

Simple Techniques

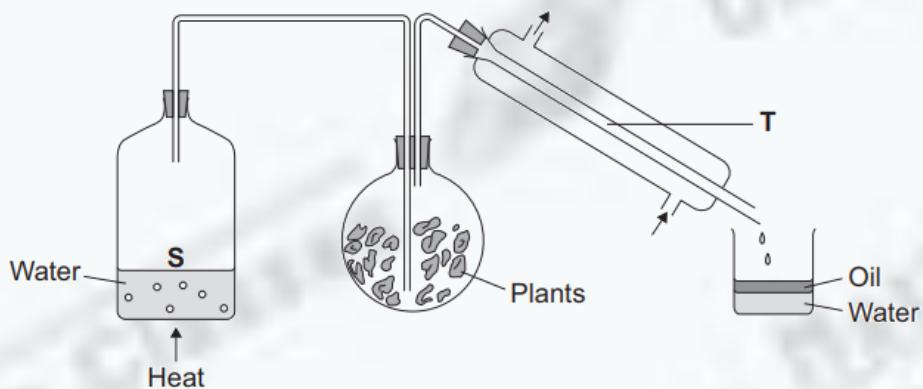
Total Mark – 15

Question: 1

4 Some plants contain oils that can be extracted.

Figure 3 shows a process used to separate oils from plants.

Figure 3



4 (a) What is the name of this process?

[1 mark]

Tick (✓) **one** box.

Displacement

Distillation

Pressing

4 (b) (i) Describe the change of state at **S**.

[1 mark]

4 (b) (ii) Describe the change of state at **T**.

[1 mark]

4 (c) **Table 1** gives the melting points and boiling points of some plant oils.

Table 1

Plant oil	Melting point in °C	Boiling point in °C
Olive	-41	+216
Sunflower	-17	+227
Corn	-11	+232
Peanut	-2	+232
Coconut	+25	+177

4 (c) (i) An article stated that:

'plant oils with lower melting points are healthier because they are high in unsaturated oils'.

Which plant oil in **Table 1** is the healthiest according to the article?

[1 mark]

4 (c) (ii) Which plant oil in **Table 1** is solid at room temperature (20 °C)?

[1 mark]

4 (c) (iii) Which plant oil in **Table 1** is liquid over the greatest temperature range?

[1 mark]

4 (d) Give **two** ways that food cooked in plant oils would be different from the same food cooked in water.

[2 marks]

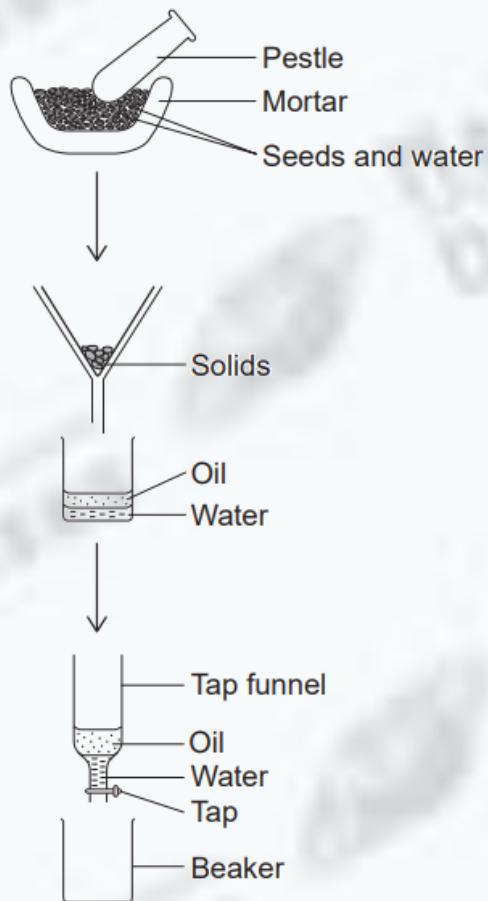
1 _____

2 _____

Question: 2

4 (b) Some plants have seeds that contain vegetable oils.
The flow diagram in **Figure 6** shows how the oil can be extracted.

Figure 6



4 (b) (i) Use the correct word from the box to complete each sentence.

[2 marks]

burning

crushing

distilling

filtering

Oil is released from the seeds by.....

Solids are removed from the oil and water by

4 (b) (ii) Describe how the tap funnel can be used to separate the oil from the water.

[2 marks]

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.....

4 (c) Vegetable oils are used as foods and fuels.

4 (c) (i) Why are vegetable oils important foods and fuels?

[1 mark]

Tick (✓) one box.

They are used as emulsifiers.

They have high boiling points.

They provide a lot of energy.

4 (c) (ii) Burning fossil fuels made from crude oil increases the overall percentage of carbon dioxide in the atmosphere.

Burning biofuels made from vegetable oil does **not** increase the overall percentage of carbon dioxide in the atmosphere.

Explain why.

[2 marks]

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