Quiz Date: 5th September 2020

Directions (1-4):In each of these questions, two equations (I) and (II) are given. Solve the equations and mark the correct option:
(a) if x>y
(b) if x≥y
(c) if x<y
(d) if x ≤y
(e) if x = y or no relation can be established between x and y.

Q1.   I: $x^2 - 4x - 12 = 0$
        II: $y^2 - 7y + 10 = 0$

Q2.   I: $(x - 21)^2 = 0$
        II: $y^2 = 441$

Q3.   I: $x^2 - 31x + 234 = 0$
        II: $y^2 - 28y + 192 = 0$

Q4.   I: $x^2 - 10x - 144 = 0$
        II: $y^2 - 10y - 200 = 0$

Direction (5- 10): In the following questions, two equations numbered I and II are given. You have to solve both questions and give answer among the following options.
(a) if x > y
(b) if x ≥ y
(c) if x < y
(d) if x ≤ y
(e) if x = y or the relationship cannot be established.

Q5. I.$3x + 9y = 9$
II.$81x + 5y = 5$

Q6. I. $x^2 - 5x + 6 = 0$
II. $y^2 - 7y + 10 = 0$

Q7. I. $x^2 - 4x - 21 = 0$
II. $y^2 - 5 = 0$

Q8. I.$x^2 - 2 = 0$
II. $y^2 + 3\sqrt{2y} + 4 = 0$

Q9. I. $2x^2 - 17x + 36 = 0$
II. $2y^2 - 13y + 21 = 0$
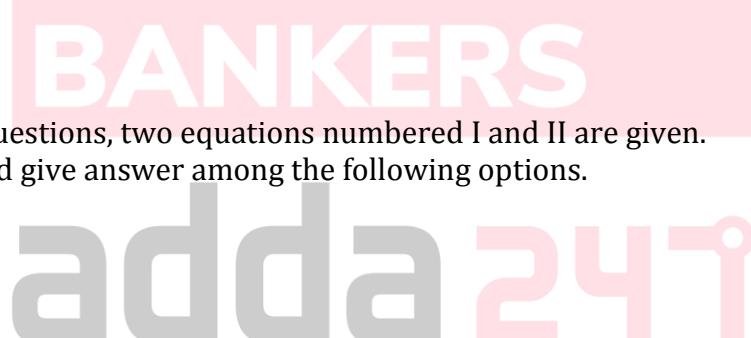
Q10.I.$\sqrt{x} + \frac{1}{\sqrt{x}} = 2\sqrt{x}$
    II. $y^2 - 5y + 6 = 0$

Directions (11-15): In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer
(a) if x>y
(b) if x≥y
(c) if x<y
(d) if x ≤y
(e) if x = y or no relation can be established between x and y.

Q11. I. $x^2 - 36 = 0$
     II. $y^2 + 13y + 42 = 0$

Q12. I. $6x^2 + 19x + 15 = 0$
     II. $2y^2 + 11y + 15 = 0$
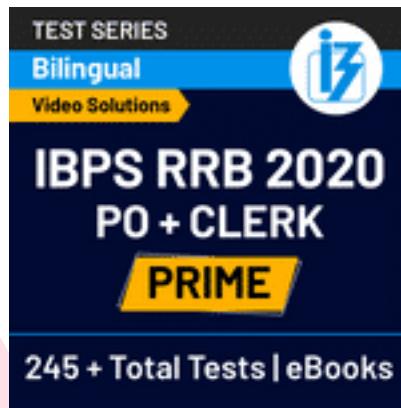
Q13. I. $6x^2 - x - 12 = 0$
     II. $20y^2 + 9y - 18 = 0$

Q14. I. $2x + 3y = \frac{14}{5}$
     II. $3x - 2y = \frac{3}{10}$

Q15. I. $x^2 - 4\sqrt{2}x + 6 = 0$
     II. $y^2 - 3\sqrt{2}y + 4 = 0$

Solutions

S1. Ans(e)
Sol. From I
$x^2 - 4x - 12 = 0$
$x^2 - (6 - 2)x - 12 = 0$
$(x - 6)(x + 2) = 0$
x=6, -2

From II
$y^2 - 7y + 10 = 0$
$y^2 - (5 + 2)y + 10 = 0$
$(y - 5)(y - 2) = 0$
y= 5, 2
∴ *relation can't be established*

S2.Ans(b)
Sol. From I
$(x - 21)^2 = 0$
x =21,21
From II
$y^2 = 441$
y = 21,-21
∴x≥y

S3. Ans(e)
Sol. From I
$x^2 - 31x + 234 = 0$
$x^2 - (13 + 18)x + 234 = 0$
$(x - 13)(x - 18)$
x = 13, 18
From II
$y^2 - 28y + 192 = 0$
$y^2 - (12 + 16)y + 192 = 0$
$(y - 12)(y - 16) = 0$
y =12,16
∴ *relation can't be established*

S4.Ans(e)
Sol. From I
$x^2 - 10x - 144 = 0$
$x^2 - (18 - 8)x - 144 = 0$
$(x - 18)(x + 8) = 0$
x =18, -8
From II
$y^2 - 10y - 200 = 0$
$y^2 - (20 - 10)y - 200 = 0$
$(y - 20)(y + 10) = 0$
y =20,-10
∴ *relation can't be established*

S5 Ans(c)
Sol. I.$3x + 9y = 9$

II. $81x + 5y = 5$
$equation\ (I) \times 27 - eq\ (II)$
$27 \times 9y - 5y = 27 \times 9 - 5$
$238y = 243 - 5 = 238$
$y = 1$
$from\ eqn\ (1)$
$3x + 9 = 9$
$x = 0$
$So, x < y$

S6. Ans(e)
Sol.
 I. $x^2 - 5x + 6 = 0$
$x^2 - 3x - 2x + 6 = 0$
$(x - 3)(x - 2) = 0$
$x = 3, 2$
II. $y^2 - 7y + 10 = 0$
$y^2 - 5y - 2y + 10 = 0$
$(y - 5)(y - 2) = 0$
$y - 2, 5$
$So, No\ relation\ bet^n\ x\ and\ y.$

S7. Ans(e)
Sol.
I. $x^2 - 4x - 21 = 0$
$x^2 - 7x + 3x - 21 = 0$
$(x - 7)(x + 3) = 0$
$x = 7, -3$
II. $y^2 - 5 = 0$
$y^2 = 5$
$y = \pm 5$
$So, No\ relation\ bet^n\ x\ and\ y.$

S8. Ans(b)
Sol.

I. $x^2 - 2 = 0$
$x^2 = 2$
$x = \pm\sqrt{2}$
II. $y^2 + 3\sqrt{2}y + 4 = 0$
$y^2 + 2\sqrt{2} + \sqrt{2}y + 4 = 0$
$(y + 2\sqrt{2})(y + \sqrt{2}) = 0$
Y= $-2\sqrt{2}$, $-\sqrt{2}$
So, $x \geq y$

S9. Ans(a)
Sol.
I. $2x^2 - 17x + 36 = 0$
$2x^2 - 8x - 9x + 36 = 0$
$2x(x - 4) - 9(x - 4) = 0$
$(x - 4)(2x - 9) = 0$
$x = 4, \frac{9}{2}$
II. $2y^2 - 13y + 21 = 0$
$2y^2 - 7y - 6y + 21 = 0$
$(2y - 7)(y - 3) = 0$
$y = \frac{7}{2}, 3$
$So, x > y$

S10. Ans(c)
Sol.
I. $\sqrt{x} + \frac{1}{\sqrt{x}} = 2\sqrt{x}$
$\frac{1}{\sqrt{x}} = \sqrt{x}$
$x = 1$
II. $y^2 - 5y + 6 = 0$
$y^2 - 3y - 2y + 6 = 0$
$(y - 3)(y - 2) = 0$
$y = 3,2$
$So, x < y$

S11. Ans. (b)
Sol.
I. $x^2 - 36 = 0$
$(x + 6)(x - 6) = 0$
$\Rightarrow x = 6, -6$
II. $y^2 + 13y + 42 = 0$
$y^2 + 7y + 6y + 42 = 0$
$y(y + 7) + 6(y + 7) = 0$
$(y + 6)(y + 7) = 0$
$\Rightarrow y = -6, -7$

∴ $x \geq y$

S12. Ans.(a)
Sol.
I. $6x^2 + 19x + 15 = 0$
$6x^2 + 10x + 9x + 15 = 0$
$2x(3x + 5) + 3(3x + 5) = 0$
$(2x + 3)(3x + 5) = 0$
⇒ x = $-\frac{3}{2}, -\frac{5}{3}$
II.
$2y^2 + 11y + 15 = 0$
$2y^2 + 6y + 5y + 15 = 0$
$2y(y + 3) + 5(y + 3) = 0$
$(y + 3)(2y + 5) = 0$
⇒ y = $-3, -\frac{5}{2}$
$so, x > y$

S13. Ans.(e)
Sol.
I. $6x^2 - x - 12 = 0$
$6x^2 - 9x + 8x - 12 = 0$
$3x(2x - 3) + 4(2x - 3) = 0$
$(3x + 4)(2x - 3) = 0$
⇒ $x = -\frac{4}{3}, \frac{3}{2}$
II. $20y^2 + 9y - 18 = 0$
$20y^2 + 24y - 15y - 18 = 0$
$4y(5y + 6) - 3(5y + 6) = 0$
$(4y - 3)(5y + 6) = 0$
⇒ $y = \frac{3}{4}, -\frac{6}{5}$
∴ no relation

S14. Ans. (c)
Sol.
On solving both equation
We get,
$x = \frac{1}{2}, and\ y = \frac{3}{5}$
So, $y > x$

S15. Ans(e)
Sol. I.
$x^2 - 4\sqrt{2}x + 6 = 0$
$x^2 - 3\sqrt{2}x - \sqrt{2}x + 6 = 0$
$(x - \sqrt{2})(x - 3\sqrt{2}) = 0$

x=$\sqrt{2}$,$3\sqrt{2}$
II.
$y^2 - 3\sqrt{2}y+4=0$
$y^2 - 2\sqrt{2}y - \sqrt{2}y + 4 = 0$
(y-$\sqrt{2}$)(y-2$\sqrt{2}$)=0
y=$\sqrt{2}$, $2\sqrt{2}$

So, no relation between x and y.

For any Banking/Insurance exam Assistance, Give a Missed call @ 01141183264