ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

PHYSICS THEORY CLASS IX

TOTAL: 60 MARKS **TOTAL TIME: 2 HOURS**

SECTION A (30 MARKS)

THIS SECTION CONSISTS OF 15 MULTIPLE CHOICE QUESTIONS. EACH QUESTION CARRIES TWO MARKS.

01. ***Choose the correct answer from the given options:***

i. *Work done is always equal to:*

**displacement* **acceleration* **power* **energy possessed*

ii. *Which one of the following is a derived quantity?*

**mass* **density* **length* **time*

iii. *A paratrooper after opening of his parachute experiences:*

**retardation* **acceleration* **equilibrium* **none*

iv. *If the radius of a circular arc is double, the centripetal force acting on the body moving on it will also be:*

**Doubled* **Four times* **One fourth* **One half*

v. *A 25 N force acts along the x-axis. Its y-component is*

** 0 N* ** 2.5 N* ** -25 N* ** None of the above*

vi. *If two forces of 3N and 4N are acting on a body at 90^o with each other, the magnitude of resultant force will be:*

**1N* **5N* **7N* **12N*

vii. *The only Scalar quantity is:*

**Displacement* **Force* **Speed* **Velocity*

viii. *kg-m/s² can also be expressed as:*

**joule* **Newton* **watt* **Newton sec*

ix. *Power is defined as:*

** Rate of doing Work* ** Rate of change of Position*

** Rate of change of Velocity* ** Rate of change of Momentum*

x. *Unit of light intensity is:*

**N/m²* **Volt* ** Candela* **Joule*

xi. *If the velocity of a moving body decreases by equal amounts in equal intervals of time, however small they may be the acceleration of a body is said to have.*

** Uniform and negative* ** uniform and positive*

** mutually perpendicular* ** zero*

xii. *A body is said to be in equilibrium if it is moving with:*

** Uniform velocity* ** Uniform acceleration* ** Variable velocity* ** None of these*

xiii. *If a stone is tied to the end of a string and whirled in a circle, the tension in the string provides*

** Centripetal fore* ** Centrifugal force* ** Pressure* ** Reaction*

xiv. *If the uniform speed of a body moving in a circle is doubled, its centripetal force become*

** Twice* ** Three times* ** Four times* ** Eight times*

xv. *Heat is a form of:*

** Energy* ** Power* ** Force* ** Momentum*

SECTION B (SHORT ANSWER QUESTIONS) (18 MARKS)

Attempt any six questions from this section. Each question carries three marks

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02. Describe Newton's third law of motion with two examples.

OR

03. Derive a relation to find out the mass of earth with the help of Newton's Universal Law of Gravitation.

04. Define **i)** Torque **ii)** Centre of gravity **iii)** One Newton

OR

05. Define resolution of vector and write down two formulae of rectangular components.

06. Describe the three states of equilibrium.

07. Describe three methods of reducing friction.

OR

Define work give its formula and unit

08. Define centripetal acceleration and how many factors at which it depends

09. A force of 5 N is applied on an object of mass 0.1 Kg for 5 seconds. Find the work done?

OR

A stone is dropped form a tower. It reaches the ground in 5 seconds. Calculate the height of the tower.

10. A lift carrying 120 kg weight of bricks travels to the top of a building 10 m high. Calculate the energy used.

11. A car moving with a uniform acceleration attains a speed of 36 km/hr in 2 minutes; find the acceleration of the car.

OR

A stone of 200 gm mass tied to one end of a string of length 50 cm is whirled from the other end in a circle with the constant

SECTION C (DESCRIPTIVE-ANSWER QUESTIONS) (12 MARKS)

Attempt any 2 questions from this section. Each question carries 6 marks

12. Derive the equation $S = V_i t + \frac{1}{2} a t^2$

13. Define potential energy and give two point of difference between kinetic energy and potential energy

14. Define Thermal expansion. Also prove β=3α

15. State Pascal's Law. Also describe the construction and working of hydraulic lift with the help of diagram.