Core Natural Science

B.EL.Ed First Year

MCQ'S ON ELECTRICITY

Choose the correct answer:

Question 1.

In making a battery

(a) positive terminal of one cell is connected to the negative terminal of the next cell

(b) positive terminal of one cell is connected to the positive terminal of the next cell

(c) negative terminal of one cell is connected to the negative terminal of the next cell

(d) none of the above

Answer

Answer: (a) positive terminal of one cell is connected to the negative terminal of the next cell

Question 2.

Where can the key or switch be placed in the circuit?

(a) Left side of the battery

(b) Right side of the battery

(c) Can be placed anywhere in the circuit

(d) Near the positive terminal of the bulb

Answer

Answer: (c) Can be placed anywhere in the circuit

Question 3.

Which one of the following is based on the heating effect of current?

(a) Geyser

(b) Hair dryer

(c) Immersion rod

(d) All of these

Answer

Answer: (d) All of these

Question 4.

The coil of wire contained in an electric heater is known as

(a) component

(b) element

(c) circuit

(d) spring

Answer

Answer: (b) element

Question 5.

The amount of heat produced in a wire depends on

(a) material

(b) length

(c) thickness

(d) all of these

Answer

Answer: (d) all of these

Question 6.

Which mark is necessary on electric appliances?

(a) AGMARK

(b) ISI

(c) FICCI

(d) KSK

Answer

Answer: (b) ISI

Question 7.

When an electric current flows through a copper wire AB as shown in Figure, the wire

MCQ Questions for Class 7 Science Chapter 14 Electric Current and Its Effects with Answers 1

(a) deflects a magnetic needle placed near it

(b) becomes red hot

(c) gives electric shock

(d) behaves like a fuse

Answer

Answer: (a) deflects a magnetic needle placed near it

Question 8.

Choose the statement which is not correct in the case of an electric fuse.

(a) Fuses are inserted in electric circuits of all buildings.

(b) There is a maximum limit on the current which can safely flow through the electric circuits.

(c) There is a minimum limit on the current which can safely flow in the electric circuits.

(d) If a proper fuse is inserted in a circuit it will blow off if current exceeds the safe limit.

Answer

Answer: (c) There is a minimum limit on the current which can safely flow in the electric circuits.

Question 9.

When a switch is in OFF position.

(i) circuit starting from the positive terminal of the cell stops at the switch.

(ii) circuit is open.

(iii) no current flows through it.

(iv) current flows after some time.

Choose the combination of correct answer from the following:

(a) all are correct

(b) (ii) and (iii) are correct

(c) only (iv) is correct

(d) only (i) and (ii) are correct

Answer

Answer: (b) (ii) and (iii) are correct

Question 10.

Which of the following precautions need not be taken while using electric gadgets / appliances/circuit?

(a) We should never touch a lighted electric bulb connected to the mains.

(b) We should never experiment with the electric supply from the mains or a generator or an inverter.

(c) We should never use just any wire or strip of metal in place of a fuse.

(d) We should never turn the switch in ON position.

Answer

Answer: (d) We should never turn the switch in ON position.

Match the following:

Column A Column B

(i) Switch (a) Coil of wire which heats up when electricity current is supplied

(ii) Battery (b) Blows off, if the current exceeds safe limit

(iii) Element (c) Consumes less energy than a bulb

(iv) Filament (d) Mark that ensures that the electric appliance is safe to handle

(v) Fuse (e) Supplies current to the circuit

(vi) MCBs (f) Turns the circuit ON and OFF

(vii) CFL (g) Turn OFF if current exceeds safe limit

(viii) ISI (h) Wire in the bulb which glows

Answer

Column A Column B

(i) Switch (f) Turns the circuit ON and OFF

(ii) Battery (e) Supplies current to the circuit

(iii) Element (a) Coil of wire which heats up when electricity current is supplied

(iv) Filament (h) Wire in the bulb which glows

(v) Fuse (b) Blows off, if the current exceeds safe limit

(vi) MCBs (g) Turn OFF if current exceeds safe limit

(vii) CFL (c) Consumes less energy than a bulb

(viii) ISI (d) Mark that ensures that the electric appliance is safe to handle

Fill in the blanks:

