Section A (10 Marks)

1. Solve the following quadratic equations by factorization:

    - a) $x^2 - 7x + 12 = 0$
    - b) $2x^2 + 7x + 3 = 0$

2. Solve the following quadratic equation by completing the square:

    - $x^2 - 4x - 5 = 0$

3. Solve the following quadratic equation using the quadratic formula:

    - $2x^2 - 5x + 3 = 0$

4. Find the nature of the roots of the following quadratic equation:

    - $2x^2 - 4x + 3 = 0$

5. Find the values of k for which the quadratic equation has real and equal roots:

    - $kx^2 + 2x + 1 = 0$

Section B (10 Marks)

6. The sum of the squares of two consecutive positive integers is 365. Find the integers.

7. The product of two consecutive positive integers is 306. Find the integers.

8. The sum of the reciprocals of Rohan's ages (in years) 5 years ago and 5 years from now is 1/3. Find his present age.

9. A train travels a distance of 300 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 2 hours less for the same journey. Find the speed of the train.

10. A man on a train travels 600 km at a uniform speed. If the speed had been 20 km/h more, it would have taken 2 hours less for the same journey. Find the speed of the train.