

Q.1 Circle the best answer:

i. Which of the following is NOT a taxonomic group?

- A. Phylum
- B. Order
- C. Organism
- D. Genus

ii. Modern man belongs to the _____ species.

- A. Homo sapiens
- B. Homo habilis
- C. Homo erectus
- D. Homo iguana

iii. Liverworts are examples of _____.

- A. Non Vascular Plants
- B. Vascular Plants
- C. Gymnosperms
- D. Angiosperms

iv. Animals with backbones are called _____.

- A. Invertebrates
- B. Vertebrates
- C. Arthropods
- D. Insects

- v. **The haphazard movement of particles in random direction is called.**
- A. Diffusion
 - B. Particle model
 - C. Brownian motion
 - D. Osmosis
- vi. **In diffusion particles move from region of _____ concentration to a region of _____ concentration.**
- A. Initial to final
 - B. Higher to lower
 - C. Lower to higher
 - D. Final to initial
- vii. **The haphazard movement of particles in random direction is called.**
- A. Diffusion
 - B. Particle model
 - C. Brownian motion
 - D. Osmosis
- viii. **The smallest particle of an element that can exist.**
- A. Ion
 - B. Atom
 - C. Molecule
 - D. Proton
- ix. **Negatively charged sub-atomic particle.**
- A. Molecule
 - B. Proton
 - C. Ion
 - D. Electron

x. If an atom gains an electron, it will get a _____ charge.

- A. Positive
- B. Negative
- C. Partial charge
- D. Neutral

xi. Number of _____ is equal to the number of protons in an atom.

- A. Neutrons
- B. Molecules
- C. Electrons
- D. All of the above

xii. In NaCl the types of atom are _____ and _____.

- A. Nitrogen and Carbon
- B. Sodium and Carbon
- C. Sodium and Chlorine
- D. Nitrogen and Chlorine

xiii. Sublimation is a _____ type of change.

- A. Physical
- B. Chemical
- C. Biological
- D. None of the above

xiv. Which one best completes the given chemical equation:
Methane + oxygen produce _____ + water

- A. Carbon
- B. Hydrogen
- C. Carbon dioxide
- D. Sulfur dioxide

- xv. **Substances that burn to release energy are called.**
- A. Fuels
 - B. Acids
 - C. Chemicals
 - D. Alkali
- xvi. **Which of the following is NOT an example of fossil fuel?**
- A. Kerosene oil
 - B. Natural gas
 - C. Coal
 - D. Wood
- xvii. **Which of the following is used to break the circuit?**
- A. Switch
 - B. Battery
 - C. Voltmeter
 - D. Ammeter
- xviii. **The circuit which connects the components in a single loop is a**
- A. Series circuit
 - B. Parallel circuit
 - C. Closed circuit
 - D. Open circuit
- xix. **Electric current is a measure of rate of flow of:**
- A. Electric charges
 - B. Atoms
 - C. Ions
 - D. Molecules

ix. Tariq makes a complete circuit with one bulb and three cells. The bulb lights brightly for an instant and then goes out. Why?

- A. Not enough electricity flows around the circuit
- B. Too much electricity flows through the bulb
- C. The cells are flat
- D. Switch was closed

Q.2 Fill in the blanks.

[/10]

- i. Ferns are vascular plants without _____.
- ii. _____ are flowering plants.
- iii. Arthropods have _____ bodies.
- iv. When a gas is cooled the particles lose energy and slow down, this process is called _____.
- v. Cooking of food is a _____ change.
- vi. When mud and swamps pile up and harden under heat and high pressure, the buried plants turn into _____.
- vii. _____ is formed when organisms decompose.
- viii. An _____ is used to measure electric current.
- ix. Cells or batteries are sources of _____ in an electric circuit.
- x. The current flowing through each component is a _____ circuit is the same

Q.3 Match the description in column A with the correct word in column B and write your answer in column C. [/10]

Column A	Column B	Column C
1. Are Warm-blooded and lay eggs with hard shells	a. Mammals	1. _____
2. All give birth to live young, except for monotremes	b. Brownian motion	2. _____
3. Have many legs and are mainly carnivorous.	c. Birds	3. _____
4. Matter is made up of small discrete particles that are in constant and random motion	d. Centipedes	4. _____
5. Makes it possible to smell a perfume of a fragrance	e. Molecules	5. _____
6. When a solid is heated particles gain energy and vibrate faster until the attractive forces between the particles fail to hold them together	f. Chemical change	6. _____
7. Made up of two or more atoms chemically combined together	g. Diffusion	7. _____
8. Is a neutral entity that exists in nature	h. Melting	8. _____
9. Shows a number and types of atom in a molecule	i. Atoms	9. _____
10. Cooking food	j. Chemical formula	10. _____

Q.4 State true or false and write down the correct statements for the false ones. [/10]

i. Gymnosperms are classified as seedless plants.

ii. Arthropods do not have jointed legs.

iii. Matter exists in three different states, i.e. solid, liquid and gas.

iv. A Potassium atom has 19 protons and 20 electrons.

v. When Sodium loses an electron a negatively charged ion is formed.

vi. The process of breaking down a substance into simpler substances by heat is called thermal decomposition.

vii. When fuel burns, it releases heat and light energy.

viii. Joules is the SI unit of energy.

ix. Electric current is measured using a voltmeter.

x. Resistance is the opposition to the flow of current.

Q.5

[4]

a. How many classes are vertebrates divided into?

[]/1]

b. Write down three characteristic features of reptiles.

[]/3]

Q.6

[5]

a. State two main differences between vascular and non-vascular plants.

[]/2]

b. Arthropods are one of the two major subgroups of invertebrates. Write three general characteristics of Arthropods?

[]/3]

Q.7

a. Using the particle model of matter, explain what happens to the movement and arrangement of particles during the following processes? [6]
[/2]

i. Melting

ii. Condensation

b. Explain why gases can be compressed easily? [/2]

c. Why do solid have a definite shape whereas gases don't. Explain using the particle model of matter. [/2]

Q.8

a. What is the difference between the molecules of an element and the molecules of a compound? [5]
[/2]

b. What does a chemical formula of a molecule show? [/1]

c. Write down the chemical formula of oxygen and ozone. [/2]

Q.9

[5]

a. Differentiate between an atom and a molecule.

[/2]

b. The atomic number of sodium is 11. How many protons and electrons are present in an atom of sodium?

[/2]

c. If the sodium atom loses 1 electron, what type of ion will it form?

[/1]

Q.10 Describe the following types of reactions;

[/6]

i. Combination reaction

ii. Combustion reaction

iii. Decomposition reaction

[5]

Q.11
a. Why there is a need to conserve energy? State two ways you can conserve energy in your daily life. [3]

b. Why do living things need energy? Where do plants obtain their energy from? [2]

Q.12

[5]

a. Do you think that biomass is a renewable energy resource? Explain your answer? [2]

b. Why do we use the following devices? [3]

i. Solar panels

ii. Salter Ducks

iii. Wind turbines

- a. Sara wants to make an electrical circuit in which every component works separately and breaking down of one component does not affect the working of the whole circuit.

i. What kind of circuit will she make?

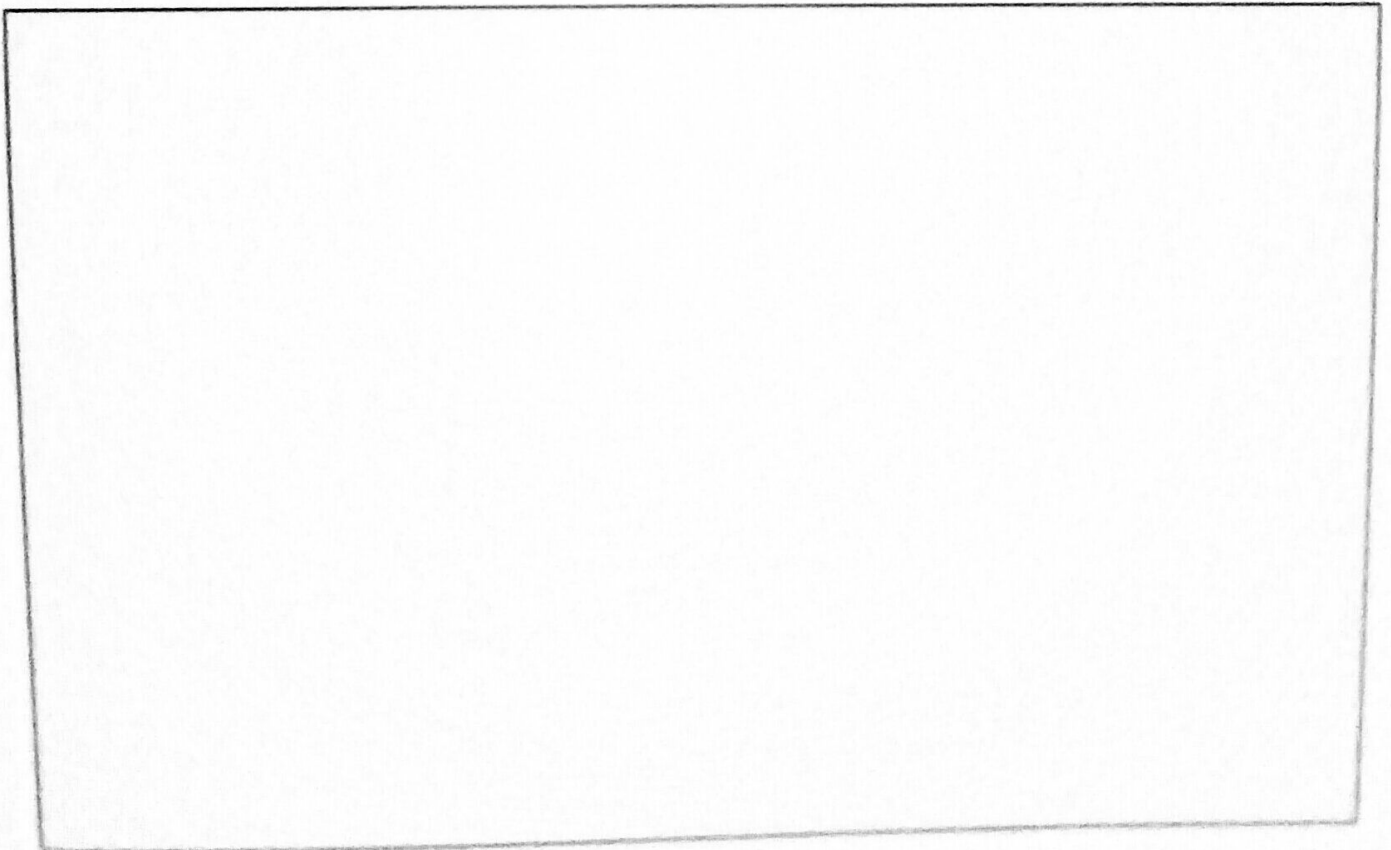
[/1]

ii. Write down two properties of such an electrical circuit.

[/2]

iii. Draw a circuit diagram if Sara has used two bulbs, a battery and a switch to make this electrical circuit.

[/4]



b. What is a fuse? What is the advantage of using a fuse in an electrical circuit?

[/2]
