

Class: 10
Subject: Science
Topic: ASK1510UT02
No. of Questions: 59

Physics

1. A magnetic field line is used to find the direction of
 - (a) South-north
 - (b) Bar magnet
 - (c) Compass needle
 - (d) Magnetic field

Sol. (d)

2. An electric current passes through a straight wire in the direction of south to north. Magnetic compasses are placed at points A and B as shown in the figure.



What is your observation?

- (a) The needle will not deflect
- (b) Only one of the needles will deflect
- (c) Both the needles will deflect in the same direction
- (d) The needles will deflect in the opposite directions

Sol. (d)

3. Which of the following is a vector quantity?
 - (a) Force
 - (b) Magnetic field
 - (c) All of these field
 - (d) Velocity

Sol. (c)

4. An electric current always produces a magnetic field', The above statement is
 - (a) True

- (b) Partially true
- (c) Partially false
- (d) False

Sol. (a)

5. Magnetic field produced at the centre of a current carrying circular wire is
- (a) Directly proportional to the square of the radius of the circular wire
 - (b) Directly proportional to the radius of the circular wire
 - (c) Inversely proportional to the square of the radius of the circular wire
 - (d) Inversely proportional to the radius of the circular wire

Sol. (d)

6. The magnetic field lines inside a long, current carrying solenoid are nearly
- (a) Straight
 - (b) Circular
 - (c) Parabolic
 - (d) Elliptical

Sol. (a)

7. Find the incorrect statement
- (a) Magnetic field lines can intersect each other
 - (b) Field lines emerge from the south pole and merge at north pole
 - (c) All of these
 - (d) A wire with a red insulation is usually the neutral wire of an electric supply

Sol. (c)

8. What will happen when a magnetic is taken towards a circular coil?
- (a) Induced current will start flowing
 - (b) None of these
 - (c) No current will flow in the circuit
 - (d) No effect on the circular coil

Sol. (a)

9. The direction of induced current is obtained by

- (a) Fleming's left-hand rule
- (b) Maxwell's right-hand thumb rule
- (c) Ampere's rule
- (d) Fleming's right-hand rule

Sol. (d)

10. Who first discovered the relationship between electricity and magnetism?

- (a) Faraday
- (b) Newton
- (c) Maxwell
- (d) Oersted

Sol. (d)

11. In an electric motor, the energy transformation is from

- (a) Electrical to chemical
- (b) Chemical to light
- (c) Mechanical to electrical
- (d) Electrical to mechanical

Sol. (d)

12. Which of the following devices works on the principle of electromagnetic induction?

- (a) Ammeter
- (b) Voltmeter
- (c) Generator
- (d) Galvanometer

Sol. (c)

13. Electromagnetic induction is the

- (a) Charging of a body with a positive charge
- (b) Production of current by relative motion between a magnet and a coil
- (c) Rotation of the coil of an electric motor
- (d) Generation of magnetic field due to a current carrying solenoid

Sol. (b)

14. For making a strong electromagnet, the material of the should be
- (a) Soft iron
 - (b) Steel
 - (c) Brass
 - (d) Copper

Sol. (a)

15. You have a coil and a bar magnet. You can produce an electric current by
- (a) Moving the magnet but not the coil
 - (b) Moving the coil but not the magnet
 - (c) Moving either the magnet or the coil
 - (d) Using another DC source

Sol. (c)

16. The magnetic lines of force inside a current carrying solenoid are
- (a) Along the axis and parallel to each other
 - (b) Perpendicular to the axis and parallel to each other
 - (c) Circular and do not intersect each other
 - (d) Circular and intersect each other

Sol. (a)

17. Kilowatt-hour is the unit of
- (a) Potential difference
 - (b) Electric power
 - (c) Electric energy
 - (d) Charge

Sol. (c)

18. When a fuse is rated 8A, it means
- (a) It will not work if current is less than 8A
 - (b) It has a resistance of 8
 - (c) It will work only if current is 8A
 - (d) It will burn if current exceeds 8A

Sol. (d)

19. What is the relation for magnetic field at the centre of a circular coil of radius r ?
- (a) $\frac{\mu_0 I}{2r}$
 - (b) $\frac{\mu_0 I}{r}$
 - (c) $\frac{2\mu_0 I}{r}$
 - (d) $\frac{\mu_0 I}{4}$

Sol. (a)

20. The magnetic field produces by a current in a straight wire has no poles, Statement B: Like poles of magnets repel each other
- (a) Statement A is true, B is false
 - (b) Neither statement A nor Statement B is true
 - (c) Both the statement A and B are true
 - (d) Statement B is true, A is false

