

SUBJECT: SCIENCE (MCQs)
PHYSICS

1. ELECTRICITY

- 1. A piece of wire of resistance R is cut into five equal parts. These parts are then connected in parallel. If the equivalent resistance of this combination is R, then the ratio R/R is**
(a) 1/25 (b) 1/5 (c) 5 (d) 25
- 2. Which of the following terms does not represent electrical power in a circuit?**
(a) I^2R (b) IR^2 (c) VI (d) V^2/R
- 3. An electric bulb is rated 220 V and 100 W. When it is operated on 110V, the power consumed will be**
(a) 110W (b) 75W (c) 50W (d) 25W
- 4. Two conducting wires of the same material and of equal lengths and equal diameters are first connected in series and then parallel in a circuit across the same potential difference. The ratio of heat produced in series and parallel combinations would be**
(a) 1:2 (b) 2:1 (c) 1:4 (d) 4:1
- 5. The SI unit of charge is**
(a) Volts (b) Ampere (c) Coulomb (d) tesla
- 6. Two charged bodies having equal potential are connected through a conducting wire, in this case current**
(a) Will flow (b) will not flow (c) will flow if resistor is connected (d) none of these
- 7. Potential difference between two terminals can be measured by**
(a) a voltmeter (b) a rheostat (c) an ammeter (d) an ohm meter
- 8. A galvanometer is used to**
(a) Measure potential difference (b) measure amount of current flowing
(c) Detect direction of current (d) Measure electric power of the circuit
- 9. An electric fuse is based on**
(a) the heating effect of the current (b) chemical effect of the current
(c) Magnetic effect of the current (d) none of these
- 10. On which of the following no plus and no minus sign is marked**
(a) a battery (b) a resistor (c) a voltmeter (d) an ammeter

2. MAGNETIC EFFECTS OF ELECTRIC CURRENT

- 1. Which of the following property of a person can change while it moves freely in a magnetic field?**
(a) Mass (b) speed (c) velocity (d) Momentum (both c & d)
- 2. A positively charged particle projected towards west is deflected towards north by a magnetic field. The direction of magnetic field is**
(a) towards south (b) towards east (c) downwards (d) upwards
- 3. A rectangular coil of copper wires is rotated in a magnetic field. The direction of the induced current changes once in each**
(a) two revolutions (b) one revolution (c) half revolution (d) one-fourth revolution
- 4. The device used for producing electric current is called a**
(a) generator (b) galvanometer (c) ammeter (d) motor
- 5. The essential differences between an AC generator and a DC generator is that**
(a) AC generator has an electromagnet while a DC generator has permanent magnet
(b) DC generator will generate a higher voltage
(c) AC generator will generate a higher voltage
(d) AC generator has slip rings while the DC generator has a commutator
- 6. At the time of short circuit, the current in the circuit**
(a) reduces substantially (b) does not change (c) increases heavily (d) vary continuously
- 7. Which of the following correctly describes the magnetic field near a long straight wire?**
(a) The field consists of straight lines perpendicular to the wire
(b) the field consists of straight lines parallel to the wire
(c) The field consists of radial lines originating from the wire
(d) The field consists of concentric circles centered on the wire.
- 8. The magnetic field inside a long straight solenoid carrying current**
(a) is zero (b) decreases as we move towards its end
(c) Increases as we move towards its end
(d) is the same at all points

3.LIGHT – REFLECTION AND REFRACTION

1. Which one of the following materials cannot be used to make a lens?

- (a) Water (b) Glass (c) Plastic (d) Clay

2. The image formed by a concave mirror is observed to be virtual, erect and larger than the object. Where should be the position of the object?

- (a) Between the principal focus and the Centre of curvature (b) At the Centre of curvature
(c) Beyond the Centre of curvature (d) **Between the pole of the mirror and its principal focus**

3. Where should an object be placed in front of a convex lens to get a real image of the same size as that of the object?

