Roll No. ______ (امیدوار خود پر کرے)

Physics — فزکس

SSC (9th) 1st Annual 2023

Paper : I — پرچہ : I

Group : I — گروپ : I

Objective — معروضی (ii)

Time : 15 Minutes — وقت : 15 منٹ

Marks : 12 — نمبر : 12

Paper Code: 5 4 7 3

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Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number in your answer book. Use marker or pen to fill the circles. Cutting or filling up two or more circles will result no mark.

SECTION-A حصہ اول

Q.1	Questions / سوالات	A	B	C	D
1.	Rate of doing work is called:	Power	Torque	Energy	Momentum
2.	Two equal but unlike parallel forces having different lines of action produce:	A torque	A couple	Equilibrium	Neutral equilibrium
3.	A body satisfies second condition for equilibrium if:	$\sum W = 0$	$\sum P = 0$	$\sum F = 0$	$\sum \tau = 0$
4.	The orbital speed of a low orbit satellite is:	Zero	$8\ ms^{-1}$	$8000\ ms^{-1}$	$800\ ms^{-1}$
5.	By dividing displacement of a moving body with time we obtain:	Speed	Velocity	Acceleration	Deceleration
6.	Newton's first law of motion is valid only in the absence of:	Net force	Force	Friction	Momentum
7.	Least count of digital vernier callipers is:	1 mm	0.1 mm	0.001 mm	0.01 mm
8.	0.00580 km has significant figures:	5	2	3	4
9.	What will be the value of β for a solid for which α has a value of $2 \times 10^{-5}\ K^{-1}$?	$2 \times 10^{-5}\ K^{-1}$	$8 \times 10^{-15}\ K^{-1}$	$8 \times 10^{-5}\ K^{-1}$	$6 \times 10^{-5}\ K^{-1}$
10.	In gases heat is mainly transferred by:	Molecular collision	Conduction	Convection	Radiation
11.	The SI unit of pressure is Pascal, which is equal to:	$10^{4}\ Nm^{-2}$	$1\ Nm^{-2}$	$10^{3}\ Nm^{-2}$	$10^{1}\ Nm^{-2}$
12.	According to Hook's law:	stress × strain = constant	constant = $\frac{stress}{strain}$	constant = $\frac{strain}{stress}$	stress = strain

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Note: Section B is compulsory. Attempt any two (2) questions from Section C.

SECTION-B

2. Write short answers to any five parts. (5x2=10)

i. Define atomic and nuclear physics.

ii. How is precision related to the significant figures in a measured quantity?

iii. What is meant by vernier constant?

iv. Differentiate between vectors and scalars.

v. What is meant by uniform speed?

vi. Define retardation.

vii. What would happen if all friction suddenly disappears?

viii. What is meant by banking of the road?

3. Write short answers to any Five parts. (5x2=10)

i. Differentiate between stable and neutral equilibrium.

ii. Differentiate between torque and couple.

iii. Write down second condition for equilibrium.

iv. Why are communication satellites stationed at geostationary orbits?

v. What is field force?

vi. What are artificial satellites?

vii. Define wind energy.

viii. What is meant by magma?

4. Write short answers to any five parts. (5x2=10)

i. Where is Pascal's Law applied?

ii. What is stress? Write down its unit.

iii. What is elastic limit?

iv. What is meant by internal energy of a body?

v. What is a thermometer?

vi. How does heat reach us from the Sun?

vii. Define rate of flow of heat.

viii. Differentiate between conductor and insulator.

SECTION – C

Note: Attempt any TWO questions. Each question carries nine (9) Marks.

5. (a) State Newton's 2nd Law of Motion. Also derive its mathematical equation. (4)

(b) A car starts from rest. Its velocity becomes 20 ms^{-1} in 8 seconds. Find its acceleration. (5)

6. (a) Define kinetic energy and derive an equation for it. (1+3)

(b) A force is acting on a body making an angle of 30° with the horizontal. The horizontal component of the force is 20 N. Find the force. (5)

7. (a) Define and explain latent heat of fusion. (4)

(b) The head of a pin is a square of side 10 mm. Find the pressure on it due to a force of 20 N. (5)

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