

Specimen Chemistry Paper 1

Question 1:

Question	Answer	Question	Answer
1	C	6	B
2	B	7	C
3	D	8	B
4	C	9	D
5	A	10	B

Question 2:

(a)

Gas	Percentage by volume
Oxygen	Variable
Nitrogen	21
Carbon dioxide	0.96
Water vapour	0.04
	78

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graph LR; O[Oxygen] --- 21[21]; N[Nitrogen] --- 78[78]; CO2[Carbon dioxide] --- 0.04[0.04]; WV[Water vapour] --- 0.96[0.96];
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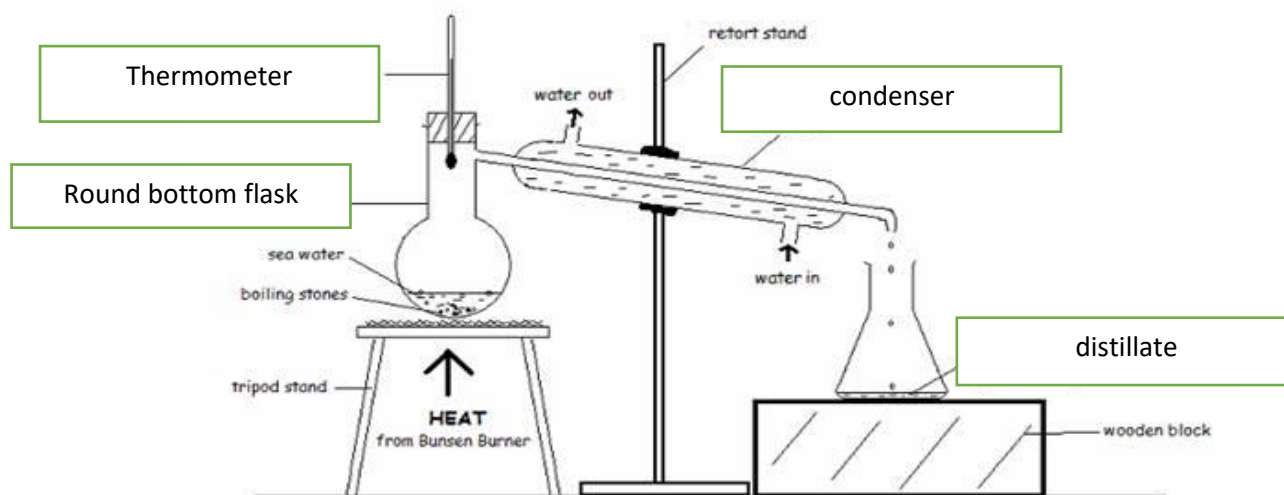
(b)

Environmental effect	pollutant
Causes global warming	methane
Depletes the ozone layer	chlorofluorocarbons
Causes acid rain	Sulfur dioxide
Causes headaches, dizziness and even death	Carbon monoxide

Question 3:

(a)

distillate, condenser, residue, round bottom flask, thermometer



(b) (simple) distillation

(c) Copper (II) sulfate from a solution of copper (II) sulfate

(d) For smooth boiling/ to avoid bumping of solution (that can disturb the apparatus).

Question 4:

(a) Effervescence/ bubbling/ bubbles of gases

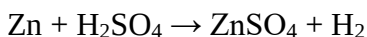
The zinc becomes smaller

The solution heat up/ becomes hot.

(b) Hydrogen

(c) Filtration

(d) Zinc + sulfuric acid $\rightarrow$ zinc sulfate + hydrogen



(e) Lead (II) sulfate is insoluble in water/ Lead reacts very slowly with acids.

(f) Bubbles forms faster/ reaction is vigorous/ rapid effervescence.

Question 5:

- (a) Volcanic eruptions/ volcanoes
- (b) (Rapid) Increase in sulfur dioxide concentration from 1850 to 1975 and then a drop from 1975 to 2000.
- (c) More cars/ motor vehicles/ factories/ industrialisation.
- (d) It dissolves in clouds to form sulfuric acid and then falls as acid rain.
- (e) Skin problems
Eye problems
- (f) $\text{CaO} + \text{SO}_2 \rightarrow \text{CaSO}_3$

Question 6:

- (a) Crystallisation
- (b) The filtrate from **A** is heated to saturation and then allowed to cool.
- (c) B and C.
- (d) None of the substances are magnetic.

Zinc oxide reacts with hydrochloric acid and ammonium chloride is soluble in hydrochloric acid.

- (e) Accept any mixture consisting of a water-insoluble solid and a water-soluble solid.