

## Home Assignment

- 1) Measure of energy transfer that occurs when an object is moved over distance by an external force least part of which is applied in the direction of displacement.
- 2) work is said to be done when the applied force makes the body move. (e.g. - there is a displacement of work).
- 3) The two condition when no work is done by force are as follows
  - \* when the angle between the displacement and force applied is perpendicular to the displacement
  - (i) there should be no displacement. ( $s=0$ )
  - (ii) The displacement is normal to the direction of force ( $\theta=90^\circ$ )

Q4) (b) & (d)

Q5) A coolie carrying a luggage on his head moving on ground does no work against the work force of gravity as displacement is normal to the direction of force of gravity.

46) when the moon revolves around the earth, the displacement is normal to the direction of force or the velocity. therefore no work is done by the moon.

47) work done = Force  $\times$  time  $\times$  distance moved  $\rightarrow$  dir. of force

48) The S.I unit of work is the Joule (J), named after the 19<sup>th</sup> century physicist named James Prescott Joule. which is defined as the work required to exert a force of one newton a displacement of one metre.

49) (i) Magnitude of force applied (F). (ii) Distance moved by the body in the direction of force.

50) The capacity for doing work is called form energy.

51) Joule (J)

52) 1 Joule equals the work done by a force of one newton acting over a distance of 1 metre.