1. Our body is a …….. of electricity.

Answer

Answer: conductor

2. An electric cell produces electricity from the …….. in it.

Answer

Answer: chemicals stored

3. In an electric circuit a fuse is a …….. to prevent possible fire.

Answer

Answer: safety device

4. A combination of two or more cells is called a …….. .

Answer

Answer: battery

5. The coil of wire in an electric heater is called an …….. .

Answer

Answer: element

6. A …….. is a safety device which prevents damages to electrical circuits and possible fires.

Answer

Answer: fuse

7. The wire gets …….. when an electric current passes through it.

Answer

Answer: hot

8. We must look for …….. mark on electrical appliances.

Answer

Answer: ISI

9. When electric current passes through a wire, it behaves like a magnet. It is the …….. effect of current.

Answer

Answer: magnetic

10. Crane has a strong …….. attached to it.

Answer

Answer: electromagnet

Choose the true and false statements from the following:

1. It is convenient to represent electric components by symbols.

Answer

Answer: True

2. A connecting wire is symbolized by a zig-zag line in the circuit diagram.

Answer

Answer: False

3. When an electric current flows through a wire, the wire gets heated.

Answer

Answer: True

4. The key or switch can be placed anywhere in the circuit.

Answer

Answer: True

5. The amount of heat produced in a wire depends on its material, length and thickness.

Answer

Answer: True

6. CFLs consume more electricity than ordinary bulbs.

Answer

Answer: False

7. For different requirements, the wires of different materials, different lengths and thicknesses are used.

Answer

Answer: True

8. A fuse is used to save energy in electrical circuits.

Answer

Answer: False

9. MCBs are the switches which automatically turn off when current in a circuit exceeds the safe limit.

Answer

Answer: True

10. When an electric current flows through a wire, it behaves like a magnet

Answer

Answer: True

MCQ'S ON METALS & NON-METALS

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1. Which of the following metals is the most abundant in the earth's crust?

(a) Al

(b) Fe

(c) Na

(d) Ca

Answer: (a)

2. Which of the following is a poor conductor of heat among the given metals?

(a) Sodium

(b) Calcium

(c) Lead

(d) Mercury

Answer: (c)

3. Chlorides of non-metals are covalent because

(a) of electrons sharing

(b) they can donate electrons to chlorine

(c) they cannot share electrons with chlorine

(d) they donate electrons to chlorine forming chloride ions

Answer: (a)

4. Which of the following non-metals is lustrous?

(a) Oxygen

(b) Sulphur

(c) Iodine

(d) Nitrogen

Answer: (c)

5. Alloy of which of the following metals is called amalgam?

(a) Hg

(b) Zn and Cu

(c) Cu and Sn

(d) Pb and Sn

Answer: (a)

6. Which of the following non-metals is liquid at room temperature?

(a) Helium

(b) Carbon

(c) Mercury

(d) Bromine

Answer: (d)

7. Bauxite is an ore of

(a) Hg

(b) Al

(c) Fe

(d) Cu

Answer: (b)

8. Which of the following is the suspension of slaked lime in the water?

(a) Quick lime

(b) Milk of lime

(c) Lime water

(d) None of the above

Answer: (b)

9. Which of the following oxides is amphoteric?

(a) MgO

(b) Al2O3

(c) K2O

(d) Na2O

Answer: (b)

10. Which of the following is not ionic?

(a) KCl

(b) NaCl

(c) HC

(d) CCl4

Answer: (d

MCQS ON METALS & NON-METALS(PART#02)

Question 1.

The ability of metals to be drawn into thin wires is known as

(a) ductility

(b) malleability

(c) sonority

(d) conductivity

Answer

Answer: (a) ductility

Question 2.

Aluminium is used for making cooking utensils. Which of the following properties of aluminium are responsible for the same?

(i) Good thermal conductivity

(ii) Good electrical conductivity

(iii) Ductility

(iv) High melting point

(a) (i) and (ii)

(b) (i) and (iii)

(c) (ii) and (iii)

(d) (i) and (iv)

Answer

Answer: (d) (i) and (iv)

Question 3.

