

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, PESHAWAR

Higher Secondary School Certificate (H.S.S.C.) Examination

PHYSICS · Inter Part-I (Class XI)

Ref: PR – XI (A-I-A) (24)

Annual Examination 2024

Section B + C: 2 h 40 min

Note: Time allowed for Section-B and Section-C is 2 Hours and 40 minutes.

SECTION - B

Q2: Attempt any TEN parts. Each part carries FOUR marks.

- Explain with examples, the concept of precision and accuracy.
- What is meant by dimension of physical quantity?
- What is Range of projectile? Discuss.
- Why do the golf balls have dimples?
- Is kinetic energy a vector quantity? Explain.
- Why is the fly wheel of an engine made heavy in the rim?
- Discuss with example each of free and forced oscillation?
- Why does a sound wave travel faster in solid than in gases?
- Explain with examples reversible process?
- Explain any two applications of polarized light.
- Discuss 2nd law of thermodynamic.
- Why does smoke rise faster in a chimney on a windy day?
- Explain vector product.

SECTION - C

Note: Attempt any THREE questions. All questions carry equal marks.

- Q14 (a) Explain the concept of apparent weight?
(b) The moon revolves around the earth in almost a circle of radius 382400 km in 27.3 days. What is the centripetal acceleration?
- Q15 (a) Derive an equation for kinetic and potential energy of a body of mass m executing S.H.M.
(b) A mass at the end of a spring describes S.H.M with $T = 0.40$ sec. Find out $\bar{a}$ when displacement is 0.04 m.
- Q16 (a) Explain any two (02) applications of first law of thermodynamics?
(b) The first overtone of an open organ pipe has the same frequency as the first overtone of a closed pipe 3.6 m in length. What is the length of open organ pipe?
- Q17 (a) What is Doppler Effect? Derive expression for frequencies heard:
(i) When the sounding source approaches a stationary listener
(ii) When Listener move towards stationary sounding source
(b) A soap film has a refractive index of 1.40. how thick must the film be, if appears black, when mercury light of wavelength *rest of question not on the scan*

Notes on this transcription

- Objective paper (Section A) not included** — only the subjective sheet was supplied for 2024. Send the Section A sheet and it will be added to this file.
- The scan is cut off at the bottom:** Q17(b) stops at “mercury light of wavelength” — the wavelength value and the end of the question are missing, and the gap is marked rather than filled in. The right edge of the scan also clips the ends of several lines (“40 minutes”, “equal marks”, “radius”, “a body”, “Find out”, “first law of”, “frequency”, “What is the”, “frequencies heard”); these are completed from the obvious word.
- This sheet prints no marks figures for either section or any part; Section B is four marks a part per its instruction. Board wording kept verbatim: “thermodynamic”, “end a spring”, “Listener move”, “if appears black”.