

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

Question 1

Choose the correct answers to the questions from the given options.

[2]

(Do not copy the question, write the correct answers only.)

- (i) Identify the inert gas among the following:
(a) Hydrogen (b) Oxygen (c) Nitrogen (d) Chlorine
- (ii) Which of the following is a solid fuel?
(a) LPG (b) wood (c) petrol (d) CNG
- (iii) Identify the method that helps to prevent water pollution.
(a) Use of biodegradable fertilizers and pesticides
(b) Release of untreated industrial waste
(c) Wastage of water due to leaking taps at home
(d) Encourage the use of synthetic detergents
- (iv) The second most abundant gas in the Earth's atmosphere:
(a) Nitrogen (b) Helium (c) Argon (d) Oxygen
- (v) A gas dissolved in a liquid can be separated by:
(a) filtration (b) boiling (c) sublimation (d) using magnet
- (vi) A mixture of mustard oil and water forms :
(a) homogeneous mixture (b) compound (c) alloy (d) heterogeneous mixture
- (vii) Which of the following measures helps in maintaining the balance of oxygen and carbon dioxide in nature?
(a) discourage carpooling (b) encourage cutting down of trees
(c) use of fossil fuels (d) usage of CNG and LPG
- (viii) The substance which is insoluble in water:
(a) salt (b) chalk (c) sugar (d) copper sulphate

Question 2

Fill in the blanks:

[2]

- (i) Rain water seeps down through the soil and gets collected to form -----.
- (ii) Ozone is present in the ----- layer of atmosphere.
- (iii) Filtration is used for the separation of ----- solid from a solid - liquid mixture.

- (iv) Water fit for drinking purposes is called -----.
- (v) ----- is the purest form of natural water.
- (vi) Plants and animals maintain the balance of ----- and ----- in air.
- (vii) When cereals are washed before cooking, water is separated from the cereals by -----.

Question 3

Write true or false:

[2]

- (i) A pure substance consists of only one kind of atom or molecule.
- (ii) The liquid component from a soluble solid - liquid mixture can be separated by distillation.
- (iii) The constituents in a mixture cannot be mixed in any quantity.
- (iv) Respiration needs nitrogen.
- (v) Filtration is carried out to obtain germ-free clean water.
- (vi) The rate of solubility depends on the size of the solute to be dissolved.
- (vii) Air is a compound.
- (viii) The composition of air was discovered by Lavoisier.

Question 4

Write two examples for the following:

[2]

- (i) Sublimable substances (ii) Fuels
- (iii) Substances soluble in water (iv) Greenhouse gases

Question 5

Give reasons for the following:

[4]

- (i) Water is a universal solvent.
- (ii) Carbon dioxide increases global warming on Earth.
- (iii) Alum is used in purification of river water.
- (iv) Sand and salt cannot be separated by hand picking.

Question 6

Differentiate between the following:

[4]

- (i) Saturated and unsaturated solution (ii) Homogeneous and heterogeneous mixture
- (iii) Residue and filtrate (iv) Burning and respiration

Question 7

Define the following:

[4]

- (i) Mixture (ii) Fuel (iii) Solubility (iv) Sublimation

Question 8

Complete the table:

[2]

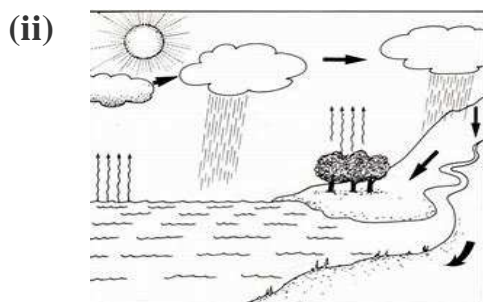
Element	Symbol
(a) _____	(i) O
(b) Carbon	(ii) _____
(c) Nitrogen	(iii) _____
(d) _____	(iv) Al
(e) _____	(v) Na
(f) Silicon	(vi) _____
(g) Neon	(vii) _____
(h) _____	(viii) B

Question 9

Answer any eight questions from the following:

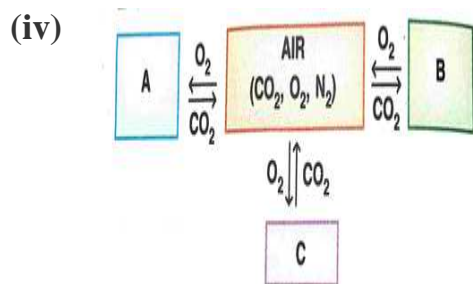
[16]

- (i) (a) State any two reasons to conserve water.
 (b) State four ways in which you as an individual can conserve water.



- (a) Write one example for the interconversion of states of matter shown in the above diagram.
 (b) Write the importance of water cycle in nature.

- (iii) What do you observe when:
 (a) Ice cold water is filled in a glass tumbler.
 (b) Burning candle is covered with an inverted jar.
 (c) Carbon dioxide gas is passed through lime water.
 (d) The path of light in a dusty room is observed

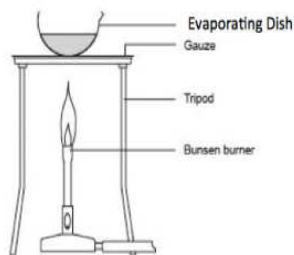


- (a) Name the processes **A**, **B** and **C** shown in the flow-chart.

(b) Define the process **B**.

(c) Write the significance of **A**, **B** and **C**.

(v)



Observe the given diagram and answer the following:

a) Write the name of the method depicted above.

(b) What kind of mixture is separated by this method?

(c) How can this process be made faster?

(d) Write one disadvantage of this process.

(vi) Read the passage given below and answer the following:

A student is given a mixture of sawdust, water, and small pebbles. She decides to use different separation techniques to isolate each component. First, she leaves the mixture undisturbed for some time. Then, she decants the mixture to separate one component. Finally, she filters the remaining mixture to get a clearer liquid.

(a) Which separation techniques were used first and what substance was removed?

(b) What separation technique was applied to remove the smallest solid particles? Define the process.

(vii) (a) What is meant by rusting?

(b) What are the two necessary conditions for rusting of iron?

(c) Write the chemical name of rust.

(viii) (a) What is meant by ozone depletion?

(b) State any two steps to be taken to control air pollution.

(ix) (a) Name the steps involved in purification of water in cities.

(b) Suggest any one method to kill microorganisms and explain.

Question 10

Draw a neat labelled diagram of the following:

[2]

(a) Percentage composition of air by volume (b) Formation of water molecule
