**Forces and Laws of Motion**

**Practice Paper 2**

1. What is the other name of Newton’s first law of motion
2. State Newton’s first law of Motion?
3. What is the S.I. unit of weight?
4. If the friction acting on the body is more the body will move:-

(a) More speedily (b) Less speedily

(c) Same speed (d) None of these

1. State Newton’s second law of motion and derive it mathematically?
2. Which equation defines Newton’s Second law of motion?

(a) F = ma =$\frac{dp}{dt}$(b) F = m$\frac{da}{dt}$ =P

(c) $\frac{df}{dt}=ma=P$ (d) F = ma = P

1. A body of mass 5Kg starts and rolls down 32m of an inclined plane in 4s. Find the force acting on the body?
2. With what speed must a ball be thrown vertically up in order to rise to a maximum height of 45m? And for how long will it be in air?
3. A bullet travelling at 360 m/s; strikes a block of soft wood. The mass of the bullet is 2.0g. The bullet comes to rest after penetrating 10cm into the wood?

a) Find the average deceleration force exerted by the wood.

b) Find the time taken by the bullet to come to rest.

1. A body of mass 10Kg starts from rest and rolls down an inclined plane. It rolls down 10m in 2S?

a) What is the acceleration attained by the body.

b) What is the velocity of the body at 2S?

c) What is the force acting on the body?