NAME	**INDEX NUMBER**
SCHOOL	**DATE**

THE PARTICULATE NATURE OF MATTER

1. 1996 Q11 P1

Name two forces that determine the shape of liquid drop on the solid surface. (2 marks)

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2. 1996 Q37 P1

In the Brownian motion experiment, smoke particles are observed to move randomly. Explain how this motion is caused (2 marks)

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3. 1997 Q25 P1

Ice changes to water at 0^0C. Equal masses of the ice and water at 0^0C are each heated to 1^0C. Give a reason why more heat energy is required to heat ice.

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4. 1998 Q23 P1

Cleavage in crystals is possible in certain directions only. Explain this observation.

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5. 2000 Q6 P1

State the reason why gases are easily compressible while liquids are solids are not

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6. 2001 Q5 P1

Fig. 4 (i) shows a beaker filled with water. Some potassium permanganate was gently introduced at the bottom of the beaker at the position shown.

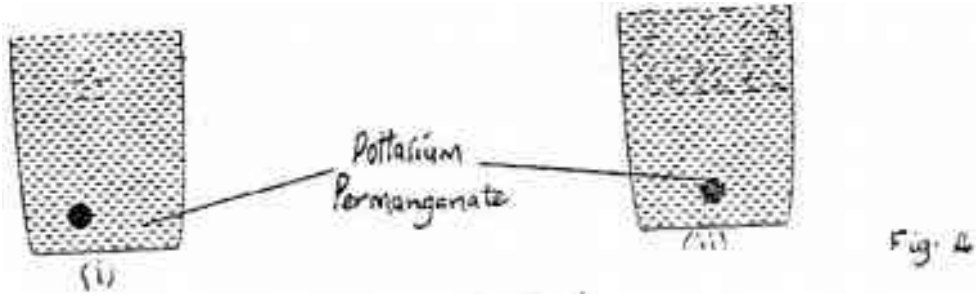

Fig. 4(ii) shows the appearance of the liquid after about 30 minutes. Explain how this appearance was caused.

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7. 2003 Q5 P1

Explain the cause of random motion of smoke particles as observed in Brownian motion experiment using a smoke cell.

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8. 2005 Q7 P1

Two identical tubes A and B held horizontally contain air and water respectively. A small quantity of coloured gas is introduced at one end of A while a small quantity of coloured water is introduced at one end of B. State with reason the tube in which the colour will reach the other end faster.

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9. 2006 Q14a P1

(a) Distinguish between solid and liquid states of matter in terms of intermolecular forces

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10. 2007 Q15 P1

Brown motion of smoke particles can be studied by using the apparatus shown in figure 9 to observe the motion, some smoke is enclosed in the smoke cell and then observed through the microscope.

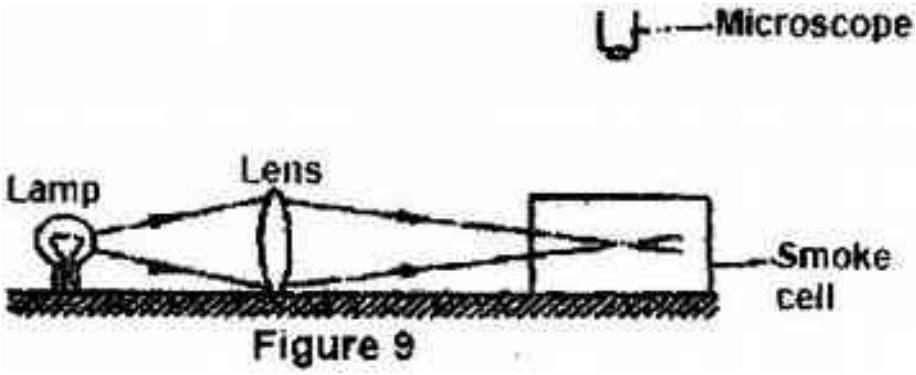

Figure 9

(a) Explain the role of the smoke particle, lens and microscope in the experiment

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(b) State and explain the nature of the observed motion of the smoke particles (3 marks)

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(c) State what will be observed about the motion of the smoke particles if the temperature surrounding the smoke cell is raised slightly. (1 mark)

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11. 2008 Q9 P1

Explaining the difference between a liquid and a gas in terms of intermolecular distances and forces. (2 marks)

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12. 2009 Q5 P1

Two identical beakers A and B containing equal volumes of water are placed on a bench. The water in A is cold while the water in B is warm. Identical pieces of potassium permanganate are placed gently at the bottom of each beaker inside the water. I t is observed that the spread of colour in B is faster than in A. Explain this observation. (2 marks).

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13. 2011 Q8 P1

When the temperature of a gas in a closed container is raised, the pressure of the gas increases. Explain how the molecules of the gas cause the increase in pressure. (2 marks)

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14. 2011 Q10 P1

State the reason why it is easier to separate water into drops than to separate a solid into smaller pieces. (1 mark)

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15. 2012 Q4 P1

A bottle containing a smelling gas is opened at the front bench of a classroom. State the reason why the gas is detected throughout the room. (1 mark)

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