

Quadratic Equation Questions Overview

Quadratic Equation Questions have a good weightage in the Banking Exam and the type of question asked in Banking exam is similar to the question mentioned below. It has been solved and explained by Gargi.ai Experts and they have tried to elaborate the concept used in Quadratic Equation Questions.

Quadratic Equation Questions

Direction: In each of these questions, two equations (I) and (II) are given. You have to solve both equations and mark the appropriate answer.

Question

LCM and HCF of two numbers are 24 and 4 respectively. One of the numbers is 12 and the other is a. I. Roots of the equation: $3x^2 - ax + 4 = 0$ II. Roots of the equation: $3y^2 + (\frac{a}{2})y - 4 = 0$

Difficulty : Moderate

Average Time : 44 Seconds

Options :

1. II > I
2. II < I
3. I > II
4. I = II or relationship cannot be determined
5. I = II

Solution

The correct answer is **option 5** i.e. I = II.

$$\text{LCM} \times \text{HCF} = 12 \times a$$

$$24 \times 4 = 12a$$

$$a = 8$$

$$\text{I. } 3x^2 - ax + 4 = 0$$

$$3x^2 - 8x + 4 = 0$$

$$3x^2 - 6x - 2x + 4 = 0$$

$$(3x - 2)(x - 2)$$

$$x = \left(\frac{2}{3}\right), 2$$

$$\text{II. } 3y^2 + \left(\frac{a}{2}\right)y - 4 = 0$$

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

$$3y^2 + 6y - 2y - 4 = 0$$

$$(3y - 2)(y + 2)$$

$$y = \left(\frac{2}{3}\right), -2$$

Hence, I II.

