

◆ FBISE · ANNUAL EXAMINATION · 2026 ◆

STUDY BEES

O F F I C I A L



SUBJECT

PHYSICS

HSSC — I | Part One

2 0 2 6

ANNUAL EXAMINATION

GUESS PAPER

SHORT QUESTIONS · LONG QUESTIONS · MOST IMPORTANT TOPICS



IMPORTANT

StudyBees Official

Physics HSSC-I Guess Paper

FBISE2026 • Authentic

CHAPTER 01

LONG QUESTIONS

- Rules for calculating uncertainty in final results (Numerical)
- Dimensions
- Precision and accuracy

SHORT QUESTIONS

- Dimensions (Dimensions of physical quantities + limitations + Advantage + prove equations dimensionally correct + Derive formula by using dimensional analysis)
- Rules for calculating uncertainties in final results (numerical)
- Difference between accuracy and precision
- Difference between error and uncertainty

CHAPTER 02

LONG QUESTIONS

- Dot Product of vectors
- Cross product of vectors

SHORT QUESTIONS

- conceptual questions related to properties of dot and cross product
- Prove that cross product is equal to area of parallelogram or rectangle.
- $A \times B$ is not equal to $B \times A$
- Under what conditions dot product and cross product of two vectors is maximum and minimum?
- Finding vector from components (Numerical)

CHAPTER 03

LONG QUESTIONS

- Projectile motion (time + range + height)
- Elastic collision in one dimension

SHORT QUESTIONS

- Prove conservation of linear momentum
- Two different angles of projection have the same range.
- Maximum range of projectile
- conceptual question on the base of four cases of "Elastic collision in one dimension"

CHAPTER 04

LONG QUESTIONS

- Centripetal force
- Angular momentum
- Artificial gravity

SHORT QUESTIONS

- Relation between linear and angular (displacement, velocity, and acceleration)
- banking of roads
- conservation of angular momentum (conceptual)
- concept of weightlessness

CHAPTER 05

LONG QUESTIONS

- Derivation of Kinetic energy
- Prove that the gravitational field is a conservative field
- Work energy principle

SHORT QUESTIONS

- Prove that area under force displacement graph gives us work.
- Calculate work done by variable force using graphical method
- Difference between conservative and non conservative forces
- What is the efficiency of an ideal machine?
- condition for max, min and negative work.

CHAPTER 06

LONG QUESTIONS

- Bernoulli's Equation
- Equation of continuity
- Terminal velocity
- Venturi meter
- Torricelli theorem

SHORT QUESTIONS

- difference between laminar and turbulent flow
- Why paratroopers attain terminal velocity twice?
- what is Stokes' law
- How can submarine travel over as well as under water?
- What is sphygmomanometer?

CHAPTER 07

LONG QUESTIONS

- Stress strain curve
- Elastic potential energy
- Modulus of elasticity

SHORT QUESTIONS

- difference between crystalline, polycrystalline and amorphous solids
- what is unit cell and crystal structure

CHAPTER 08

LONG QUESTIONS

- Entropy
- First law of thermodynamics + Application
- Refrigerator
- Carnot Engine
- Ideal gas equation

SHORT QUESTIONS

- Difference between reversible and irreversible process
- 2nd law of thermodynamics
- difference between heat engine and refrigerator?

CHAPTER 09

LONG QUESTIONS

- Doppler's effect and its applications
- standing waves in air column
- standing waves in stretched string
- Polarization

SHORT QUESTIONS

- What are the different types of superposition of waves?
- Prove that sound waves produce interference with the help of activity
- Beats
- Resonance in the air column

CHAPTER 10

LONG QUESTIONS

- Coulomb's law
- Potential Gradient

SHORT QUESTIONS

- Electric field intensity
- Electric field lines never cross each other
- Properties of Electric field lines

CHAPTER 11

LONG QUESTIONS

- Potentiometer
- Maximum Power output
- Wheatstone bridge
- Electric potential
- Resistance and effect of temperature on resistance
- Kirchhoff's laws

SHORT QUESTIONS

- LDR
- Electric power (numerical)
- what are thermistors and their uses (NTC & PTC)

CHAPTER 12

LONG QUESTIONS

- Magnetic force acting on moving charge in uniform magnetic field
- Motion of charge particle moving in uniform magnetic field
- Magnetic force between current carrying conductors
- Faraday's law

SHORT QUESTIONS

- Velocity selector
- Magnetic flux through curved or non-uniform magnetic field
- Lenz's law
- Seismometer
- Why does the current carrying conductor experience force in the external magnetic field?

CHAPTER 13

LONG QUESTIONS

- Special theory of relativity (postulates)
- Consequences of special theory of relativity
 1. Principle of simultaneity
 2. Length contraction
 3. Time dilation
 4. Mass variation

SHORT QUESTIONS

- Difference between inertial and non inertial frame of reference
- Principle of simultaneity

CHAPTER 14

LONG QUESTIONS

- Particles decay
- Quarks
- Hadrons
- Leptons
- Force carries
- Particle annihilation

SHORT QUESTIONS

- Difference between fermions and bosons
- difference between beta positive and beta negative decay
- Explain the composition of proton and neutron
- what are elementary particles?
- difference between baryons and mesons?