MM 30 **Chapter-4 Quadratic Equations** **Time 1 h**

Section A 1 mark each

1. Standard form of quadratic equation in one variable is _____

2. Quadratic formula was given was
(a) Bramhagupta (b) Sridharacharya (c) Bhaskara

3. Check whether $(x - 5)^2 + 4 = 5x - 11$ is a quadratic equation

4. The condition for finding real and distinct roots is $b^2 - 4ac$ _____ 0, where a, b and c have their usual meaning.

5. Is their a quadratic equation which has no real roots? Give an example.

Section B 2 marks each

6. Find roots by factorisation $5x^2 - 2\sqrt{10}\,x + 2 = 0$

7. Solve for x, $\frac{1}{x+a+b} = \frac{1}{x} + \frac{1}{a} + \frac{1}{b}$

Section C 3 marks each

8. Solve $\frac{a}{x-b} + \frac{b}{x-a} = 2$, $x \neq a, b$

9. Find roots by method of completing the squares $3x^2 - 10x + 3 = 0$

10. Find roots by method of completing the squares $2x^2 - 2x + 1 = 0$. Do we get any real roots? If no why?

Section D 6 marks each

11. A shopkeeper buys a number of books for Rs 80. If he had bought 4 more books for the same amount each would have cost Re1 less. How many books did he buy?

12. Out of a number of birds, one fourth the number are moving about in lotus plants; $\frac{1}{9}$th couples (along) with $\frac{1}{4}$th as well as 7 times the square root of the number move on a hill, 56 birds remain in vakula trees. What is the total no. of birds?