Sol. (c)

Chemistry

- Q1. Common salt besides being used in kitchen can also be used as the raw material for making
- (i) soda
 - (ii) bleaching powder
 - (iii) baking soda
 - (iv) slaked lime
- (a) (i) and (ii)
 - (b) (i), (ii) and (iv)
 - (c) (i) and (iii)
 - (d) (i), (iii) and (iv)

Sol. (c) (i) and (iii)

- Q2. The most commonly used indicator in laboratory is
- (a) Methyl Orange
 - (b) Litmus
 - (c) Phenolphalein
 - (d) Universal Indicator

Sol. (d)

- Q3. One of the constituents of baking powder is sodium hydrogencarbonate, the other constituent is
- (a) hydrochloric acid
 - (b) tartaric acid
 - (c) acetic acid
 - (d) sulphuric acid

Sol. (b)

- Q4. Olfactory indicators are
- (a) Clove

- (b) Turmeric
- (c) Soap
- (d) Rose Petals

Sol. (a)

Q5. To protect tooth decay we are advised to brush our teeth regularly. The nature of the tooth paste commonly used is

- (a) acidic
- (b) neutral
- (c) basic
- (d) corrosive

Sol. (c)

Q6. An element common to all acids is

- (a) Chlorine
- (b) Nitrogen
- (c) Oxygen
- (d) Hydrogen

Sol. (d)

Q7. Which of the following statements is correct about an aqueous solution of an acid and of a base?

- (i) Higher the pH, stronger the acid
- (ii) Higher the pH, weaker the acid
- (iii) Lower the pH, stronger the base
- (iv) Lower the pH, weaker the base

- (a) (i) and (iii)
- (b) (ii) and (iii)
- (c) (i) and (iv)
- (d) (ii) and (iv)

Sol. (c) (i) and (iv)

Q8. Metal carbonate on reaction with dilute acid release

- (a) CO_2
- (b) CO

- (c) H_2O
- (d) H_2

Sol. (a)

Q9. The pH of the gastric juices released during digestion is

- (a) less than 7
- (b) more than 7
- (c) equal to 7
- (d) equal to 0

Sol. (a)

Q10. (Teachers FA manual): In general, salts

- (a) are ionic compounds
- (b) contain hydrogen ions
- (c) contain hydroxide ions
- (d) turn litmus red

Sol. (a)

Q11. Which of the following phenomena occur, when a small amount of acid is added to water?

- (i) Ionisation
- (ii) Neutralisation
- (iii) Dilution
- (iv) Salt formation

- (a) (i) and (ii)
- (b) (i) and (iii)
- (c) (ii) and (iii)
- (d) (ii) and (iv)

Sol. (b)

Q12. On passing excess of CO_2 gas j an aqueous solution of calcium carbonate, milkiness of the solution.

- (a) Persists
- (b) Fades

- (c) Deepens
- (d) Disappears

Sol. (b)

Q13. (FA manual) : When magnesium and hydrochloric acid react, they produce

- (a) Oxygen and magnesium chloride
- (b) Chlorine and magnesium oxide
- (c) Hydrogen and magnesium chloride
- (d) Hydrogen and magnesium oxide

Sol. (c)

Q14. Which one of the following can be used as an acid–base indicator by a visually impaired student?

- (a) Litmus
- (b) Turmeric
- (c) Vanilla essence
- (d) Petunia leaves

Sol. (c)

Q15. Which of the following substance will not give carbon dioxide on treatment with dilute acid?

- (a) Marble
- (b) Limestone
- (c) Baking soda
- (d) Lime

Sol. (d)

Q16. Dissolution of acid or base in water is

- (a) Exothermic
- (b) Endothermic
- (c) Violent
- (d) None of these

Sol. (a)

Q17. Which of the following is acidic in nature?

- (a) Lime juice
- (b) Human blood
- (c) Lime water
- (d) Antacid

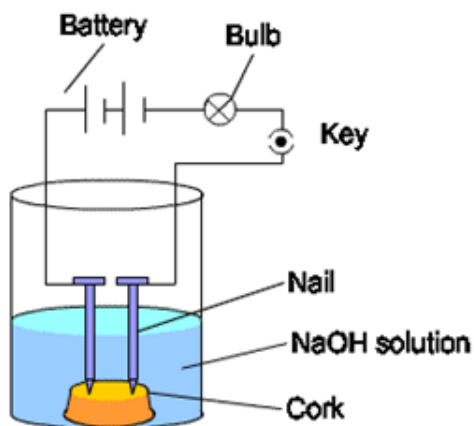
Sol. (a)

Q18. When an acid reacts with a base what compounds are formed?