- (a) At the principal focus of the lens (b) **At twice the focal length**
(c) At infinity (d) Between the optical center of the lens and its principal focus

4. A spherical mirror and a thin spherical lens have each a focal length of 1-15 cm. The mirror and lens are likely to be

- (a) **both concave** (b) both convex
(c) The mirror is concave and the lens is convex (d) The mirror is convex, but lens is concave

5. No matter how far you stand from a mirror, your image appears erect. The mirror is likely to be

- (a) plane (b) concave (c) convex (d) **either plane or convex**

6. Which of the following lenses would you prefer to use while reading small letters found in a dictionary?

- (a) A convex lens of focal length 15cm (b) A concave lens of focal length 50cm
(c) A convex lens of focal length 5 cm (d) **A convex lens of focal length 5cm**

4.HUMAN EYE AND COLOURFUL WORLD

1. The human eye can focus objects at different distances by adjusting the focal length of the eye lens. This is due to

- (a) Presbyopia (b) **Accommodation** (c) near-sightedness (d) far-sightedness

2. The human eye forms the image of an object at its

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

3. The least distance of distinct vision for a young adult with normal vision is about

- (a) **25cm** (b) 2.5cm (c) 25cm (d) 2.5 M

4. The change in focal length of an eye is caused by the action of the

- (a) pupil (b) retina (c) **ciliary muscles** (d) iris

5. Which type of image formed on the retina?

- (a) Virtual & erect (b) **Real & inverted** (c) Real & erect (d) Virtual & inverted

6. What is the name of the outer thin membrane over the eyeball?

- (a) **Retina** (b) Irish (c) Vitreous humour (d) Cornea

7. The size of the pupil is controlled by which of these?

- (a) Retina (b) Ciliary muscles (c) **Iris** (d) Cornea

8. What is the minimum distance for clear visibility in human eye?

- (a) **25cm** (b) 5cm (c) 10cm (d) 20cm

9. Which of the following is true about a person suffering from myopia?

- (a) Cannot see nearby objects (b) Cannot see objects at middle distance
(c) Can see only far off objects (d) **Can see nearby objects**

10. Which type of lens is needed to rectify the problem of myopia?

- (a) Biconvex lens (b) biconcave lens (c) **Concave lens** (d) Plano-convex lens

11. Bi-focal lens is advised to a patient suffering from which of these conditions?

- (a) Hypermetropia (b) Cataract (c) **Presbyopia** (d) Myopia

12. Which color from the visible spectrum can travel the farthest?

- (a) **Red** (b) Blue (c) Green (d) Violet

13. Which of these is responsible for the formation of rainbow?

- (a) **Dispersion** (b) Refraction (c) Total internal reflection (d) All of these

14. Twinkling of stars happens because of which of these?

- (a) **Refraction** (b) Dispersion (c) Total internal reflection (d) none of these

15. Tyndall effect happens due to which of these?

- (a) **Scattering** (b) Refraction (c) Dispersion (d) Total internal reflection

5.SOURCES OF ENERGY

- 1. A solar water heater cannot be used to get hot water on**
(a) a sunny day (b) a cloudy day (c) a hot day (d) a windy day
- 2. Which of the following is not an example of a bio-mass energy sources?**
(a) wood (b) gobar gas (c) nuclear energy (d) coal
- 3. Most of the sources of energy we use represent stored solar energy. Which of the following is not ultimately derived from the Sun's energy?**
(a) Geo thermal energy (b) wind energy (c) nuclear energy (d) bio-mass
- 4. Which of these is the most important fuel in urban kitchens?**
(a) LPG (b) Coal (c) firewood (d) cow dung cake
- 5. Which source of energy is most used in India?**
(a) Petroleum (b) Coal (c) wind (d) water
- 6. Which of these is used to run turbines in thermal power plants?**
(a) Water (b) Steam (c) Coal (d) ice
- 7. Which gas is harnessed from bio-mass?**
(a) LPG (b) CNG (c) ethane (d) methane
- 8. Which of the following is a renewable source of energy?**
(a) solar energy (b) hydel energy (c) wind energy (d) all of these
- 9. Which country is called the land of wind mills?**
(a) USA (b) Denmark (c) UK (d) France
- 10. The main fuel used in thermal power stations**
(a) Radioactive material (b) coal (c) petroleum (d) natural gas
- 11. Which of the following is a renewable resource?**
(a) Natural gas (b) ground water (c) coal (d) petroleum

