

PHYSICS HOMEWORK/ L5 MMP,SOD and NIT

Q1. Define the following terms related to light: **/3marks**

- a) Reflection
- b) denser medium
- c) Refraction

Q2. Draw a ray diagram to explain the refraction of light as it passes from air into water. Label the angles of incidence and refraction, as well as the normal **/5marks**

Q3. A 600 kg moving lorry strikes a stationary 300 kg car and the two vehicles stick together. The speed of car and lorry after collision is 20 m/s. What is the original speed of the lorry? **/ 3marks**

Q4. Calculate the refractive index of water, given that the velocity of light in air is 3×10^8 m/s and velocity of light in water is 2.25×10^8 m/s. **/3marks**

Q5. An object with a mass of 10 kg rests on a surface with a coefficient of static friction of 0.3. Calculate the static frictional force **/3marks**

Q6. Consider the following figure:



a) What type of energy does the above device use? **/1mark**

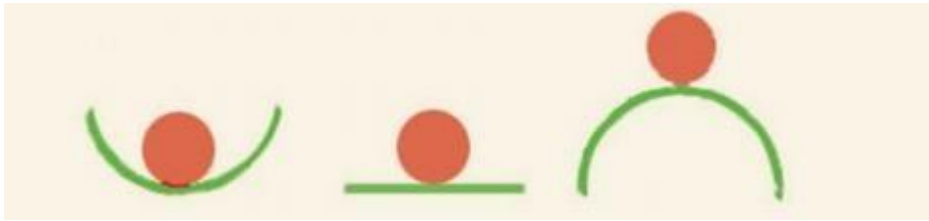
b) What is the main source of this energy? /2marks

c) Is this energy, renewable or non-renewable? /2marks

d) Give other two (2) forms of energy /2mark

Q7. A pinhole camera of length 20 cm is used to view the image of a tree of height 12 m which is 40 m away from the pinhole. Calculate the height of the image of the tree obtained on the screen. /3 marks

Q8. State the type of equilibrium in case A, B and C



/3marks

A

B

C

END!!!!!!