Fr. Agnel School

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1st Unit Test Exam

Std. : 9th **Sub : Science - I** **Total Marks : 20**

Q.I. Choose the correct option and rewrite the statement: **(5)**

1) A body is said to be in motion if it changes its _____ with respect to the surroundings.
   a. Force b. Position c. Acceleration d. Velocity
2) Joule is the unit of _____.
   a. Force b. Work c. Power d. Energy
3) While dragging or lifting an object negative work is done by _____.
   a. the applied force b. Gravitational force
   c. frictional force d. Reaction force
4) The working of rocket depends on Newton's _____ law of motion.
   a. First b. second c. third d. fourth
5) The SI unit of force is ____.
   a. Newton b. Dyne c. Calorie d. Kelvin

Q.II. Answer the following questions. (Any 2) **(4)**

1) Write the differences between Distance and Displacement.
2) Explain the difference between Potential energy and Kinetic energy.
3) A person swims 100m in the first 40s, 80m in the next 40s and 45m in the last 20s. What is the average speed?

Q.III. Answer the following questions. (Any 2) **(6)**

1) An object with mass of 16kg is moving with an acceleration of $3m/s^2$. Calculate the applied force. If the same force is applied On an object of mass 24kg, how much will be the acceleration?
2) Ravi applied a force of 10N and moved a book 30cm in a direction of the force. How much was the work done by Ravi?
3) Derive the formula for the kinetic energy of an object of mass m, Moving with velocity v.

Q.IV. Answer the following questions. (Any 1) **(5)**

1) i) Give scientific reasons: It is easier to stop a tennis ball as compared to a cricket ball, when both are travelling with the same velocity. **(3)**
   ii) Write the formula for: **(2)**
   a) Acceleration
   b) Velocity
2. i) The velocity of a car increase from 54km/hr to 72km/hr. How much is the work done if the mass of the car is 1500kg? **(4)**
   ii) Define Power **(1)**