



TEST PAPER: PHYSICS

Time: 70 Minutes

Class: I.C.S.E. 8

Max. Marks: 50 Marks

Date: 26th July 2018

Marking Scheme: All questions carry 10 marks each. Subparts (A) and (B) carry 3 marks each and subpart (C) carries 4 marks.

Question 1:

A. Fill in the blanks:

- i) SI unit of pressure is _____
- ii) Moment of force = _____ x distance of force from the point of turning.
- iii) Pressure in a liquid _____ with the depth.

B. Select the correct alternative:

- i) The density of aluminium is 2.7 g/cm^3 and that of brass 8.4 g/cm^3 . The correct statement is
 - a) Equal masses of aluminium and brass have equal volumes
 - b) The mass of a certain volume of brass is more than mass of equal volume of aluminium
 - c) The volume of certain mass of brass is more than the volume of equal mass of aluminium
 - d) Equal volumes of aluminium and brass have equal masses
- ii) A piece of wood floats on water. The buoyant force on wood will be
 - a) Zero
 - b) More than the weight of wood piece
 - c) Equal to the weight of the wood piece
 - d) Less than the weight of wood piece
- iii) The correct statement is
 - a) The buoyant force on a body is equal to the volume of the liquid displaced by it
 - b) The buoyant force on a body is equal to the volume of the body
 - c) The buoyant force on a body is equal to the weight of the liquid displaced by it
 - d) The buoyant force on a body is always equal to the weight of the body

C. Define and state the SI unit

- i) Force
- ii) Moment of force
- iii) Thrust
- iv) Pressure

Question 2.

A. Match the following:

- | | |
|--------------------|---------------------|
| i) Kg/m^3 | a) relative density |
| ii) No unit | b) floats on water |
| iii) Wood | c) density |

B. Illustrate with proper diagram the following situations

- i) The weight of the body W is greater than the buoyant force F_b
- ii) The weight of the body W is less than the buoyant force F_b
- iii) The weight of the body W is equal to the buoyant force F_b

C. Solve:

- i) A block of glass is 30cm long, 25 cm wide and has a thickness of 2 cm. Find its density if its mass is 7.5kg
- ii) A piece of iron when immersed in water taken in Eureka can displaces 25 ml of water. Its mass is 195 g. Find the density of iron in kg/m^3 .

Question 3.

A. Fill in the blanks:

- i) Molecules of a substance are always in a state of _____ and so they possess _____
- ii) _____ is a process just reverse of melting.
- iii) Evaporation produces _____

B. Solve:

- i) Discuss factors affecting the liquid pressure.
- ii) A solid block of weight 80N and base area 1.6 m^2 is placed on a surface. Calculate the pressure exerted on the surface.

C. Give reasons:

- i) It is easier to swim in sea water than in river water
- ii) A hydrogen filled balloon rises in air

Question 4.

A. Match the following:

- | | |
|---------------------------|------------------------------|
| i) Thrust | a) atm |
| ii) High building | b) N |
| iii) Atmospheric pressure | c) broad and deep foundation |

B. Solve:

- i) What is atmospheric pressure?
- ii) $1 \text{ kgf} = \text{_____ Newton}$
- iii) What is principal of floatation

C. Solve:

- i) Briefly illustrate the variation of density of a liquid with temperature

OR

Why hand flour grinder is provided with a handle near the rim?

- ii) What is a density bottle? How is it used to find the density of a liquid?

OR

The base of the container measures $15 \text{ cm} \times 20 \text{ cm}$. It is placed on a table top. If the weight of the container is 60 N , what is the pressure exerted by the container on the table top?

Question 5.

A. State true or false. If false write the correct statement:

- i) Anticlockwise moment is taken as negative.
- ii) Atmospheric pressure decreases with altitude.
- iii) A body floats on a liquid if its density is more than the density of liquid.

B. Answer:

- i) State three properties of molecules of matter.
- ii) Water in a dish evaporates faster than in a bottle. Give reason.

C. Answer:

- i) A piece of wood of mass 150 gm has a volume of 200 cm^3 . Find the density of wood in:
 - a) CGS unit and
 - b) SI unit.
- ii) State the effect of force F in each of the following diagram:

