1.Figure belowshows a flat bottomed flask containing some water. It is heated directly with a very hot



* + 1. Explain why the flask is likely to crack. (2 marks)

1. Explain why birds flap their wings during cold weather (2mks)
2. A wooden bench and a metal bench are both left in the sun for a long time. Explain why the metal bench feels hotter to touch. (2mks)
3. Name two forces that determine the shape of liquid drop on the solid surface (2mks)
4. A butcher has a beam balance and masses 0.5kg and 2kg. how would he measure 1.5kg of meat on the balance at once? (2mks)
5. State the reason why water spilled on a glass surface wets the surface (1mk)
6. State two ways of reducing surface tension of water (2mks)
7. The height of mercury column in a barometer at a place is 64cm. what would be the height of paraffin in the barometer at the same place? (density of paraffin=8.0x10 kgm-3) (3mks)
8. State one advantage of fitting wide tyres on a vehicle that moves on earth roads (1mk)
9. A hole of 2.0cm2 at the bottom of the tank 2.0m deep is closed with a cork. Determine the force on the cork when the tank is filled with water. (density of water is 1000kg/m3 and acceleration due to gravity is 10N/kg) (4mks)
10. In the Brownian motion experiment, smoke particles are observed to move randomly. Explain how this motion is caused. (2mks)
11. State the reason why gases are easily compressible while liquids and solids are not. (1mk)
12. Distinguish between solid and liquid states of matter in terms of intermolecular forces. (2mks)
13. Explain why glass container with thick walls is more likely to crack than one with a thin wall when a very hot liquid is poured into it. (2mks)
14. Give a reason why a concrete beam reinforced with steel does not crack when subjected to changes in temperature. (2mks)
15. Give a reason why water is no a suitable liquid for use in a barometer (1mk)
16. When tea is heated in a glass flask, its level at first falls then rises. Explain this observation. (2mks)
17. What is lagging? (2mks)
18. a) State four factors that affects thermal conductivity (4mks) b) give three modes of heat transfer (3mks)