TEST – 4 (PROBABILITY & CONSTRUCTION)

I. *One spark, One Mark:*

1. If the probability of occurrence of an event is p then the probability of non-happening of this event is

   (i) p-1 (ii) 1-p (iii) p (iv) $1 - \frac{1}{p}$

2. Which of the following cannot be the probability of an event?

   (i) 1.5 (ii) 0.3 (iii) 25% (iv) $\frac{3}{5}$

3. Two coins are tossed simultaneously. What is the probability of getting at least one head?

4. How many tangents we can construct to a circle from a point outside of the circle.

5. The sum of probabilities of all the outcomes of an experiments is -------

II. Do correctly, Two directly:

1. In a family of 3 children, find the probability of having at least one boy.

2. Two different dice are rolled simultaneously. Find the probability the (i) the number on each die is even (ii) the sum of the numbers appearing on the two dice is 5.

3. Divide a line segment 6cm long in the ratio 4:3

III. Do with care, three marks in your chair:

1. Construct a Δ ABC with BC=7cm, ∠B = 60 °and AB =6cm. Construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of ΔABC.

2. Construct a Δ ABC with AB =6.5cm, BC = 5.5cm and ∠B = 60 °. Also, Construct a similar triangle whose sides are $\frac{3}{2}$ times the corresponding sides of ΔABC.

Test (Probability & Construction**)**

I. Do correctly, Two directly: Section – A (4x2=8marks)

1. A die is thrown. What is the probability of getting a multiple of 2 or 3?
2. In a cricket match, a batsman hits the boundary 5 times out of 40 balls played by him. Find the probability that the boundary is not hit by the ball.
3. Divide a line segment 7.6cm long in the ratio 5:8
4. Construct a triangle of sides 4cm,5cm and 6cm and then a triangle similar to it whose sides are 2/3 of the corresponding sides of the first triangle.

III. Do with care, three marks in your chair: Section –B(4x3=12marks)

1. A card is drawn at random from a deck of cards. Find the probability that the card drawn is (i) a card of spades or an ace (ii) neither jack nor a king (iii) Either a king or a queen.
2. Construct a Δ ABC with BC=7cm, ∠B = 60° and AB =6cm. Construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of ΔABC.
3. A card is drawn from a well shuffled deck of cards.

Contextual question (3 Marks)

Find the probability of drawing

i. a king of red colour
ii. The queen of diamonds
iii. neither a king nor a queen

Value based Question: (1 Mark)

Assuming king and queen to be parents, why must students obey the parents?

4. Draw a pair of tangent to a circle of radius 5cm which are inclined to each other at an angle of 60°