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**SUBJECT:- PHYSICS**

**CLASS:- IXTH**

**DATE:07/10/XX**

**SUBJECT TEACHER:- MR. NEEL NIRANJAN**

**CHAPTER 3. (GRAVITATION REVISION)(BASED ON NCERT PATTERN)**

**Q1.** What is the acceleration-of free fall?

**Ans.** The acceleration of free fall is; when the Body falls due to earth's gravitational pull, its velocity changes and is said to be accelerated due to .the earth's gravity and it falls freely called as free fall. This acceleration is calculated to be  $9.8 \text{ m/s}^2$ .

**Q2.** What do we call the gravitational force between the earth and an object?

**Ans.** The gravitational force between the earth and an object is called force due to gravity.

**Q3.** Amit buys few grams of gold at the poles per the instruction of one of his friends. He hands over the same when he meets him at the equator. Will the friend agree with the weight of gold bought? If not, why?

**Ans.** Weight of the body is given by the formula ,  $W = mg$

It depends on the value of 'g' i.e., acceleration due to gravity.

The weight of gold at poles =  $W_p = m \times g$  (poles)

Value of g at poles is more than the value of g at equator.

The weight of gold at equator =  $W_e = m \times g$  (equator)

$$\therefore W_p > W_e.$$

The weight at pole of the same gold is found to be more as compared to the weight at the equator.

**Q4.** Why will a sheet of paper fall slower than one that is crumpled into a ball?

**Ans.** A sheet of paper has larger surface area and while falling down it has to overcome the force exerted by air/wind. current, called as air resistance.

The crumpled paper has smaller surface area and it has to overcome very less amount of air current.

**Q5.** What do you mean by free fall?

**Ans.** Whenever an object falls toward earth under the force of gravity one and no other force is present, the motion of object is said to be "free fall".