

Class 10th ICSE Physics
Mock Test-2 (term-2) 14.04.2022

T.T- 2 Hr

M.M - 40

Answers to this Paper must be written on the paper provided separately you will not be allowed to write during the first 10 minutes

This time is to be spent in reading the question paper the time given at the head of this Paper is the time allowed for writing the answers. Attempt all questions from Section A and any three questions from Section B.

Each question in section A is of 1 mark

Each question in section B is of 10 marks

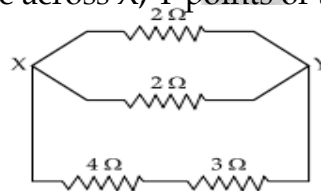
The intended marks for questions or parts of questions are given in brackets ()

SECTION -A
ATTEMPT ALL QUESTIONS

- (i) When resistors are combined in series, then (10)
- Total resistance reduces
 - Total resistance increases
 - Same current flows through each resistor
 - Both (B) and (C)

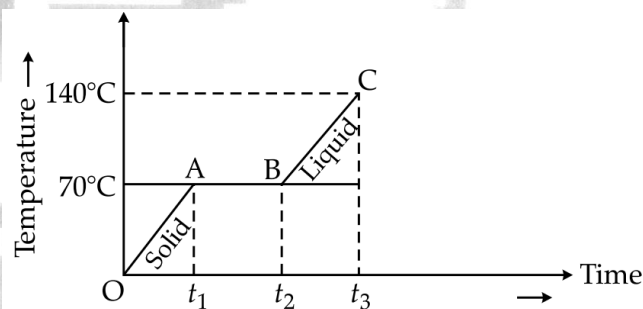
- (ii) The equivalent resistance across X, Y points of the following circuit is

- $7/8 \Omega$
- $8/7 \Omega$
- 10Ω
- 8Ω



- (iii) How Oersted detected the existence of magnetic field developed due to a straight current carrying wire?
- Using a bar magnet
 - Using a solenoid
 - Using an electromagnet
 - Using a compass needle
- (iv) Conventionally, in a 3-pin socket, the _____ pin is for earthing, _____ pin is for live and _____ pin is for neutral.
- Top, right, left
 - Top, left, right
 - Right, top, left
 - Left, top, right
- (v) A dull sound has a _____ pitch and a shrill sound has a _____ pitch.
- Low, High
 - High, Low
 - Low, Low
 - High, High

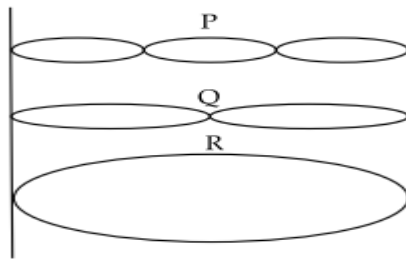
- (vi) Resonance is a
 (a) Simple harmonic motion (b) Free vibration
 (c) Forced vibration (d) Damped vibration
- (vii) Tuning of a radio received is an example of
 (a) Resonance (b) Damped vibration
 (c) Sympathetic vibration (d) Natural vibration
- (viii) Amplitude of damped vibration
 (a) Increases with time. (b) Decreases with time.
 (c) Is constant (d) Fluctuates
- (ix) What is the relation between Kilo calorie and Joule?
 (a) 1 kcal = 1000 J (b) 1 kcal = 4200 J
 (c) 1 kcal = 1 kJ (d) 1 kcal = 4.2 J
- (x) Determine the melting point of the substance from the following heating curve. The melting point of the substance is



- (a) 140 °C (b) 70 °C
 (c) Less than 70 °C (d) More than 140 °

SECTION - B
ATTEMPT ANY 3 QUESTIONS

- Q2. An electric iron is rated '220 V, 1 kW'. Under normal working conditions, find: (10)
 (i) The resistance of the heating element in the iron.
 (ii) The amount of current that will flow through the element.
 (iii) The amount of heat that will produce in 5 minutes.
 (iv) If the line voltage falls to 180 V, the power consumed.
- Q3. Following diagram shows three different modes of vibrations P, Q and R of the same string. (10)
 (i) Which vibration will produce a louder sound and why?
 (ii) The sound of which string will have maximum shrillness and why?
 (iii) State the ratio of wavelength of P and R.
 (iv) State the overtone number of Q



Q4. The substances which disintegrate by the spontaneous emission of α , β or γ radiations, are called the radioactive substances, e.g., uranium, radium, polonium, thorium, actinium, etc. Effect on atomic number (Z) and mass number (A) due to alpha, beta and gamma emissions. (10)

Quantity	α particle emission	β particle emission	γ radiation
Z	Decreases by 2	Increases by 1	No change
A	Decreases by 4	No change	No change

Complete the following reaction: $U_{92}^{238} \rightarrow Th_{90}^{234} + \underline{\hspace{2cm}}$

(a) Alpha (b) β (c) γ (d) proton
 $N_6^{14} \rightarrow N_7^{14} + \underline{\hspace{2cm}}$

(a) Alpha (b) β (c) γ (d) proton
 $n_0^1 \rightarrow e_{-1}^0 + \underline{\hspace{2cm}}$

(a) Alpha (b) β (c) γ (d) proton
 $Rn_{86}^{222} \rightarrow \underline{\hspace{2cm}} + \gamma$

(a) Rn_{86}^{222} (b) Po_{85}^{222}
 (c) Tl_{86}^{224} (d) None of these

Q5. Differentiate between AC and DC (10)
 Magnetic fields of bar magnet and solenoid
 Electromagnet and permanent magnet