

GATITU SECONDARY SCHOOL, P.O. BOX 327 – 01030, GATUNDU.

FORM 1 PHYSICS MID TERM EXAMINATION. TERM 3 2015.

Answer all the questions.

1. Distinguish between solid, liquid and gas using the following headings.
 - i) Arrangement of particles (3mks)

 - ii) Interparticles spacing. (3mks)

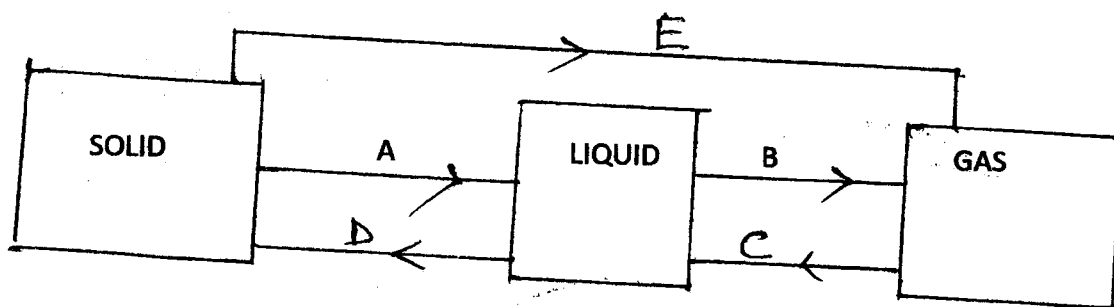
 - iii) Movement of particles (3mks)

2. Why is it possible to compress a gas but not a solid or a liquid. (2mks)

3. State how temperature affects Brownian motion (1mk)

4. Describe an experiment that would demonstrate diffusion in liquids. (3mks)

5. State process involved in each change of state in the following diagram.



- A _____
- B _____
- C _____
- D _____
- E _____

(5mks)

6. In smoke cell experiment, bright ^{specks} ~~species~~ are observed to move in a random manner.
i) What are these bright specks? (2mks)

ii) Explain why they move in the manner stated above. (3mks

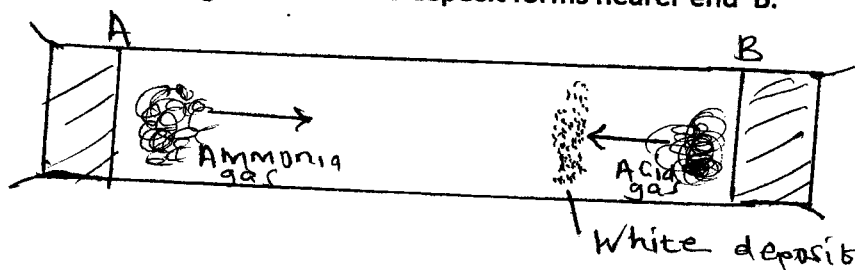
iii) If temperature is increased in the smoke cell state the changes that would be observed in the motion of the bright speck. (2mks

7. Define diffusion (1mk

i) Compare the rate of diffusion in air and in vacuum. (2mks

iii) State the factors which affect the rate of diffusion. (3mks

8. In the figure below ammonia gas and acid gas diffuse and react to form a white deposit on the walls of the glass tube. The deposit forms nearer end B.



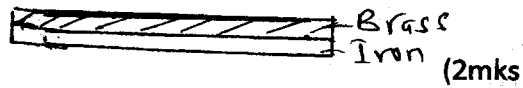
State

- i) Which gas diffused faster. (1mk)

 - b) How does the size and mass ^{of} a gas affect the rate of diffusion. (2mks)

 - c) How would the temperature affect the speed at which white deposits formed. (2mks)
9. State 3 advantages and 3 disadvantages of thermal expansion in solids. (6mks)

