ANNUAL EXAMINATION 2025
PRACTICE QUESTION PAPER
PHYSICS

Time :1.30 hr   STD IX   Score : 40

Questions 1- 5. Answer any 4 questions.   (4x1=4)

1. The ability of a medium to influence the speed of light passing through it

   is called the ------- of the medium.

2. We need a --------- to change the state of motion or rest of an object.

3. What does the symbol represent: ⊸WWW⊸ ?

   (cell, switch, bulb, resistor)

4. Find the relationship in the first pair and complete the second pair.

   Veena : strings   ::   Harmonium : -------.

5. Sound is produced by the -------- of objects.

Questions 6 -10. Answer any 4 questions.   (4x2=8)

6. Complete the following flow chart properly
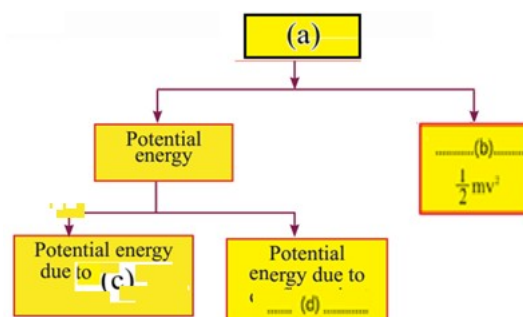
7) Classify the following situations as either inertia of rest or inertia of motion:

  a) A ball rolled on a level floor continues to move forward.

b) A mango falls from the tree when the branch is shaken.

c) Passengers in a bus tends to fall backward when the bus suddenly

accelerates forward.

d) A ball rolled on a level ground continues to move along a straight line for

some more time

8) State whether the following statements are true or false. If false, correct the

underlined portion.

a) The total emf obtained by connecting cells <u>in parallel</u> is equal to the sum of

the emfs of the cells.

b) A voltmeter should be connected in <u>parallel</u> with the device in a circuit.

9) Describe an experiment to prove that sound requires a medium to travel.

10) Observe the figure.

a) Write down what is marked as A and B in the picture.

b) Which part of the ear vibrates first when sound waves enter?

Questions 11-15. Answer any 4 questions.   (4x3=12)

11) Write down the type of potential energy stored in each of the following

situations:

a) Energy of a coconut on top of a coconut tree

b) Energy of a compressed spring

c) Energy of water in a tank located at a height

12) A body of mass of one kilogram has a weight equal to the force of attraction exerted by the earth on the object. (g on Earth = 9.8 m/s², g on Moon = 1.62 m/s²)

a) The mass of an object is 120 kg. Calculate its weight on Earth.

b) What will be the mass of this object on the Moon? What about its weight?
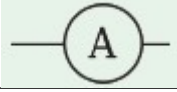
13) Energy is the ability to do work.

a) What is the unit of energy?

b) If 21 calories of heat energy is completely used to do work, how much work will be done?

c) What will be the potential energy of a 5 kg object when it is at a height of 10 m? (g = 9.8 m/s²)

14) Two resistors of 2 Ω and 4 Ω are connected in series with a switch and a 3 V battery.

a) Draw a circuit diagram including a voltmeter and an ammeter in this circuit.

b) Calculate the effective resistance of the circuit.

c) Calculate the current in the circuit.

15) Match the following properly

A	B	C
Cell	To measure current	$-\!\!\text{(A)}\!\!-$
Voltmeter	To measure voltage	$-\!\!\mid\!\!\mid\!\!-$
Ammeter	Source of emf	$-\!\!\text{(V)}\!\!-$

Questions 16 -20. Answer any 4 questions.   (4x4=16)

16) A bus starts from rest and its speed becomes 5 m/s in 10 seconds.

   a) Calculate the acceleration of the bus.

   b) Write down two examples of acceleration experienced in daily life.

   c) Write down two examples of deceleration.

17) Analyse the following situations and write down the reasons for them.

   a)Helium-filled toy balloons rise up in the air, while carbon dioxide-filled

   balloons fall down in the air.

   b) A ship floats and comes up in the water when   cargo is unloaded from the

   ship.

18) The power of machines is expressed in the unit of watt.

   a) What does the term power mean?

   b) How many watt is one horsepower?

   c) If an object with a mass of one quintal is lifted to the top of a 14.92 m high

building in 5 s, what will be the power of the device in horsepower?