Due to its semiconductor properties the non-metal used in computer, T.V. etc. is

(a) Carbon

(b) Silicon

(c) Bromine

(d) Fluorine

Answer

Answer: (b) Silicon

Question 4.

What happens when calcium is treated with water?

(i) It does not react with water.

(ii) It reacts violently with water.

(iii) It reacts less violently with water.

(iv) Bubbles of hydrogen gas formed stick to the surface of calcium.

(a) (i) and (iv)

(b) (ii) and (iii)

(c) (i) and (ii)

(d) (iii) and (iv)

Answer

Answer: (d) (iii) and (iv)

Question 5.

Generally metals react with acids to give salt and hydrogen gas. Which of the following acids does not give hydrogen gas on reacting with metals (except Mn and Mg)?

(a) H_2SO_4

(b) HCl

(c) HNO_3

(d) All of these

Answer

Answer: (c) HNO_3

Question 6.

Which of the following metals are obtained by electrolysis of their chlorides in molten state?

(i) Na

(ii) Ca

(iii) Fe

(iv) Cu

(a) (i) and (iv)

(b) (iii) and (iv)

(c) (i) and (iii)

(d) (i) and (ii)

Answer

Answer: (d) (i) and (ii)

Question 7.

An alloy reacted with dilute hydrochloric acid to produce a gas which 'pops' a lighted splint. The residue reacted with dilute nitric acid to form a blue solution. Which one of the following pairs of metals is present in the alloy?

(a) Copper and lead

(b) Lead and magnesium

(c) Copper and magnesium

(d) Lead and zinc

Answer

Answer: (c) Copper and magnesium

Question 8.

Which of the following metals exist in their native state in nature?

(i) Cu

(ii) Au

(iii) Zn

(iv) Ag

(a) (i) and (ii)

(b) (ii) and (iii)

(c) (ii) and (iv)

(d) (iii) and (iv)

Answer

Answer: (c) (ii) and (iv)

Question 9.

Metals are refined by using different methods. Which of the following metals are refined by electrolytic refining?

(i) Au

(ii) Cu

(iii) Na

(iv) K

(a) (i) and (ii)

(b) (i) and (iii)

(c) (ii) and (iii)

(d) (iii)and (iv)

Answer

Answer: (a) (i) and (ii)

Question 10.

Metal M occurs in the Earth's crust as its oxide M_2O_3. An alloy of this metal is used in making aircrafts. The ore of the metal M is

(a) magnetite

(b) haematite

(c) bauxite

(d) pyrolusite

Answer

Answer: (c) bauxite

Question 11.

Which one of the following four metals would be displaced from the solution of its salts by other three metals?

(a) Mg

(b) Ag

(c) Zn

(d) Cu

Answer

Answer: (b) Ag

Question 12.

2 mL each of concentrated HCl, HNO_3 and a mixture of concentrated HCl and concentrated HNO_3 in the ratio of 3 : 1 were taken in test tubes labelled as A, B and C. A small piece of metal was put in each test tube.

No change occurred in test tubes A and B but the metal got dissolved in test tube C respectively. The metal could be

(a) Al

(b) Au

(c) Cu

(d) Pt

Answer

Answer: (b) Au

Question 13.

Which one of the following figures correctly describes the process of electrolytic refining?

MCQ Questions for Class 10 Science Chapter 3 Metals and Non-metals with Answers

Answer

Answer: (c)

Question 14.

An element A is soft and can be cut with a knife. This is very reactive to air and cannot be kept in open. It reacts vigorously with water. Identify the element from the following:

(a) Mg

(b) Na

(c) P

(d) Ca

Answer

Answer: (b) Na

Question 15.

Alloys are homogeneous mixtures of a metal with a metal or non-metal. Which among the following alloys contain non-metal as one of its constituents?

(a) Brass

(b) Bronze

(c) Amalgam

(d) Steel

Answer

Answer: (d) Steel

Question 16.

Reaction between X and Y, forms compound Z. X loses electron and Y gains electron. Which of the following properties is not shown by Z?