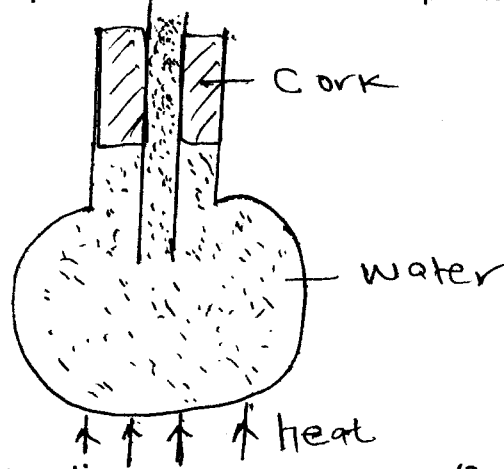
10. The figure below shows a bimetallic strip. Draw the diagram to show its behaviour when
i) heated (2mks)



ii) Cooled

11. In the laboratory boiling tubes made of glass are subjected to strong heating without breaking. Explain. (2mks)

12. The following set up was used to demonstrate expansion in liquids.



State and explain the observation.

(3mks)

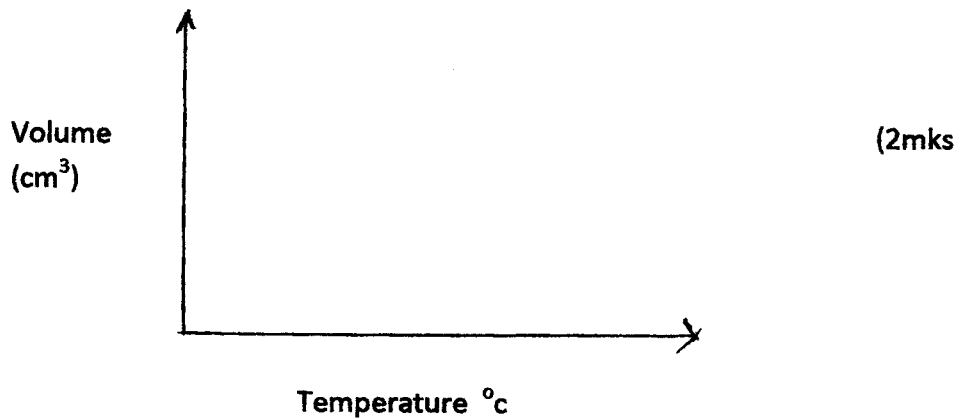
13. Explain the following

i) It is advisable to leave a space inside a bottle of water before keeping it in a deep freezer. (2mks)

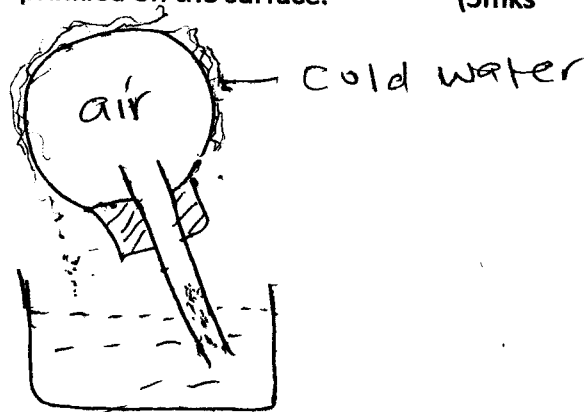
ii) Water pipes burst when temperature drops below 4°C . (2mks)

14. State 4 effects of anomalous expansion of water (4mks)

15. Sketch a graph of volume against temperature for water between 0° and 10° on the axis below.



16. the figure below shows a set up used to investigate expansion in gases. Explain the observation when cold water is sprinkled on the surface. (3mks)



17. Using knowledge of molecule, explain why solids, liquid and gases expand. (6mks)

18. Define the term temperature. (1mk)

19. State 3 types of thermometers. (3mks)

20. List 4 properties of a thermometric liquid. (4mks)

21. In a liquid in glass thermometer explain why capillary bore is narrow. (2mks)

22. Explain why the bulb of a thermometer is thin walled. (2mks)

23. Convert the following temperatures from (a) $^{\circ}\text{C}$ to kelvin. (6mks)

i) $0^{\circ}\text{C} =$ K

