Roll No(figures)_____
(In words) _____

P-52
ESKP-09XVI01
PHYSICS
9th (New Course)

_____
Superintendent Signature

Time: 3 hours

Marks: 65

Note: There are three sections in the paper i.e. A,B&C. Attempt Section-A and return it to the Superintendent within the given time. No mark will be awarded to cutting, erasing & overwriting. Mobile phones are strictly prohibited.

Time: 15 mints **SECTION-A** **Marks: 12**

QNo1: There are four possible answers (A,B,C,D) for each question. Select the correct one and write it in the answer box.

i. A digital stop watch has an accuracy of upto _____ second. **B**

a) 0.1 b) 0.01 c) 0.001 d) 0.2

ii. Which one of the following is not a derived quantity? **A**

a) Time b) Density c) Volume d) Area

iii. Which one of the following is a vector quantity? **C**

a) Charge b) Volume c) Velocity d) Speed

iv. The rate of change of velocity is called _____. **A**

a) Acceleration b) Displacement c) Speed d) Distance

v. Which one is the unit of weight? **A**

a) Newton b) Kilogram c) Meter d) ms^{-1}

vi. Anti-clock wise torque is taken _____. **B**

a) Negative b) Positive c) Parallel d) Zero

vii. The centripetal force is given by equation _____. **D**

a) $F_c = \frac{mv}{r}$ b) $F_c = \frac{m^2v^2}{r^2}$ c) $F_c = \frac{mv}{r}$ d) $F_c = \frac{mv^2}{r}$

viii. The value of "g" at the centre of earth is _____. **D**

a) Maximum b) ½ g c) ¼ g d) Zero

ix. The rate of doing work is defined as _____. **C**

a) Energy b) Force c) Power d) Momentum

x. The density of mercury in kgm^{-3} is _____. **D**

a) 1000 b) 2000 c) 6000 d) 13600

xi. The temperature of a normal human body is _____. **D**

a) 32°F b) 89°F c) 0K d) 37°C

xii. Which one of the following is the best heat conductor? **A**

a) Copper b) Tin c) Soft iron d) Aluminium

PHYSICS

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Note: Time allowed for Section – B & C is 2:45 hours.

SECTION – B

Marks: 32

Q2: Answer any EIGHT parts of the following. Each part carles equal marks.

i. Why area is called a derived quantity?

ii. Define rest and motion.

iii. Differentiate between Mass and weight.

iv. What is meant by Rolling Friction?

v. What is the acceleration produced by a force of 10N exerted on an object of 3000g?

vi. Explain why door handles are not put near hinges?

vii. State law of universal gravitation?

viii. Define work and energy.

ix. State and explain Hooke's law.

x. What is elasticity? Explain.

xi. Write note on clinical thermometer.

SECTION – C

Marks: 21

Note: Attempt any THREE of the following. All questions carry equal marks.

Q3. (a) Define physics. Describe main branches of physics.

(b) Explain different types of motion.

Q4. (a) State and explain Newton's laws of motion.

(b) What force would be needed to produce an acceleration of 10 m/s^2 in a ball of mass 0.5kg?

Q5. (a) State and explain centripetal force.

(b) Calculate the mass of a body when a force of 700N produces an acceleration of 12.5 m/sec^2?

Q6. (a) Define kinetic energy. Prove that K.E. = $\frac{1}{2} mv^2$.

(b) A bullet of mass 30g travels at a speed of 1500m/sec. Calculate its kinetic energy.

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