- (a) Water only
- (b) Metal oxide only
- (c) A salt only
- (d) A salt and water

Sol. (d)

Q19. In an attempt to demonstrate electrical conductivity through an electrolyte, the following apparatus (Given Figure) was set up. Which among the following statement is(are) correct?



- (i) Bulb will not glow because electrolyte is not acidic
- (ii) Bulb will glow because NaOH is a strong base and furnishes ions for conduction
- (iii) Bulb will not glow because circuit is incomplete
- (iv) Bulb will not glow because it depends upon the type of electrolytic solution

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

Sol. (c)

Biology

1. Reflex action immediately involves
 - (a) Spinal cord
 - (b) Cerebellum
 - (c) Medulla oblongate
 - (d) Optical lobe

Sol. (a)

2. The nerves leading to the central nervous system are called
 - (a) Efferent
 - (b) Afferent
 - (c) Motor
 - (d) None

Sol. (b)

3. The anterior choroid plexus in the brain of man covers
 - (a) Corpora bigemina
 - (b) Medulla oblongate
 - (c) Diencephalon
 - (d) Mesencephalon

Sol. (c)

4. Autonomic nervous system is
 - (a) Paired chain ganglia
 - (b) Brain and spinal cord
 - (c) Sense organs
 - (d) Cerebral hemispheres

Sol. (a)

5. Function of sympathetic system is to
 - (a) Decrease heart beat
 - (b) Increase heart beat
 - (c) Contract respiratory organ
 - (d) Secrete saliva

Sol. (b)

6. The control of blood sugar level, osmoregulation and thermoregulation are the function of

- (a) Medulla oblongate
- (b) Cerebellum
- (c) Hypothalamus
- (d) Diencephalon

Sol. (c)

7. Nerve cell do not divide because they do not have
- (a) Nucleus
 - (b) Centrosome
 - (c) Golgi body
 - (d) Mitochondria

Sol. (b)

8. Neuron becomes an electrically charged cell by the diffusion of
- (a) K
 - (b) Na
 - (c) P
 - (d) Ca

Sol. (b)

9. Number of spinal nerves in human is
- (a) 31 pairs
 - (b) 32 pairs
 - (c) 33 pairs
 - (d) 36 pairs

Sol. (a)

10. Name the hormone which controls the basal metabolic rate in animals
- (a) Adrenaline
 - (b) Thyroxine
 - (c) Aldosterone
 - (d) Oxytocin

Sol. (b)

11. Artificial ripening of fruits is carried out by
- (a) Auxin
 - (b) Gibberellin
 - (c) Abscisic acid
 - (d) Ethylene

Sol. (d)

12. Which of the following protects the brain from shocks?

- (a) Durameter
- (b) Cerebrospinal fluid
- (c) Arachnoid membrane
- (d) Cranium

Sol. (b)

13. Which part of nerve cell contains a nucleus?

- (a) Axon
- (b) Dendrite
- (c) Cyton
- (d) Nerve endings

Sol. (c)

14. Which of the following tissues provide control and coordination in animals?

- (a) Nervous and Skeletal
- (b) Muscular and Skeletal
- (c) Muscular and Transport
- (d) Nervous and Muscular

Sol. (d)

15. Chemicals which are released at the synaptic junction are called

- (a) Cerebrospinal
- (b) Hormones
- (c) Neurotransmitters
- (d) Lymph

Sol. (c)

16. The space between meninges is filled with

- (a) Blood plasma
- (b) Lymph
- (c) Cerebrospinal fluid
- (d) ACTH

Sol. (c)

17. Growth of pollen tube towards ovule is called

- (a) Phototropism

- (b) Geotropism
- (c) Hydrotropism
- (d) Chemotropism

Sol. (d)

18. The main effect of cytokinin in plants is to
- (a) Improve the quality of fruits
 - (b) Prevent the growth of lateral buds
 - (c) Regulate opening and closing of stomata
 - (d) Stimulate cell division

Sol. (d)

19. Name the hormone that lowers the blood sugar level?
- (a) Adrenaline
 - (b) Estrogen
 - (c) Glucagon
 - (d) Insulin

Sol. (d)

20. Which hormone regulates the ionic balance in the body?
- (a) Glucagon
 - (b) Thyroxine
 - (c) Testosterone
 - (d) Vasopressin

Sol. (d)