VIVEK TUTORIALS

Practice Test

Std: SSC (E.M)	Subject: Science & Technology I	Time: 1Hrs
Date : 17/Jun/2019	Chapter 1	Max Marks: 30

Q.1 (A) Attempt the following: **4**

(1) Fill in the blanks: **1**

The sum of the distances to the two focal points from every point on the curve is _____

(2) Name the following: **1**

Amount of matter present in an object.

(3) Complete the correlation: **1**

G: 6.67×10^{-11} Nm²/kg²:g: ---------

(4) Write True or False **1**

Newton postulated the inverse square law of gravitation.

(B) Choose the proper alternative and fill in the blanks: **4**

(1) The square of its period of revolution around the Sun is _____ to the cube of the mean distance of a planet from the sun.
(a) inversely proportional   (b) directly proportional
(c) not proportional   (d) does not depend

(2) A force acts on any object moving along a circle and it is directed towards the centre of the Circle is called the_____.
(a) Centripetal force   (b) Centrifugal force
(c) Gravitational force   (d) Free fall

(3) Kepler's third law states:
(a)The line joining the planet and the Sun sweeps equal areas in equal intervals of time.
(b) The orbit of a planet is an ellipse with the Sun at one of the foci.
(c)The square of its period of revolution around the Sun is directly proportional to the cube of the mean distance of a planet from the Sun.
(d) None of these

(4) The value of G was first experimentally measured by _____.
(a) Henry Cavendish.   (b) Hund
(c) Sir Isaac Newton   (d) Thomson

Q.2   Answer the following: **8**
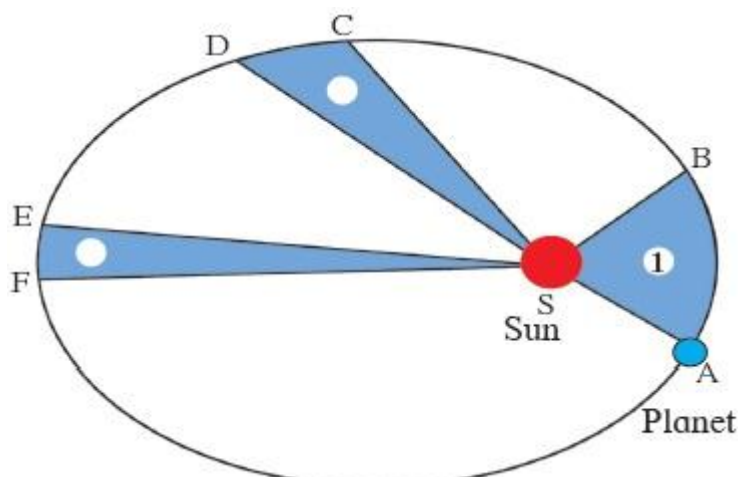
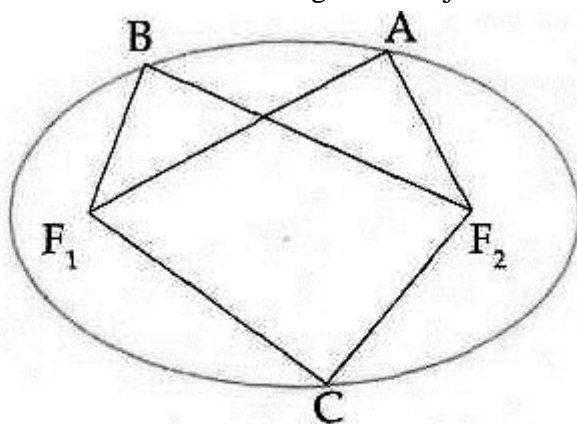**(1)** Observe the following figure and answer the question:

In a given figure, area ESF is equal to ASB then what would be the property of EF?

(2) Will the direction of the gravitational force change as we go inside the earth?

(3) What are the effects of a force acting on an object?

(4)

$$AF_1 + AF_2 = \boxed{} = \boxed{}$$

Q.3   Answer the following in brief: **9**

(1) Is there a gravitational force between two objects kept on a table or between you and your friend sitting next to you? If yes, why don't the two move towards each other?

(2) If the value of g suddenly becomes twice its value, it will become two times more difficult to pull a heavy object along the floor. Why?

(3) What would be the value of g on the surface of the earth if its mass was twice as large and its radius half of what it is now?

Q.4   Attempt the following: **5**

Write the three laws given by Kepler. How did they help Newton to arrive at the inverse square law of gravity?

-------- All the Best --------