



BOARD OF SECONDARY EDUCATION KARACHI

MODEL QUESTION PAPER

S.S.C. (ANNUAL) EXAMINATIONS 2021 for IX, 2022 for X & ONWARDS

Total Time: 3 Hours

PHYSICS (THEORY) (Class IX) SCIENCE GROUP

Total Marks: 60

General Instructions:

Section 'A': It consists of 12 Multiple choice questions (MCQs) and all of them are to be answered.

Section 'B': It consists of two parts, Part-I is short theoretical part which consists of 8 Questions out of which 5 to be answered. However, Part-II is numerical part which also consists of 8 Questions out of which 5 to be answered.

Section 'C': It comprises 05 Questions which 03 questions are to be answered.

Section "A" (COMPULSORY) MULTIPLE CHOICE QUESTIONS (MCQ'S)

Time 30 Minutes

(12 Marks)

Note: (i) Attempt all Questions from this section. (ii) Do not copy down the question.

Write only the correct answer against the proper number of the question and its part according to the question paper. (iii) Write the code of your question paper in **bold letters** in the beginning of the answer script.

1. Choose the correct answer for each from the given options:

i. All the Universe follows the laws of:

- * Nature * Physics * Newton * Galileo

ii. The fundamental unit of Thermodynamic temperature in SI system is:

- * Celsius * Fahrenheit * Kelvin * Joule

iii. Rate of change of displacement is called:

- * Speed * Acceleration * Deceleration * Velocity

iv. Which is the best approximation of the weight of an object of mass 800 gram?

- * 88 N * 80 N * 8 N * 0.8N

v. What is the angle between a Vector and its negative Vector:

- * 0° * 90° * 180° * 360°

vi. A cone balanced on its apex is the example of:

- * Unstable Equilibrium * Stable Equilibrium * Dynamic Equilibrium
* Neutral Equilibrium

vii. 1 radian =

- * 57.3° * 1° * 5.73° * 0.573°

viii. $\frac{\text{Joule}}{\text{Second}}$ is the unit of:

- * Energy * Work * Power * Time

ix. An object appears lighter in water because one of the properties of matter:

- * Pressure * Buoyancy * Surface Tension * Viscosity

x. Which material has more specific heat:

- * Iron * Water * Aluminum * Copper

xi. Dr. Abdus Salam was awarded Noble Prize for his work on:

- * Electronics * Radiation * Gravitation * Grand Unification Theory.

xii. All bodies irrespective of their weights are attracted by same acceleration was found by:

- * Isac Newton * Galileo * Cavendish * Coulumb.



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S.S.C. (ANNUAL) EXAMINATIONS 2021 for IX, 2022 for X & ONWARDS

PHYSICS (THEORY) (Class IX)

SCIENCE GROUP

Time Duration: 2:30 hours

Marks: 48

Note: This paper consisting of Short-Answer Questions “B” (Part I & II) and Descriptive Answer Questions (Section “C”) is being given after 30 minutes. Its total duration is 02 hours and 30 minutes only.

SECTION “B” : SHORT-ANSWER QUESTIONS Marks: 30

PART “ I” (Theoretical)

Note: Answer any FIVE (5) questions from this part. (Marks: 15)

- 02 Write three importance of Physics in daily life.
- 03 Define measurement, which is more accurate a Vernier Calliper or a Screw Gauge and why?
- 04 State the laws (i) Law of Inertia (ii) Law of Conservation of Energy. (iii) Hook’s Law
- 05 Write three points of difference between
1- Scalar and Vector 2- Heat and Temperature
- 06 State Two conditions of equilibrium.
- 07 Is it possible for a body to have acceleration when moving with a
1- Constant Velocity 2- Constant Speed
- 08 Prove that Velocity is the ratio of Power and Force.
- 09 Give the scientific reason: (any two)
1- Why an acrobat holds a stick in his hand while walking on rope?
2- Why a needle sinks in water however a large ship floats on surface of water in the sea?
3- Why is rolling friction much less than sliding friction?

PART “ II” (Numerical)

Note: Answer any FIVE (5) questions from this part. (Marks: 15)

- 10 A ball is dropped from a tower. It reaches the ground in 10 second. Calculate the height of tower. ($g=10\text{m/s}^2$)
- 11 A 150gm bullet is fired from 15Kg gun with a velocity of 1000m/s. What is the velocity of recoil of the gun?
- 12 The “X” and “Y” components of a force vector F are 6N and 8N respectively. Find the magnitude and direction of vector F.
- 13 A force is applied perpendicularly on a door 400 cm wide which required a torque of 1200 N-m to open it. What will be minimum force required.
- 14 A string 2m long used to whirl a 200gm stone in horizontal circle at a speed of 2m/s. Find the tension in string.
- 15 How much work is done to displace horizontally a body 400 cm by a force of 200N, whose angle with horizontal is 30°
- 16 Find the pressure exerted by a 450N women putting all her weight on to one heel of area 2cm x 2cm
- 17 0.5 Kg of copper needs 1905 J of heat to raise its temperature through 10°C . Calculate the heat capacity of the sample.

SECTION “C” : DESCRIPTIVE-ANSWER QUESTIONS Marks: 18

Note: Answer any THREE (3) questions from this section. All questions carry equal marks.

- 18 What is Kinematics? Derive the relation $V_f^2 = V_i^2 + 2aS$
- 19 Derive the relation for Tension in string and acceleration of the bodies when two bodies of different masses are attached with the string which passes over a frictionless pulley such that both the bodies are moving vertically.
- 20 State Law of Universal Gravitation. Determine the mass of Earth using Law of Gravitation.
- 21 Write down the principle, construction, working and use of the hydraulic lift.
- 22 Define coefficient of Linear expansion and Show that $\alpha = \frac{1}{3} \beta$