

# GREENLAWNS HIGH SCHOOL

Terminal-1 Examination

Date: 29/09/2023

Physics

Time: 2 hours

Std: VIII

Marks: 80

## Question-1

## Section A

Choose the correct alternative and rewrite your answers. (15m)

- i. The light ray striking the reflecting surface is called the \_\_\_\_\_ ray.  
a) Incident b) reflected c) refracted d) parallel
- ii. The S.I unit of potential energy is \_\_\_\_\_.  
a) joule b) grams c) kgs d) Nm
- iii. \_\_\_\_\_ is the process by which when solid is heated, directly changes into vapour at fixed temperature.  
a) Deposition b) Condensation c) Sublimation d) Solidification
- iv. The increase in area, when a solid is heated, is called \_\_\_\_\_.  
Expansion.  
a) linear b) cubical c) superficial d) volume
- v. \_\_\_\_\_ is the pressure exerted by a thrust of 1 newton on a surface of area 1 metre<sup>2</sup>.  
a) 1 newton-metre b) 1-watt c) 1 pascal d) 1 joule
- vi. The action of force moving an object in its applied direction is called \_\_\_\_\_.  
a) energy b) work c) motion d) force
- vii. Energy possessed due its state of rest or motion is called as \_\_\_\_\_ energy.  
a) potential b) mechanical c) kinetic d) gravitational
- viii. Potential energy of a body depends on which two factors?  
a) mass,height b) mass,velocity c) gravity,height d) Energy,mass
- ix. More the \_\_\_\_\_ of the body, higher is its kinetic energy.  
a) height b) speed c) temperature d) density
- x. Work depends on the \_\_\_\_\_ of the applied force.  
a) power b) energy c) magnitude d) speed
- xi. The heat absorbed or rejected, during the change of state is \_\_\_\_\_ heat.  
a) latent b) convection b) radiated c) conduction
- xii. Water \_\_\_\_\_ on heating from 0°C to 4°C.  
a) expands b) contracts c) freeze d) boils

- xiii. The interchange of the left and right sides in the image of an object in a plane mirror is called \_\_\_\_\_.  
a) reflection b) refraction c) lateral inversion d) diffraction
- xiv. \_\_\_\_\_ is the change from vapour state to liquid state at constant temperature by rejecting of heat.  
a) Liquefaction b) Condensation c) Melting d) Freezing
- xv. Thrust on unit area of the earth's surface due to column of air is \_\_\_\_\_ pressure  
a) atmospheric b) liquid c) surface d) solid

### Question-2

**State whether the following statements are true or False (5m)**

*(Also Correct the false statement)*

- i. Water Evaporates only at  $100^{\circ}\text{C}$ .
- ii. The S.I unit of force is kgf.
- iii. The energy possessed by a hot air balloon is kinetic energy.
- iv. Boiling is a rapid phenomenon
- v. Moon is luminous body.

### Question-3

**Complete the analogy (rewrite the statements) (5m)**

- i. Non-Parallel reflected ray : Irregular Reflection : : \_\_\_\_\_ :  
Regular Reflection
- ii. Force : Push-Pull : : Moment of Force : \_\_\_\_\_
- iii. Pyrex : Kitchen Glassware : : \_\_\_\_\_ : Pendulum
- iv. Takes place at all temperature : Evaporation : : \_\_\_\_\_ :  
Boiling
- v. Compressed Spring : \_\_\_\_\_ : : Spring when released :  
Kinetic energy

### Question-4

**Find the odd one out (Also give reason for it) (5m)**

- i. Water, Oil, Milk, Ice.
- ii. Book, pencil, plants, heat.
- iii. Mirror, wood, silver, steel.
- iv. Work, Energy, Power, Force.
- v. N m , dyne cm , kgf, N.



### Question-5

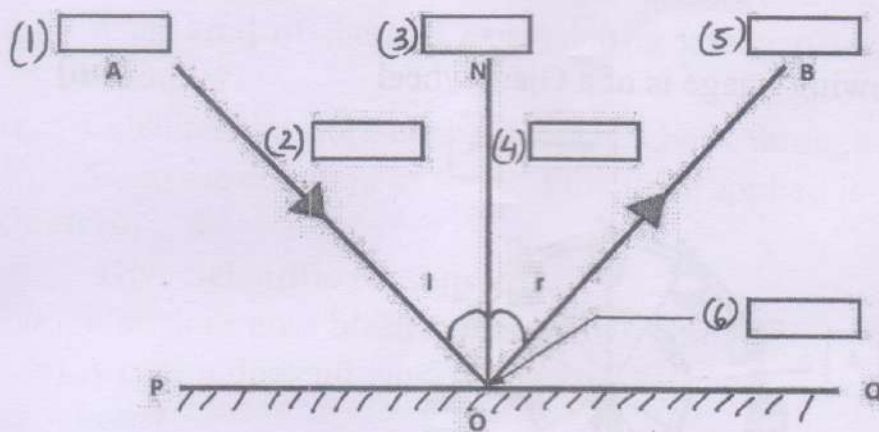
Identify the energy conversion (5m)

- i. What energy conversion happens in an electric toaster?
- ii. What energy conversion takes place in a solar panel?
- iii. What conversion takes place in an Electric Motor of a fan?
- iv. What kind of energy conversion takes place in plants during Photosynthesis?
- v. What Kind of energy conversion takes place in speakers?

