Delhi Public School, Jammu

Assignment for Periodic Test-1(2017-18)

Class: 9th

Subject: Physics

Chapters covered:

1. **Motion**
2. **Force and Laws of motion.**

Section (A) (1 mark each)

Q1:- Name the device used in vehicles to measure speed and distance.

Q2:- Define uniform circular motion.

Q3:- Give SI unit of average velocity and retardation.

Q4:- What is the significance of slope in velocity time graph?

Q5:- Give formula for velocity in uniform circular motion.

Q6:- A player catching a moving ball moves his hand backwards, why?

Q7:- Why it is advised to tie any luggage kept on the roof of a bus with a rope?

Q8:- What are balanced forces?

Q9:- What is the significance of Newton's 3rd law of motion?

Q10:- Prove that 1N=10^5dyne.

Section (B) (2 marks each)

Q11:- Give difference between uniform and non-uniform motion with example.

Q12:- Define average velocity and give formula for it.

Q13:- Define momentum and also give its SI unit.

Q14:- Explain why Newton's 2nd law is considered as real law?

Q15:- Define impulse and give formula for it.

Q16:- Find the ratio of momentum of two bodies A and B of masses 'm' and '4m' respectively moving with same velocity?

Q17:- An athlete complete one round of a circular track of diameter 49m in 20s. Calculate the distance and displacement at the end of 30s.

Section (C) (3 marks each)

Q18:- (a) Give difference between uniform circular motion and uniform linear motion.

(b) Under what condition displacement is zero?

Q19:- Define inertia and explain its type with example.

Q20:- State and prove law of conservation of linear momentum.

Q21:- A truck of mass M is moved under a force F. If the truck is then loaded with an object equal to the mass of the truck and the driving force is halved, then how does the acceleration change?

Q22:- A bullet of mass 10g is fired with a velocity of 400ms^{-1} from a gun of mass 4kg. What is the recoil velocity of the gun?

Q23:- How much momentum will an object of mass 10kg transfer to the floor if it falls from a height of 0.8m?

Section (D) (5 marks each)

Q24:- Derive all equations of motion by graphical method.

Q25:- (a) Define force and give its SI unit.

(b) If a body is in motion, is it necessary that it is being acted upon by a force? Give reason.

(c) State and explain Newton's 2nd law of motion with example.