

BISE Lahore — 10th Class Physics — Annual 2024 — Group II — Question Paper

English medium. Objective: 12 MCQs, 12 marks, 15 minutes. Subjective: 48 marks, 1 hour 45 minutes — Part-I: Q.2, Q.3, Q.4 (attempt any 5 of 8 short questions each); Part-II: Q.5, Q.6, Q.7 (attempt any 2; each has parts (a) and (b)).

Question stems below are transcribed from the board paper scans. The full MCQ option sets are as printed on the board paper itself (see the scan sources in sources.md); the answer key with reasons is in solutions.md. Where a question refers to a figure, the figure is part of the printed paper; solutions.md describes it.

Objective (Q.1 — 12 MCQs)

Q.1. A positive electric charge:

Q.2. In case of simple pendulum, which component of weight acts as restoring force:

Q.3. AND gate can be formed by using two:

Q.4. Which is an example of longitudinal waves:

Q.5. The brain of any computer system is:

Q.6. Farsightedness can be corrected by using:

Q.7. Which of the following quantity is not changed during refraction of light:

Q.8. What is the power rating of a lamp connected to a 12 V source when it carries 2.5 A current:

Q.9. The direction of induced emf in a circuit is in accordance with conservation of:

Q.10. We can see sound waves by using:

Q.11. Wave transfers:

Q.12. Which among the following radiations has more penetrating power:

Subjective — Part-I (short questions)

Q.2

(i) Define simple harmonic motion.

(ii) How does damping progressively reduce the amplitude of oscillation?

(iii) What is the difference between cell and battery?

(iv) State Coulomb's law.

(v) Define electric potential and write its unit.

(vi) Two capacitors of capacitance $6\ \mu\text{F}$ and $12\ \mu\text{F}$ are connected in parallel with a 12 volt battery. Find their equivalent capacitance.

(vii) Why does the electric current not pass through an insulator?

(viii) Define specific resistance and write its unit.

Q.3

(i) What is meant by intensity of sound? Write its unit.

(ii) Write the audible frequency range of bats and rats.

(iii) What is meant by echo? Write its one use.

(iv) What is the relation between information technology and telecommunication?

(v) What do you know about INTELSAT and SATCOM?

- (vi)** What is difference between hardware and software?
- (vii)** How can we find the need of phosphate fertilizer for a plant?
- (viii)** How can we monitor the thyroid gland in the human body?

Q.4

- (i)** State the laws of refraction of light.
- (ii)** Describe the types of reflection with diagram.
- (iii)** How is the focal length related to the radius of curvature?
- (iv)** What do magnetic field lines show? Explain.
- (v)** Differentiate between step-up and step-down transformer.
- (vi)** State the principle of an A.C. generator.
- (vii)** Define thermionic emission.
- (viii)** Show that the circuit given below acts as AND gate.

Q.5(a) Write down the characteristics of series combination of resistors with circuit diagram. (4)

Q.5(b) A simple pendulum completes one vibration in two seconds. Calculate its length when $g = 10 \text{ m s}^{-2}$. (5)

Q.6(a) Write name of any four parts of computer based information system and explain them. (4)

Q.6(b) Carbon-14 has a half-life of 5730 years. How long will it take for the quantity of carbon-14 in a sample to drop to one-eighth of the total quantity? (5)

Q.7(a) Define nuclear fusion and explain it. (4)

Q.7(b) A sound wave has a frequency of 2 KHz and wavelength of 35 cm. How long will it take to travel 1.5 km? (5)

Note: Q.5, Q.6, Q.7 long-question prompts appear above under their part headings. This file lists every question in the paper; no question has been added or removed.