(a) Has high melting point

(b) Has low melting point

(c) Conducts electricity in molten state

(d) Occurs as solid

Answer

Answer: (b) Has low melting point

Question 17.

The electronic configurations of three elements X, Y and Z are X – 2, 8; Y – 2, 8, 7 and Z – 2, 8, 2. Which of the following is correct?

(a) X is a metal.

(b) Y is a metal.

(c) Z is a non-metal.

(d) Y is a non-metal and Z is a metal.

Answer

Answer: (d) Y is a non-metal and Z is a metal.

Question 18.

Generally, non-metals are not conductors of electricity. Which of the following is a good conductor of electricity?

(a) Diamond

(b) Graphite

(c) Sulphur

(d) Fullerene

Answer

Answer: (b) Graphite

Question 19.

Which of the following can undergo a chemical reaction?

(a) $MgSO_4 + Fe$

(b) $ZnSO_2 + Fe$

(c) $MgSO_2 + Pb$

(d) $CuSO_2 + Fe$

Answer

Answer: (d) $CuSO_2 + Fe$

Question 20.

The atomic numbers of four elements A, B, C and D are 6, 8, 10 and 12 respectively. The two elements which can react to form ionic bonds (or ionic compound) are:

(a) A and D

(b) B and C

(c) A and C

(d) B and D

Answer

Answer: (d) B and D

Question 21.

The atomic number of an element X is 19. The number of electrons in its ion X^+ will be:

(a) 18

(b) 19

(c) 20

(d) 21

Answer

Answer: (a) 18

Question 22.

The atomic number of an element Y is 17. The number of electrons in its ion Y^- will be:

(a) 17

(b) 18

(c) 19

(d) 20

Answer

Answer: (b) 18

Question 23.

Which of the following is an iron ore?

(a) Cinnabar

(b) Calamine

(c) Haematite

(d) Rock salt

Answer

Answer: (c) Haematite

Question 24.

The metal which can be extracted from the bauxite ore is:

(a) Na

(b) Mn

(c) Al

(d) Hg

Answer

Answer: (c) Al

Question 25.

In stainless steel alloy, iron metal is mixed with:

(a) Cu and Cr

(b) Cr and Ni

(c) Cr and Sn

(d) Cu and Ni

Answer

Answer: (b) Cr and Ni

Question 26.

Which of the following is an ore of mercury metal?

(a) Rock salt

(b) Cinnabar

(c) Calamine

(d) Haematite

Answer

Answer: (b) Cinnabar

Question 27.

Which of the following pair of metals exist in their native state in nature?

(a) Ag and Hg

(b) Ag and Zn

(c) Au and Hg

(d) Au and Ag

Answer

Answer: (d) Au and Ag

Question 28.

Which of the following alloys contains a non-metal as one of the constituents?

(a) Brass

(b) Amalgam

(c) Steel

(d) Bronze

Answer

Answer: (c) Steel

Question 29.

The metal which is always present in an amalgam is:

(a) iron

(b) aluminium

(c) mercury

(d) magnes

Answer

Answer: (c) mercury

Question 30.

Rock salt is an ore of one of the following metals. This metal is:

(a) Mn

(b) Na

(c) Fe

(d) Cu

Answer

Answer: (b) Na

Fill in the blanks

1. The process in which the concentrated ore is heated below its melting point in the absence or limited supply of air is called …….

Answer

Answer: Calcination

2. Metal have ……. melting and boiling points.

Answer

Answer: high

3. ……. displaces copper from a solution of copper (II) sulphate.

Answer

Answer: Zinc

4. Removal of impurities from a metal by chemical method is called …….

Answer

Answer: leaching

5. Oxides of non-metals when dissolved in water generally give ……. solutions.

Answer

Answer: acidic

6. A sulphide ore is concentrated by …….

Answer

Answer: froth flotation process

7. The chlorides of non-metals are …….

Answer

Answer: covalent

8. Non-metals are ……. in character.

Answer

Answer: electronegative

9. The impurities in the ores are removed by adding …….

Answer

Answer: flux

10. The rocky material found along with ores is known as …….

Answer

Answer: gangue