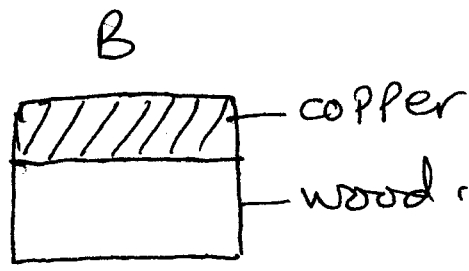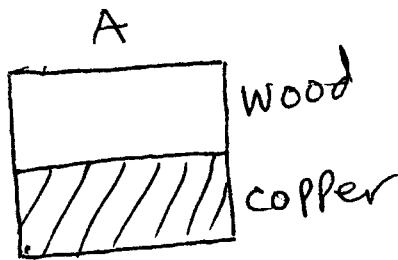Name:_____adm:_____class:_____

1.   The figure below shows a hydraulic lift.
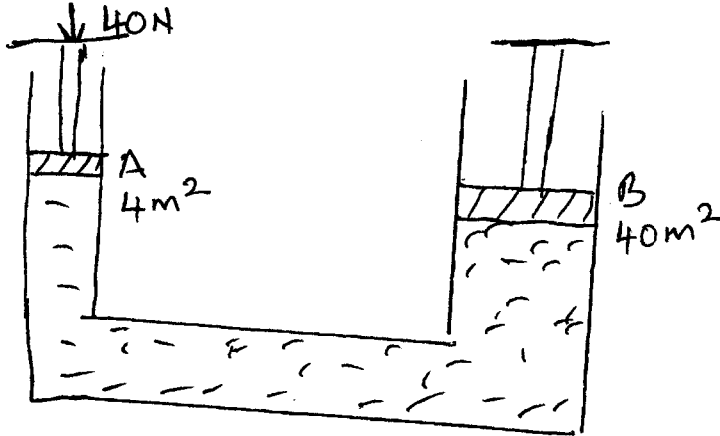
a)   Calculate the pressure exerted at A.   (2mks

b)   What pressure is transmitted to point B.. Explain   (2mks

c)   Calculate the force transmitted to B   (2mks

2. State with a reason which object is more stable than the other in the figure below.
(2mks

3. A brick measures 0.05m by 0.03m by 0.04m and has a mass of 200g. Determine
a) the greatest   (3mks

b) the smallest pressure exerted by the brick on a flat surface. If g = 10N/kg.   (3mks

4. Very small particles like pollen grains are placed on the surface of water and illuminated with bright light. They are then observed with a hand lens.
a) How do the particles behave?   (2mks

ᛏ⟩   Name the effect observed.   (2mks

c)   What would happen if the temperature of water was raised.?   (2mks

5(a)   Draw a well labeled diagram of a vacuum flask.   (5mks

b)   State how heat loss through conduction convection and radiation is minimized.   (6mks

6. Light being a form of energy travels in straight lines, with the aid of a diagram show this phenomenon. (3mks

7. Draw a diagram to show solar eclipse by the moon. (4mks

8. What do you understand by eclipse? (2mks

9. A pinhole camera of length 20cm is used to view the image of a tree of height 12m which is 40m away from the pinhole.
   a) Calculate the height of the image. (3mks

12. A mirror is rotated through an angle of 20°. Through what angle is the reflected ray of an incident ray rotated. (2mks

13. Calculate the number of images formed by two mirrors inclined at an angle of
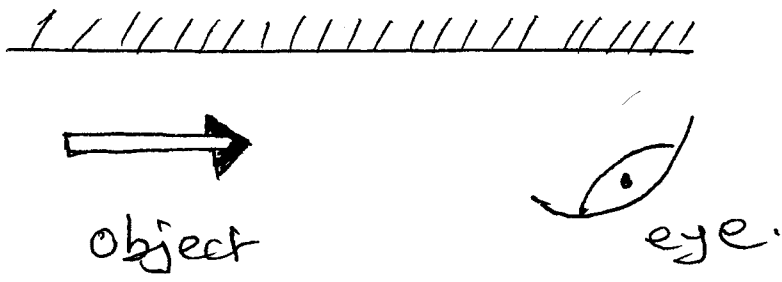i) 45° (3mks

ii) 120°

iii) 0°

14. Mention two applications of electrostatics. (2mks

b)   If the camera is moved 10m towards the tree, what will be the height of the tree on the screen?   (3mks

c)   What is the effect on the size of the image if the object distance is increased?
(2mks

10.   Complete the diagram below to show how the eye sees the image of the object.   (3mks

11.   State five characteristics of an image formed in a plane mirror.   (5mks

15. Draw a well labeled diagram of a gold-leaf electroscope. (3mks

16. Below is a chart showing some electrical appliances. Draw the symbol used in each case.

APPLIANCE	SYMBOL
Switch	(4mks
Variable resistor	
Battery	
Lamp	

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX.