Maths Revision Test 2

Time: 60 mins

Max Marks : 37

Q1.

(a) Two tankers contain 850 litres and 680 litres of water respectively. Find the maximum capacity of container which can measure the water of either tanker in exact number of times. 2 mark

(b) Using Euclid's division algorithm, find the HCF of 4052 and 420. 2 mark

(c) Show that reciprocal of $3 + 2\sqrt{2}$ is a irrational number.

2 marks

Q2. Find the zeroes of the quadratic polynomial $3x^2 – 2$ and verify the relationship between zeroes and coefficients.

3 marks

Q3. Determine

A) Obtain all other zeroes of the polynomial $x^4 – 4x^3 –2x^2 -20x -15$, if two of its zeroes are $\sqrt{5}$ and $-\sqrt{5}$.

B) If α and β are the zeroes of $x^2 + 6x + 9$ then form the polynomial whose zeroes are - α and –β.

C) On dividing the polynomial $4x^4 – 5x^3 -39x^2 – 46x-2$ by the polynomial g(x) , the quotient and remainder were $x^2 -3x -5$ and $-5x + 8$ respectively. find g(x). .

9 marks

Q4 If $\text{cosec}\theta + \cot\theta = c$, then find the value of $\text{cosec}\theta – \cot\theta$. 1 mark

Q5 If $\sin\theta = 12/13$ $0<\theta<90$, find the value of $(\sin^2\theta-\cos^2\theta)/2\sin\theta\cos\theta * 1/\tan^2\theta$.

3 marks

Q5 A bird is sitting on the top of a 80m high tree. From a point on the ground, the angle of elevation of the bird is 45º. The bird flies away horizontally in such a way that it remained at a constant height from the ground. After 2 seconds, the angle of elevation of the bird from the same point is 30º. Find the speed of flying of the bird.

4 marks

Q6.

Find 'p' if the mean of the given data is 15.45.

Class	Frequency
0 – 6	6
6 – 12	8
12 – 18	*p*
18 – 24	9
24 – 30	7

3 marks

Q7.

The median of the distribution given below is 14.4.Find the values of the x,y.if the sum of frequency is 20.

Class Interval	Frequency
0 – 6	4
6 – 12	*x*
12 – 18	5
18 – 24	*y*
24 – 30	1

4 marks

Q8. The angle of elevation of the top Q of a vertical tower PQ from a point X on the ground is 60º. From a point Y, 40m vertically above X, the angle of elevation of the top Q of the tower is 45º. Find the height of the tower PQ and the distance PX.

4 marks