

Maths Revision Test 5

Time: 60 mins

Max Marks : 40

Q1.

- (a) The LCM and HCF of two numbers are 240 and 12 respectively. If one of the numbers is 60, then find the other number.

2 marks

- (b) Without actually performing the long-division, state $\frac{129}{2^2 \cdot 5^3}$ will have a terminating or non-terminating repeating decimal expansion.

2 marks

- (c) If $\text{HCF}(6, a) = 2$ and $\text{LCM}(6, a) = 60$, then find a.

2 marks

Q2. Show that one and only one of n , $n + 2$ and $n + 4$ is divisible by 3.

3 marks

Q3. Determine

- A) If α and β are the zeroes of a quadratic polynomial $x^2 + x - 2$ then find the value

of $\left(\frac{1}{\alpha} - \frac{1}{\beta}\right)$.

- B) Find the cubic polynomial whose zeroes are 5, 3 and -2 .
C) The sum of the digits of a two digit number is 12. The number obtained by interchanging the two digits exceeds the given number by 18. Find the number.
D) For what value of k will pair of equations have no solution?

$$3x+y=1, (2k-1)x+(k-1)y=2k+1$$

12 marks

Q4 If $\sin A=1/2$, then find the value of $\cos A$ 1 mark

Q5 If $\cos\theta+\sin\theta=\sqrt{2}\cos\theta$, show that $\cos\theta-\sin\theta=\sqrt{2}\sin\theta$.

3 marks

Q5 An airplane, when flying at a height of 4km from the ground passes vertically above another airplane at an instant when the angles of elevation of the two planes from the same point on the ground are 60° and 45° respectively. Find the vertical distance between the aero planes at that instant.

4 marks

Q6. Solve for x and y.

$$\frac{5}{x-1} + \frac{1}{y-2} = 2 \text{ and } \frac{6}{x-1} - \frac{3}{y-2} = 1 \quad [\text{Where } x \neq 1, y \neq 2]$$

3 marks

Q7. Some students of class 8 donated for the welfare of elderly persons.

Their contributions are shown in the following frequency distributions:.

Amount (in ₹)	0-20	20-40	40-60	60-80	80-100
No. of students	5	8	12	11	4

Find median and mode for their contribution.

4 marks

Q8. 2 women and 5 men can together finish an embroidery work in 4 days, while 3 women and 6 men can finish it in 3 days. Find the time taken by 1 woman alone to finish the work, and also that taken by 1 man alone.

4 marks