CHEMISRTY

6.CHEMICAL REACTIONS AND EQUATIONS

- 1. Which of the statement about the reaction given below are incorrect?**
 $2\text{PbO} + \text{C} \gggg \gg 2\text{Pb} + \text{CO}_2$
(a) Lead is getting reduced (b) Carbon dioxide is getting oxidized
(c) Carbon is getting oxidized (d) Lead oxide is getting reduced
(i) (a) and (b) (ii) (a) and (c) (iii) (a) , (b) & (c) (iv) all
- 2. $\text{Fe}_2\text{O}_3 + 2\text{Al} \gggg \gg \text{Al}_2\text{O}_3 + 2\text{Fe}$ The above reaction is an example of**
(a) Combination reaction (b) Double displacement reaction
(c) Decomposition Reaction (d) Displacement reaction
- 3. What happens when dilute hydrochloric acid is added to iron filings?**
(a) Hydrogen gas and iron chloride are produced
(b) Chlorine gas and iron hydroxide are produced
(c) No reaction takes place
(d) Iron salt and water are produced
- 4. Which of the following are combination reactions?**
(a) $2\text{KClO}_3 \gggg \gg 2\text{KCl} + 3\text{O}_2$ (b) $\text{MgO} + \text{H}_2\text{O} \gggg \gg \text{Mg}(\text{OH})_2$
(c) $4\text{Al} + 3\text{O}_2 \gggg \gg 2\text{Al}_2\text{O}_3$ (d) $\text{Zn} + \text{FeSO}_4 \gggg \gg \text{ZnSO}_4 + \text{Fe}$
(i) (a) and (c) (ii) (c) and (d) (iii) (b) and (c) (iv) (b) and (c)
- 5. In which of the following chemical equations, the abbreviations represent the correct states of the reactions and products involved at reaction temperature?**
(a) $2\text{H}_2(\text{l}) + \text{O}_2(\text{l}) \gggg \gg 2\text{H}_2\text{O}(\text{g})$ (b) $2\text{H}_2 + \text{O}_2 \gggg \gg 2\text{H}_2\text{O}(\text{g})$
(c) $2\text{H}_2(\text{g}) + \text{O}(\text{g}) \gggg \gg 2\text{H}_2\text{O}(\text{l})$ (d) $2\text{H}_2 + \text{O}_2 \gggg \gg 2\text{H}_2\text{O}(\text{l})$
- 6. In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate of lead iodide is formed. While performing the activity if lead nitrate is not available, which of the following can be used in place of lead nitrate?**
(a) Lead sulphate (b) Lead acetate (c) Ammonium nitrate (d) Potassium sulphate
- 7. Which of the following is (are) an endothermic process (es)?**
(a) Dilution of sulphuric acid (b) Sublimation of dry ice
(c) Condensation of water vapours (d) Evaporation of water
(i) (a) & (c) (ii) (b) only (iii) (c) only (iv) (b) and (d)
- 8. Which of the following can be used for the storage of fresh sample of oil for a long time?**
(a) Carbon di oxide or oxygen (b) Nitrogen or oxygen
(c) Carbon di oxide or helium (d) Helium or nitrogen

9. A chemical reaction involves in

- (a) only breaking of bonds (b) only formation of bonds
(c) **both breaking and formation of bonds** (d) none of these

10. A balanced chemical equation always obeys

- (a) **Law of conservation of Mass** (b) Law of conservation of energy
(c) Law of conservation of thermal equilibrium (d) None of these

11. Single displacement reaction involves

- (a) Oxidation (b) Reduction (c) **Redox** (d) heating

12. A red brown gas is released on heating lead nitrate. It is an example of

- (a) Combination reaction (b) Oxidation reaction
(c) **Decomposition Reaction** (d) Reduction reaction

13. The following reaction is an example of $Fe_2O_3 + 2Al \gg \gg Al_2O_3 + 2Fe$

- (a) Combination reaction (b) Double displacement reaction
(c) Decomposition reaction (d) **Displacement reaction**

7.ACIDS BASES AND SALTS

1. A solution turns red litmus blue; its pH is likely to be

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

2. A solution reacts with crushed egg shells to give a gas that turns lime-water milky. The solution contains

- (a) NaCl (b) **HCl** (c) LiCl (d) KCl

3. 10 ml of a solution of NaOH is found to be completely neutralized by 8ml of a given solution of HCl. If we take 20 ml of the same solution of NaOH, the amount of HCl solution required to neutralize it will be

- (a) 4 ml (b) 8ml (c) 12ml (d) **16ml**

4. Which one of the following types of medicines is used for treating indigestion?

- (a) Antibiotic (b) Analgesic (c) **Antacid** (d) Antiseptic

5. What happens when a solution of an acid is mixed with a solution of a base in a test tube?

- (a) The temperature of the solution increases
(b) The temperature of the solution decreases
(c) The temperature of the solution remains same
(d) Salt formation takes place

- (a) (a) only (ii) (a) & (c) (iii) (b) and (c) (iv) **(a) and (d)**

6. An aqueous solution turns red litmus solution blue. Excess addition of which of the following solutions would reverse the change.

