

Time Allowed: 3 Hrs

Marks: 65

Note: There are **Three Sections** in this paper i.e. A, B and C. Attempt Section A and return it to the Superintendent within the given time.No marks will be awarded for **Cutting, Erasing and Overwriting**.Mobile Phone is strictly prohibited in Examination Hall.

Time: 20 Minutes

SECTION "A"Marks: 12**Q.1.** Choose the correct option and shade one of (A, B, C, D) in the given **Bubble Answer Sheet**.

- i. The time period of simple pendulum is T. If its length is increased four times its original length, the new time period will be:
 (A) 2T (B) 4T (C) 8T (D) 16T
- ii. The frequency of water waves travelling with a speed of 6ms^{-1} is 3Hz. The wavelength of the waves is:
 (A) 1m (B) 2m (C) 3m (D) 4m
- iii. If the intensity of a sound is 10 times the intensity of faintest audible sound, its intensity level in dB is:
 (A) 0 (B) 10 (C) 20 (D) 30
- iv. An object is placed at a distance of 20 cm from a concave mirror of focal length 15 cm. The image is formed at a distance of:
 (A) 15cm (B) 20cm (C) 30cm (D) 60cm
- v. A ray of incident light is passing through focal point. After refraction through a convex lens, it will travel:
 (A) along focal point (B) parallel to principal axis (C) antiparallel to principal axis (D) perpendicular to principal axis
- vi. If the voltage V across a capacitor is doubled, its capacitance C will be:
 (A) 2C (B) 4C (C) 8C (D) 1C
- vii. Two identical bulbs are connected in series across a voltage source. The addition of a third such bulb to the combination will:
 (A) Increase current (B) Decrease resistance (C) Increase voltage drop across each bulb (D) Increase resistance
- viii. A current carrying conductor placed in a magnetic field will experience no force when placed with respect to (w.r.t) the direction of magnetic field at an angle of:
 (A) 0° (B) 45° (C) 60° (D) 90°
- ix. The function of control grid in electron gun is to:
 (A) emit electrons (B) control intensity of electrons (C) focus electrons (D) accelerate electrons
- x. The programmed instructions that tell your computer what to do is called;
 (A) hardware (B) software (C) human resource (D) transmission
- xi. The half-life of a substance is 4 hours. 25% of the substance will remain undecayed in:
 (A) 2 hours (B) 4 hours (C) 8 hours (D) 12 hours
- xii. Radioactive nuclei ${}_{90}\text{X}^{234}$ decays to ${}_{91}\text{Y}^{234}$. The type of particle being emitted is:
 (A) alpha (B) beta (C) gamma (D) both alpha & beta