(g=10 m/s²)

19) Hearing ability will be reduced if the hearing organ is damaged.

   a) How should we approach people with hearing loss? Write down any two.

   b) What is the device used to detect hearing loss?

 c) What is the electronic device that helps people with hearing loss to

   experience hearing?

20) 1.5 V cells are connected to a voltmeter in various ways.

a)What will be the effective voltage obtained in each method?
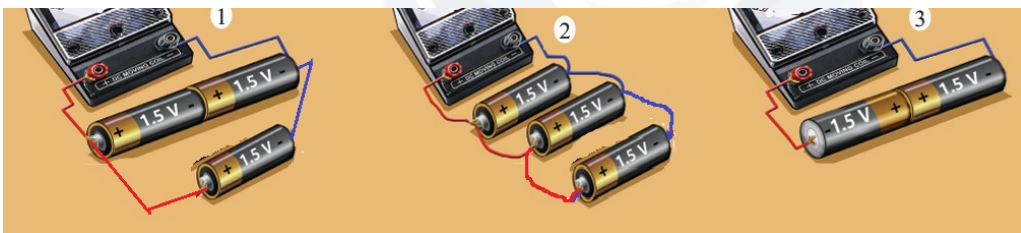
   i)………………. ii) ………………. Iii). ……………

b) Write down any two safety precautions to be used while handling
cells/batteries

****

ANNUAL EXAMINATION 2025- PRACTICE QUESTION PAPER
ANSWER KEY-PHYSICS
STD IX

1) Optical density

2) Unbalanced external force

3) Resistor

4) Reeds

5) Vibration

6) a) Mechanical energy

   b) Kinetic energy

   c) Position

   d) Configuration

7) a) Inertia of motion

   b) Inertia of rest

   c) Inertia of rest

   d) Inertia of motion

8) a) False, The total emf obtained by connecting cells in series is equal to the sum of the emfs of the cells.

b) True. A voltmeter should be connected in parallel with the device in a circuit.

9) Activity of removing air from the bottle and operating the bell - TB page 162

10) a) A - High pressure region B - Low pressure region

   b) Eardrum

11) a) Due to position

   b) Due to configuration

   c) Due to position

12) a) Weight of a 120 kg object on Earth = mg = 120 Kg X 9.8m/s² = 1176 N

b) Mass of the object when it is on the Moon = 120 kg

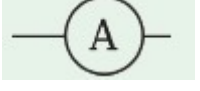Weight of the object when it is on the Moon = 120 X 1.62 = 194.4 N

13) Energy is the ability to do work. a) Joule b) 1 J = 4.2 calories, so 21 calories = 21/4.2 = 5 J c) EP = mgh = 5 x 9.8 X 10 = 490 J

14) a) Circuit diagram

b) R = R₁ + R₂ = 2 Ω + 4 Ω = 6 Ω

c) $I = \dfrac{V}{R} = \dfrac{3}{6} = 0.5 \text{ A}$

15)

A	B	C
Cell	Source of emf	
Voltmeter	To measure voltage	
Ammeter	To measure current	

16) a) Acceleration of the bus a = (v - u)/t = (5 − 0)/10 = 0.5 m/s²

b) The motion of a coconut falling down from a tree.

When a parked bus starts moving.

c) When a stone thrown upwards is moving upwards.

A train about to stop at a station.

17) a) The buoyant force experienced by a helium-filled toy balloon is greater because the weight of the air displaced by the balloon is greater than the weight of the balloon. Therefore, helium-filled balloons rise in the air.

b) When cargo is unloaded from a ship, its weight decreases. Now, the ship only needs to displace the equivalent weight of water. So when the weight decreases, the ship rises in the water.

18) a) Power is the amount of work done per unit time. Or the rate at which work is done.

    b) 746 W

    c) E_p = mgh = 100 X 10 X 14.92 = 14920 J,

      P = W/t = 14920/5 = 2984 W = 2984/746 = 4 Hp

19) Hearing ability will be reduced if the hearing organ is damaged.

    a) Two approaches to be taken with people with hearing loss – TB page No. 166

    b) Audiometer

    c) Hearing aid

20) a) i) 3 V ii) 1.5 V iii) 0

    b) Write any two safety standards to be observed when using cells/batteries. Any two, TB page No 139