- (a) Baking powder (b) Lime (c) Ammonium hydroxide solution (d) **Hydrochloric acid**

7. Which of the following salts does not contain water of crystallization?

- (a) Blue vitriol (b) **Baking soda** (c) Washing soda (d) Gypsum

8. Sodium carbonate is a basic salt because it is a salt of

- (a) Strong acid and strong base (b) weak acid and weak base
(c) Strong acid and weak base (d) **weak acid and strong base**

9. One of the constituents of baking powder is sodium hydrogen carbonate, the other constituent is

- (a) Hydrochloric acid (b) **tartaric acid** (c) Acetic acid (d) sulphuric acid

10. Which of the following used for dissolution of gold?

- (a) Hydrochloric acid (b) Sulphuric acid (c) Nitric acid (d) **Aqua regia**

11. Which of the following is not a mineral acid?

- (a) Hydrochloric acid (b) **Citric acid** (c) Sulphuric acid (d) Nitric acid

12. Which among the following is not a base?

- (a) NaOH (b) KOH (c) NH_4OH (d) **C_2H_5OH**

13. An element common to all acids is

- (a) Oxygen (b) **Hydrogen** (c) Nitrogen (d) Carbon

14. Generally salts are

- (a) **Ionic compounds** (b) contain hydrogen ions
(c) contain hydroxide ions (d) turn litmus red

15. If water contains more H^+ ions than OH^- ions, then the water is

- (a) Neutral (b) **acidic** (c) Basic (d) None of these

16. Which of the following is a weak acid?

- (a) Hydrochloric acid (b) **acetic acid** (c) sulphuric acid (d) nitric acid

17. Which is strong acid?

- (a) **Nitric acid** (b) Oxalic acid (c) acetic acid (d) citric acid

8.METALS AND NON-METALS

1. Which of the following is the best conductor of electricity?

- (a) Gold (b) aluminium (c) silver (d) copper

2. In general, the number of electrons in the outer most shell of a metal atom is

- (a) 1 (b) 1 to 3 (c) 5 to 8 (d) 8

3. Bauxite is an ore of metal

- (a) Tin (b) aluminium (c) copper (d) iron

4. Which of the following will give displacement reactions?

- (a) Sodium chloride solution with copper (b) Magnesium chloride solution with aluminium
(c) Ferrous sulphate with silver (d) silver nitrate solution with copper

5. Which of the following is more reactive?

- (a) Mercury (b) Aluminium (c) silver (d) calcium

6. Which of the following is not a half metal?

- (a) Chlorine (b) boron (c) arsenic (d) silicon

7. Which of the following nonmetal is a good conductor of electricity?

- (a) Graphite (b) Phosphorous (c) Bromine (d) Hydrogen

8. Which is a liquid non-metal?

- (a) Carbon (b) Bromine (c) Hydrogen (d) chlorine

9. The ability of metals to be drawn in to thin wires is

- (a) conductivity (b) malleability (c) Ductility (d) Liquidity

10. Which of the following do not react with cold as well as hot water?

- (a) Fe (b) Mg (c) Ca (d) Na

11. Which is a lustrous nonmetal?

- (a) Nitrogen (b) Iodine (c) Oxygen (d) carbon

12. An alloy is a

- (a) a compound (b) an element (c) A homogeneous mixture (d) Heterogeneous mixture

13. Which one is amphoteric oxide?

- (a) Na (b) Cu (c) Al (d) Ca

14. An element reacts with oxygen to give a compound with a high melting point. This compound is also soluble in water. The element is

- (a) Si (b) Fe (c) Ca (d) C

15. By which action metal is obtained from metal oxide?

- (a) Calcination (b) Reduction (c) Roasting (d) Oxidation

16. Which of the following will give displacement reactions?

- (a) NaCl solution and copper metal (b) MgCl₂ solution and aluminium metal
(c) FeSO₄ solution and silver metal (d) AgNO₃ solution and copper metal.

17. Which of the following methods is suitable for preventing an iron frying pan from rusting?

- (a) Applying Grease (b) Applying paint (c) Applying a coating of Zinc (d) All of the above

18. An element reacts with oxygen to give a compound with a high melting point. This compound is also soluble in water. The element is likely to be

- (a) calcium (b) carbon (c) silicon (d) iron

19. Food cans are coated with tin and not with zinc because

- (a) zinc is costlier than tin (b) zinc has higher melting point than tin
(d) zinc is more reactive than tin (c) zinc is less reactive than tin.

9.CARBON AND ITS COMPOUNDS

1. Ethane with the molecular formula C₂H₆ has

- (a) 6 covalent bonds (b) 7 covalent bonds (c) 8 covalent bonds (d) 9 covalent bonds

2. Butanone is a four functional carbon compound with the functional group

- (a) carboxylic acid (b) Aldehyde (c) Ketone (c) Alcohol

3. While cooking, if the bottom of the vessel is getting blackened on the outside, it means that

- (a) the food is not cooked completely (b) The fuel is not burning completely
(c) The fuel is wet (d) The fuel is burning completely

4. Which off the following is an odd compound?

- (a) Ethene (b) Ethane (c) Propane (d) Acetylene

5. Which one of the following is unsaturated hydrocarbon?

- (a) Acetylene (b) butane (c) propane (d) decane

6. Major constituent of LPG is

- (a) Ethane (b) Propane (c) Pentane (d) Butane

- 7. Butanone is four carbon compounds with the functional group**
 (a) Carboxylic acid (b) aldehyde (c) ketone (d) alcohol
- 8. Pentane has molecular formula C₅H₁₂. It has**
 (a) 5 covalent bonds (b) 12 covalent bonds (c) **16 covalent bonds** (d) 17 covalent bonds
- 9. Vinegar is a solution of**
 (a) 50% - 60% acetic acid in alcohol (b) 5% - 8% acetic acid in alcohol
 (c) **5% - 8% acetic acid in water** (d) 50% - 60% acetic acid in water
- 10. CH₃ - CH₂-OH + Alkaline KMnO₄ >>>> CH₃-COOH. In the above given reaction, alkaline KMnO₄ acts as**
 (a) reducing agent (b) **oxidizing agent** (c) catalyst (d) dehydrating agent
- 11. How many electrons are their in the outermost orbit of carbon?**
 (a) Two (b) Three (c) four (d) one
- 12. Hydrocarbons are mainly composed of which of these**
 (a) **Hydrogen and Carbon** (b) Hydrogen
 (c) Hydrogen, oxygen and carbon (d) Hydrogen, Carbon and Nitrogen
- 13. How many covalent bonds are there in Methane?**
 (a) **Four** (b) Three (c) Two (d) One
- 14. Ethanol is also known as**
 (a) **Ethyl alcohol** (b) Ethane (c) acetaldehyde (d) Formic acid
- 15. Ethanoic acid is also known as**
 (a) **Acetic acid** (b) Formic acid (c) Citric acid (d) Nitric acid
- 16. Which of these is not an inorganic acid?**
 (a) **Nitric acid** (b) Formic acid (c) Acetic acid (d) Tartaric acid
- 17. Soaps are esters of which type of acids?**
 (a) Inorganic acids (b) Acetic acid (c) Formic acid (d) **Fatty acid**

