
 c) (A) is wrong, (R) is correct  
 d) (A) and (R) are correct, (R) doesn't explain (A)
57. The molecular formula of an alcohol is  $C_4H_4O$ . The locant number of its-OH group is 2. Draw its structural formula.
58. TFM means \_\_\_\_\_.
59. In cleansing action of soap,  
 The polar end is \_\_\_\_\_.  
 The non-polar end is \_\_\_\_\_.
60. On distillation of the mixture, pure alcohol is called \_\_\_\_\_.
61. The endarch condition is the characteristic feature of  
 a) stem                      b) root                      c) leaves                      d) flower
62. During anaerobic respiration \_\_\_\_\_ is formed.  
 a) Carbohydrate                      b) Ethyl alcohol  
 c) Acetyl COA                      d) Pyruvate
63. \_\_\_\_\_ are called as power houses of the cell.  
 a) Chloroplast    b) Nucleus    c) Mitochondria    d) Chromoplast
64. Some cells of upper epidermis are large and thin walled. They are known as \_\_\_\_\_.  
 a) Protoxylem lacuna                      b) Bundle Sheath  
 c) Ground tissue                      d) Bulliform Cells
65. The body of leech has \_\_\_\_\_.  
 a) 23 segment                      b) 33 segments  
 c) 38 segments                      d) 30 segments
66. The \_\_\_\_\_ prevents the entry of food into the trachea through the glottis.  
 a) Epiglottis    b) bronchi    c) larynx    d) diaphragm
67. Blood is stored in the \_\_\_\_\_.  
 a) liver                      b) sweat glands                      c) lungs                      d) crop
68. Water which is absorbed by roots are transported to aerial parts of the plant through.  
 a) cortex                      b) epidermis                      c) phloem                      d) xylem
69. Normal blood pressure is \_\_\_\_\_.  
 a) 120/80 mm Hg                      b) 80/120 mm Hg  
 c) 70/110 mm Hg                      d) 110/70mm Hg
70. The normal human heart beat rate is about \_\_\_\_\_ times per minute.  
 a) 80                      b) 72                      c) 84                      d) 78
71. The movement of water occurs exclusively through the intercellular spaces and the walls of the cells.  
 a) Symplastic    b) Active    c) Apoplastic    d) unidirectional
72. \_\_\_\_\_ Neurons are found in early embryos but not in adult.  
 a) Unipolar    b) Bipolar    c) Multipolar    d) Sensory
73. Vomitting centre is located in \_\_\_\_\_.  
 a) Hypothalamus                      b) Stomach  
 c) Cerebrum                      d) Medulla Oblongata
74. A change in the environment that causes an animal to react is called \_\_\_\_\_.  
 a) Dendrite    b) Stimulus    c) Response    d) Receptor
75. Site for processing of vision, hearing, memory, speech, intelligence and thought is \_\_\_\_\_.  
 a) kidney                      b) ear                      c) brain                      d) lungs
76. The hormone which has positive effect on apical dominance is  
 a) Cytokinin    b) Ethylene    c) Gibberellin    d) Auxin
77. \_\_\_\_\_ is a gaseous hormone involved in abscission of organs and acceleration of fruit ripening.  
 a) Ethylene    b) Auxin    c) ABA    d) Gibberellin
78. Decreased secretion of thyroid hormones in the children leads to \_\_\_\_\_.  
 a) Goitre                      b) Cretinism    c) Myxoedema    d) Exophthalmia
79. Cytokinins promote the growth of \_\_\_\_\_ even in the presence of apical bud.  
 a) lateral buds    b) branches    c) fruits    d) flowers
80. \_\_\_\_\_ is a powerful inhibitor of lateral bud growth in tomato.  
 a) Ethylene    b) Auxin    c) Gibberellin    d) ABA
81. The plant which propagates with the help of its leaves is \_\_\_\_\_.  
 a) Onion                      b) Neem                      c) Ginger                      d) Bryophyllum
82. Anemophilous flower have \_\_\_\_\_.  
 a) sessile stigma                      b) small smooth stigma  
 c) coloured flower                      d) large feathery stigma

83. The large elongated cells that provide nutrition to developing sperms are \_\_\_\_\_.
- a) Primary germ cells                      b) Sertoli cells  
c) Leydig cells                                d) Spermatogonia
84. The region of the chromosome where the spindle fibres gets attached during cell division is \_\_\_\_\_.
- a) Chromomere                                b) Centrosome  
c) Centromere                                d) Chromonema
85. The \_\_\_\_\_ units form the backbone of the DNA.
- a) 5 carbon sugar                            b) phosphate  
c) nitrogenous base                        d) sugar phosphate
86. The number of chromosomes found in human beings are \_\_\_\_.
- a) 22 autosomes and 1 allosome  
b) 22 pairs of autosomes and 1 pair of allosome  
c) 46 autosomes  
d) 46 pairs of autosomes and 1 pair of allosome
87. The best way of direct dating fossils of recent origin is by \_\_\_\_.
- a) Radiocarbon method                    b) uranium lead method  
c) Potassium-argon method                d) Both (a) and (c)
88. Paleontologists deal with \_\_\_\_\_.
- a) embryological evidences                b) fossil evidences  
c) vestigial organ evidences                d) all the above
89. Father of Indian paleobotany is \_\_\_\_\_.
- a) Birbal Sahani                              b) Kaspar Maria Von Sternberg  
c) M.S Swaminathan                        d) Norman E. Borlaug
90. \_\_\_\_\_ yields 2-3 times more milk than indigenous cows.
- a) Brown swiss                                b) Sahiwal                                    c) Jersey                                    d) Karan Swiss
91. In a hexaploid wheat ( $2n=6x$ ,  $x=42$ ) the hexaploid ( $n$ ) and the basic ( $x$ ) number of chromosomes respectively are \_\_\_\_\_.
- a)  $n=7$  and  $x=21$                             b)  $n=21$  and  $x=21$   
c)  $n=7$  and  $x=7$                              d)  $n=21$  and  $x=7$
92. r DNA is a \_\_\_\_\_.
- a) Vector DNA  
b) Circular DNA  
c) Satellite DNA  
d) Recombinant of vector DNA and desired DNA
93. \_\_\_\_\_ is observed as no tobacco day.
- a) 31<sup>st</sup> May                                      b) 4<sup>th</sup> February  
c) 26<sup>th</sup> June                                     d) 1<sup>st</sup> December
94. Excessive consumption of alcohol leads to \_\_\_\_\_.
- a) memory loss                                b) Liver cirrhosis  
c) hallucination state                        d) suppression of brain function
95. Cancer of epithelial cells is called \_\_\_\_\_.
- a) Leukemia                                    b) Sarcoma                                    c) Carcinoma                                d) Lipoma
96. Polyphagia is a condition seen in \_\_\_\_\_.
- a) Obesity                                        b) Diabetes mellitus  
c) Diabetes insipidus                        d) AIDS
97. One wind turbine can produce electricity for \_\_\_\_\_ homes.
- a) 200    b) 300    c) 400    d) 500
98. \_\_\_\_\_ causes asthmatic bronchitis.
- a) Chromium                                    b) Cadmium                                    c) Mercury                                    d) Lead
99. A capacity of 100 litres solar heater can save upto \_\_\_\_\_ units of electricity per year.
- a) 1000    b) 1500    c) 2000    d) 2500
100. Soil erosion can be prevented by \_\_\_\_\_.
- a) deforestation                                b) afforestation  
c) over grazing                                 d) removal of vegetation

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