

RAWALPINDI BOARD

Physics (New Scheme)

SSC (Part-II)

Time: 1:45 Hours

Note:

Class-10th

(SUBJECTIVE)

(Group-I / A-2022)

New Scheme

Marks: 48

Section I is compulsory. Attempt any Two questions from section II.

SECTION-I

2. Write short answers of any Five parts. (5x2 = 10)
- What is the voltaic pile and who developed it?
 - Prove that $1\text{kWh}=3.6\text{MJ}$.
 - What is meant by electric power? Write its formula.
 - What is meant by MRI?
 - What is meant by mutual induction?
 - How does ATM machine read bank credit card?
 - What are sources of background radiation from environment?
 - Write the beta (β) decay process of ${}^{14}_6\text{C}$ by equation.
3. Write short answers of any Five parts. (5 x 2 = 10)
- Define quality of sound and write an example.
 - Enlist four uses of capacitors.
 - Define Coulomb's Law and write its equation.
 - What are Browsers? Give their two examples.
 - define pitch . On which factor does the pitch of sound depend?
 - Explain application of static electricity with an example.
 - Write the names of components of (CBIS) computer based information system.
 - Differentiate between the primary memory and the secondary memory.
4. Write short answers of any FIVE parts. (5x2 = 10)
- Write the truth table for nand gate.
 - What is mirror formula? Write its mathematical form.
 - Define the power of the lens and write its formula.
 - Whose gate symbol is this? Write truth table for this gate.
$$A \rightarrow \text{NAND} \rightarrow X = \overline{A}$$
 - What are the typical values of voltage and current for thermionic emission for a fine tungsten filament. Explain briefly.
 - Write only names of types of lenses. Differentiate the principal axis and optical center.
 - Find the period of a simple pendulum 1m long where $g = 10\text{ms}^{-2}$.
 - Define damped oscillations. What is the effect of damping force on the amplitude?

SUBJECTIVE PART-II

- Attempt any two questions. (9x2=18)
- 5.(a) What is half-life. Explain it with activity of Radium-226 Also draw a graph.
(b) An electric bulb is marked with 220V, 100W. Find the resistance of the filament of the bulb. If the bulb is used 5 hours daily. Find the energy in kilowatt hours consumed by the bulb in one month(thirty days).
- 6.(a) What is meant by noise pollution? Write its effects and methods to minimized it.
(b) Two charges repel each other with a force of 0.1N. When they are 5cm apart. Find the force between the same charges when they are 2cm apart.
- 7.(a) Define simple harmonic motion. Prove that the motion of mass attached to spring is S.H.M. Draw diagram also.
(b) Find the value of critical angle for water (refracted angle= 90°). The refractive index of water is 1.33 and that of air is 1.