10. PERIODIC CLASSIFICATION OF ELEMENTS

- 1. Element X forms a chloride with the formula XCl₂, which is a solid with a high melting point.**
 X would most likely be in the same group of the periodic table as
 (a) Na (b) **Mg** (c) Al (d) Si
- 2. The law of octaves was found to be applicable to elements**
 (a) Oxygen (b) **Calcium** (c) Cobalt (d) Potassium
- 3. According to Mendeleev's Periodic law, the elements were arranged in the periodic table in the order of**
 (a) Increasing atomic number (b) Decreasing atomic number
 (c) **Increasing atomic masses** (d) Decreasing atomic masses
- 4. In Mendeleev's periodic Table, gaps were left for the elements to be discovered later. Which of the following elements found a place in the periodic table later?**
 (a) **Germanium** (b) Chloride (c) Oxygen (d) Silicon
- 5. Where would you locate the element with electronic configuration 2, 8 in the modern periodic table?**
 (a) Group 8 (b) Group 2 (c) **Group 18** (d) Group 10
- 6. An element which is an essential constituent of all organic compounds belong to**
 (a) Group 1 (b) **Group 14** (c) Group 15 (d) Group 16
- 7. Which of the following is the outermost shell for elements of period 2?**
 (a) K shell (b) **L shell** (c) M shell (d) N shell
- 8. Which one of the following elements exhibit maximum number of valence electrons?**
 (a) Na (b) Al (c) Si (d) **P**
- 9. Which among the following elements has the largest atomic radii?**
 (a) Na (b) Mg (c) **K** (d) Ca
- 10. Which one of the following elements would lose an electron easily?**
 (a) Mg (b) Na (c) **K** (d) Ca
- 11. Which of the following elements does not lose an electron easily?**
 (a) Na (b) **F** (c) Mg (d) Al
- 12. What type of oxide would Eka-aluminium form?**
 (a) EO₃ (b) E₃O₂ (c) E₂O₃ (d) EO
- 13. Three elements B, Si and Ge are**
 (a) Metals (b) Non- metals (c) **Metalloids** (d) Metals, non-metals and metalloids

BIOLOGY

11.LIFE PROCESSES

1. Villi are present in

- (a) Oesophagus (b) Stomach (c) **Small intestine** (d) Rectum

2. Purification of blood takes place in

- (a) Liver (b) Heart (c) Lungs (d) **Kidneys**

3. Xylem in plants transports

- (a) Amino acids (b) Food (c) **water** (d) oxygen

4. Hemoglobin is a type of

- (a) **Respiratory pigment** (b) Fat (c) enzyme (d) vitamin

5. Transport of food from leaves to other parts of a plant is

- (a) **Translocation** (b) Transpiration (c) osmosis (d) photosynthesis

6. The kidneys in human beings are a part of the system for

- (a) Nutrition (b) Respiration (c) **Excretion** (d) Transportation

7. The breakdown of pyruvate to give carbon di oxide, water and energy takes place in

- (a) **Cytoplasm** (b) Mitochondria (c) Chloroplast (d) nucleus

8. The autotrophic mode of nutrition requires

- (a) carbon di oxide and water (b) chlorophyll (c) sunlight (d) **all the above**

9. Which organism can live without oxygen of the air

- (a) Fungi (b) **Yeast** (c) amoeba (d) worm

10. In normal respiration the diaphragm is

- (a) **Flattened** (b) arched (c) coiled (d) no change occur

11. The xylem in plants are responsible for

- (a) **Transport of water** (b) Transport of food (c) Transport of amino acids (d) Transport of oxygen

12. Which color shows the presence of starch

- (a) **Blue** (b) Green (c) white (d) all of the above

13. Which part of the plant helps in osmo-regulation?

- (a) Stem (b) root (c) **leaves** (d) all the three

12.CONTROL AND COORDINATION

I. Multiple choice questions:

1. Which of the following is a plant hormone?

- (a) Insulin (b) Thyroxine (c) Estrogen (d) **Cytokinin**

2. The gap between two neurons is called

- (a) Dendrite (b) **Synapse** (c) Axon (d) Impulse

3. The brain is responsible for

- (a) Thinking (b) Regulating the heart beat
(c) Balancing the body (d) **all of the above**