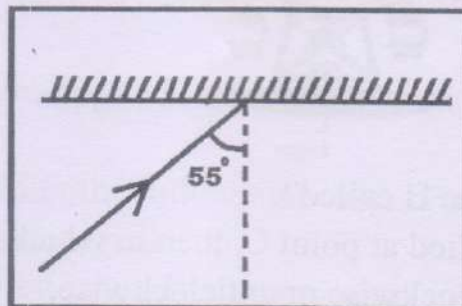
### Question-6

- i. Label the following diagram (Draw the diagram in your answer sheet) (3m)

#### Reflection of Light



- ii. Find the angle of reflection in the following image. (1m)



- iii. If the reflected ray is perpendicular to the incident ray, then what will be the angle of incidence? (1m)

## Section B

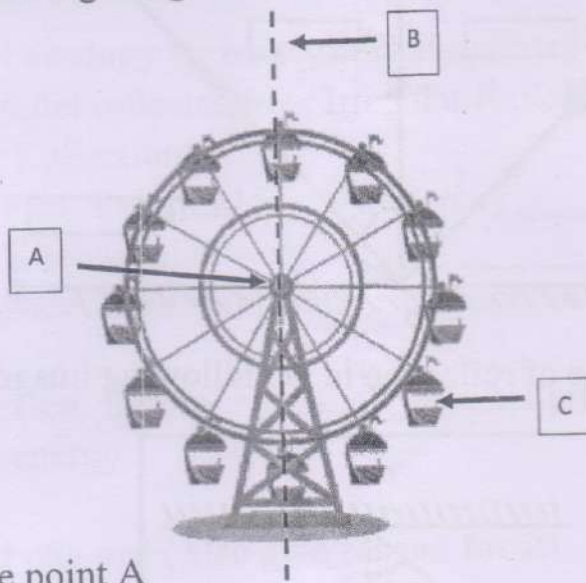
(Attempt all the question given below)

### Question-7

- i. Distinguish between (2 points each) (6m)
- Thrust and pressure.
  - Real Image and Virtual Image.
  - Work and Power.
- ii. In which of the following cases is work being done. (4m)  
(Give reason for your answer)
- Climbing up the stairs.
  - Reading a book.
  - Apple falling from the tree.
  - Car stopped at a traffic signal.

### Question-8

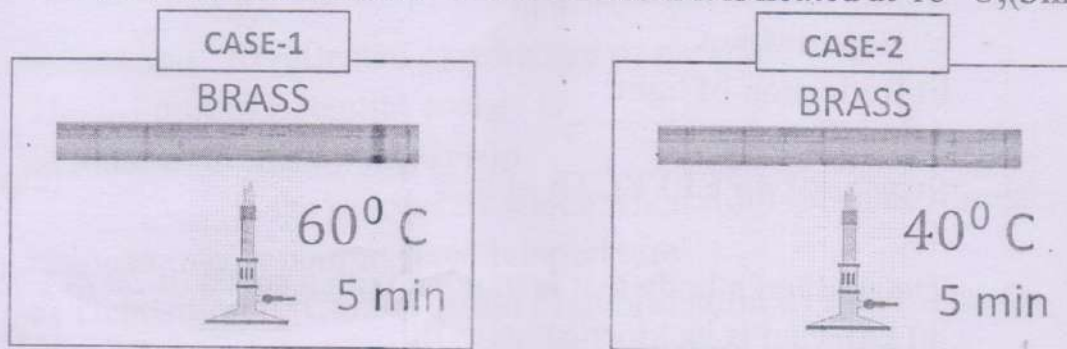
- i. The Following image is of a Giant wheel (3m)



- Name point A
- What is the line B called?
- If force is applied at point C, then in which direction will the wheel move clockwise or anticlockwise.



- ii. A boy opens a nut by applying a force of 150 N using a wrench of length 40cm, find the moment of force. (2m)
- iii. In the following two cases a brass rod is heated for 5 minutes, in case-1 it is heated at  $60^{\circ}\text{C}$  and in case-2 it is heated at  $40^{\circ}\text{C}$ , (3m)



- a) In which case will the brass rod expand more.
- b) State the relationship between temperature and length of the rod.
- c) What kind of thermal expansion is taking place in the above example?
- iv. Calculate the work done in moving a body through a distance of 3m in the direction of force, if the force applied is 300 N. (2m)

**Question- 9**

- i. Give Scientific reasons.
- a) Why does nose bleed occurs at high altitude? (1m)
- b) A coolie does no work while standing with a heavy box on his head? (1m)
- c) A dam has broader walls at the bottom than the top? (1m)
- d) Why do heavy trucks have 6 to 8 tyres instead of the conventional 4 tyres. (1m)?
- e) Why does palm-applied sanitizer evaporate fast? (1m)
- ii. Identify whether the following possess Potential/Kinetic Energy (with appropriate reasons)
- a) Water stored in a raised reservoir at a certain height (1m)
- b) A Swinging pendulum of a clock (1m)
- iii. Explain any 3 factors that affect the rate of evaporation. (3m)

**Question-10**

- i. Enlist **any 4** characteristics of the image formed by a plain mirror. (2m)
- ii. Define the following terms (2m)
  - a) Vaporization.
  - b) Reflection of light.
- iii. State any two **EFFECTS** of heat (2m)
- iv. The mass of a body that is moving with a speed of  $20 \text{ m s}^{-1}$  is 40 kg, what is its kinetic energy? (2m)
- v. If a cup is kept at a distance of 8 cm from the plane mirror and the height of the cup is 10 cm then
  - a) Find the distance between the object and the image (1m)
  - b) Find the height of the image. (1m)