4. Electrical impulse travels in a neuron in the following manner

- (a) Dendrite---- Axon----Axonal body-----Cell body

- (b) Cell body----dendrites----axon----axonal end

- (c) **Dendrite----Cell body----axon----axonal end**

- (d) Axonal end-----axon-----cell body----dendrite

5. In a neuron, conversion of electrical signal to a chemical signal occurs at or in

- (a) cell body (b) **Axonal end** (c) Dendrite end (d) Axon

6. Posture and balance of the body are controlled by

- (a) Cerebrum (b) **Cerebellum** (c) Medulla (d) Pons

7. In voluntary actions in the body are controlled by

- (a) Medulla in forebrain (b) Medulla in mid brain

- (c) **Medulla in hindbrain** (d) Medulla in spinal cord

8. Which of the following is not an involuntary action?

- (a) Vomiting (b) Salivation (c) Heart beat (d) **Chewing**

9. Spinal cord originate from

- (a) Cerebrum (b) **Medulla** (c) Pons (d) Cerebellum

10. A doctor advised a person to take an injection of insulin because

- (a) His blood pressure was low

- (b) His heart beat was beating slowly

- (c) He was suffering from goiter

- (d) **His sugar level in blood was high**

- 11. The hormone which increases the fertility in males is called**
 (a) Estrogen (b) Testosterone (c) Insulin (d) Progesterone
- 12. Which of the following endocrine glands is unpaired?**
 (a) Adrenal (b) Testes (c) Pituitary (d) Ovary
- 13. In humans, the life processes are controlled and regulated by**
 (a) Reproductive and endocrine systems
 (b) Respiratory and nervous system
 (c) Endocrine and digestive systems
(d) Nervous and Endocrine System
- 14. Which of these plants responds to touch?**
 (a) Sun flower (b) Grass (c) Lotus (d) Mimosa
- 15. Which of the plants shows positively geotropic movement?**
 (a) Leaf (b) root (c) stem (d) flower
- 16. Which hormone is responsible for a plant part to bend towards light?**
(a) Auxin (b) gibberellin (c) cytokinin (d) Absciscic acid
- 17. Which of the following is growth promoter hormone in plants?**
 (a) Auxin (b) Absciscic acid (c) Cytokinin (d) Auxin and cytokinin
- 18. Which gland is also called the master gland?**
 (a) Thyroid gland (b) adrenal gland
(c) Pituitary gland (d) Pineal gland
- 19. Which of the following acts as both exocrine and endocrine gland?**
(a) Pancreas (b) Adrenal (c) Pituitary (d) Pineal
- 20. For the synthesis of which hormone, iodine is necessary**
 (a) Auxin (b) thyroxin (c) insulin (d) Adrenaline
- 21. Diabetes is caused due to the deficiency of**
(a) insulin (b) thyroxin (c) Adrenalin (d) Auxin

13. OUR ENVIRONMENT

- 1. Which of the following contains only biodegradable items?**
 (a) Grass, flowers and leather (b) Grass, wood and plastic
(c) Fruit peels, cake and lime juice (d) Cake, wood and grass (Both c & d)
- 2. Which of the following constitute a food chain?**
 (a) Grass, wheat and mango (b) Grass, goat and human
 (c) Goat, cow and elephant (d) grass, fish and goat
- 3. Which of the following is an environment friendly practice?**
 (a) Carrying cloth bags (b) switching off unnecessary fans and lights
 (c) Walking to school (d) All the above
- 4. What percentage of sunlight is used by plants to convert it into food energy?**
(a) 10 % (b) 100 % (c) 1% (d) 50%
- 5. Flow of energy in an ecosystem is always**
 (a) Multi directional (b) bidirectional (c) unidirectional (d) none of these
- 6. Which of the following is non-biodegradable?**
 (a) remains of plants (b) Glass (c) vegetable peels (d) skin of a rat
- 7. A linear network of links in a food**
(a) Food chain (b) food web (c) ecosystem (d) consumers
- 8. An example of abiotic component is**
 (a) Plants (b) soil (c) microorganisms (d) animals
- 9. The major pollutant from vehicles is**
 (a) carbon dioxide (b) carbon monoxide (c) Sulphur dioxide (d) hydrogen sulphide
- 10. The main atmospheric layer near the surface of the earth is**
(a) Troposphere (b) ionosphere (c) stratosphere (d) mesosphere
- 11. Algal bloom results in**
 (a) salination (b) biomagnifications (c) eutrophication (d) global warming
- 12. Best way of get rid of biodegradable waste is by**
 (a) Burying (b) burning (c) recycling (d) dumping
- 13. The effect of radioactive pollutants depends upon**
 (a) Energy releasing capacity (b) rate of diffusion
 (c) rate of deposition of the contaminant (d) all of these

14.HOW DO ORGANISMS REPRODUCE

1. A mendelian experiment considered of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bore violet flowers. But almost half of them were short. This suggest that the genetic make up of all parent can be depicted as

- (a) TTWW (b) TTww (c) TtWW (d) TtWw

2. An example of homologous organ is

- (a) Our arm and dog's foreleg (b) Our teeth and an elephant's tusk
(c) Potato and runners of grass (d) all the above

3. A baby girl receives her X chromosomes from her

- (a) Mother (b) Father (c) From both father and mother (d) either father or mother

4. Which type of variation is inherited?

- (a) Somatic variation (b) Germinal variation (c) Both a & b (d) None of the above

5. Wings of an insect and a bird are example of which organs?

- (a) Homologous (b) Analogous (b) Vestigial (c) analytic

6. Gamete cells are

- (a) Haploid (b) Diploid (c) can be haploid /diploid (d) None of these

7. Fossils found at deeper layer of the earth are

- (a) Most recent (b) Very old may be more than thousands of years
(c) May be recent or old (d) cannot tell

8. Human baby boy will have its 23rd chromosomes pair as

- (a) XX (b) XY (c) YY (d) XYY

9. Who proposed the hypothesis that life must have developed from the simple inorganic molecules which were present on earth soon after it was formed?

- (a) Darwin (b) Miller (c) Urey (d) Haldane

10. On crossing tall plant with a dwarf plant Mendel found that the ratio of dwarf plants in F₂ generations was

- (a) 25% (b) 75% (c) 50% (d) 660%

15.HEREDITY AND EVOLUTION

1. A Mendelian experiment considered of breeding tall pea plants bearing violet flowers with short pea plants bearding white flowers. The progeny all bore violet flowers. But almost half of them were short. This suggests that the genetic makeup of the tall parent can be depicted as

- (a) TTWW (b) TTww (c) TtWW (d) TtWw

2. An example of Homologous organ is

- (a) Our arm and dog's foreleg (b) Our teeth and an elephant's tusk
(c) Potato and runners of grass (d) all of the above

3. In evolutionary terms, we have more in common with

- (a) A Chinese school boy (b) a Chimpanzee (c) a spider (d) a bacterium

4. A baby girl receives her X chromosomes from her

- (a) Mother (b) father (c) From both father and mother (d) either from father or mother

5. Which type of variation is inherited?

- (a) Somatic variation (b) germinal variation
(c) Both somatic and germinative (d) none of these

6. Wings of an insect and a bird are example of

- (a) Homologous (b) analogous (c) vestigial (d) analytic

7. Gametes cells are

- (a) Haploid (b) diploid (c) can be haploid or diploid (d) none of these

8. A trait in an off spring is influenced by the DNA of

- (a) Mother gamete (b) Father gamete
(c) gamete of both parent (d) Neither of mother or father

9. Fossils found at deeper layers of earth are

- (a) Most recent (b) Very old may be 1000s of years
(c) May be recent or old (d) Cannot tell

10. Human baby boy will have its 23rd chromosomes pair as

- (a) XX (b) XY (c) YY (d) XYY

11. Who proposed the hypothesis that life have developed from the simple inorganic molecules which were present on earth soon after it was formed?

- (a) Darwin (b) Miller (c) Urey (d) Haldane

12. On crossing the dwarf plant with a dwarf plant Mendel found that the ration of dwarf plants in F2 generation was

- (a) 25% (b) 75% (c) 50% (d) 660%

13. Genetics is a branch of biology which deals with the study of

- (a) Heredity & variation (b) fossils (c) evolution (d) hybridization

16.SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES

1. To preserve the resources for the future, we have to

- (a) look for their greater exploitation **(b) conserve them**
(c) exploit commercially (d) use them more frequently and rapidly

2. The main cause for abundant Coliform bacteria in the river ganga is

- (a) immersion of ashes **(b) disposal of unburned dead bodies into Ganga water**
(c) discharge of effluents from electroplating industries (d) washing clothes

3. Amrita Devi Bishnoi sacrificed her life in the cause for protection of

- (a) Sal trees (b) Pine trees **(c) Khejri trees** (d) Alpine meadows

4. Coliform is a group of

- (a) bacteria** (b) wind plants (c) wild animals (d) diseases

5. The contamination of the river Ganga water is indicated by the presence of

- (a) Lactobacillus bacteria (b) Amoeba **(c) Coliform Bacteria** (d) Mucor spore

6. Water shed management

- (a) increases droughts and floods
(b) increases the production and income of the watershed community
(c) decreases the biodiversity of the downstream reservoirs
(d) increases deforestation.
