Quiz Date: 26th February 2020

Directions (1 – 5): What value should come in place of question mark (?) in the following questions.

Q1. $\sqrt{25+?+81} + 23 = 34$
(a) 14
(b) 11
(c) 13
(d) 15
(e) 12

Q2. $128 \div 2^3 \times ? = \frac{2}{15}\ of\ 50 \times 9$
(a) 3.75
(b) 3.33
(c) 3.25
(d) 4.66
(e) 2.5

Q3. $256 \div 32 + 24 \times 3 = ? + 14 \div 2 - 17$
(a) 100
(b) 108
(c) 118
(d) 120
(e) 90

Q4. $39\%\ of\ 400 - 20\%\ of\ 250 = ? - 37\%\ of\ 200$
(a) 192
(b) 170
(c) 180
(d) 148
(e) 220

Q5. $234 + 424 - 129 = ? + 182$
(a) 344
(b) 347
(c) 352
(d) 360
(e) 380

Q6. The distance travels by a boat in downstream 16 km more than that of in upstream in 4 hours and the speed of the boat in still water is 18 kmph. Find the distance travelled by boat in upstream in 3 hours?
(a) 56
(b) 42
(c) 50
(d) 46
(e) 48

Q7. A and B inter into a partnership with the capital of Rs.6000 and Rs.5600 respectively but B left the partnership 2 months before the end of year, then what will be the share of B's profit after 1 year if total profit is Rs.2400?
(a) 1050
(b) 1100
(c) 1200
(d) 1120
(e) 1500

Q8. If Pipes A , B and C can fill a tank in 15 min, 20 mins and 12 mins respectively. What will be the time taken by A, B and C together to fill the tank completely if pipe A fills the tank with its half efficiency?
(a) 5 min
(b) 8 min
(c) 10 min
(d) 6 min
(e) 7 min

Q9. A solid cone of diameter 24 cm and 7 cm of height is melted and casted into three equal size and shape cylinders having base radius 4 cm. Find the height of each cylinder?
(a) 6 cm
(b) 8 cm
(c) 5 cm
(d) 7 cm
(e) 10 cm

Q10. In how many ways a committee, consisting of 6 men and 3 women can be formed from 8 men and 5 women?
(a) 240
(b) 280
(c) 320
(d) 260
(e) 220

Directions (11 – 15): Solve the following quadratic equation and mark the answer as per instructions.

Q11. I. $x^2 + x - 56 = 0$
II. $y^2 - 49 = 0$
(a) x > y
(b) x < y
(c) x ≤ y
(d) x ≥ y
(e) x = y or no relation can be established

Q12. I. $x^2 + x - 12 = 0$
II. $y^2 - 8y + 15 = 0$
(a) x ≤ y
(b) x = y or no relation can be established
(c) x > y
(d) x ≥ y
(e) x < y

Q13. I. $4x^2 - 8x + 3 = 0$
II. $4y^2 - 1 = 0$
(a) x ≤ y
(b) x > y
(c) x = y or no relation can be established
(d) x < y
(e) x ≥ y

Q14. I. $2x + 3y = 9$
II. $3x + 4y = 11$
(a) x = y or no relation can be established
(b) x > y
(c) x ≤ y
(d) x < y
(e) x ≥ y

Q15. I. $6x^2 - 13x + 6 = 0$
II. $y^2 - 1 = 0$

(a) $x \leq y$
(b) $x < y$
(c) x = y or no relation can be established
(d) $x \geq y$
(e) $x > y$

Solutions

S1. Ans(d)
Sol.
$106 + ? = 11^2$
? = 15

S2. Ans(a)
Sol. $16 \times ? = \frac{2}{15} \times 50 \times 9$
$? = \frac{15}{4} = 3.75$

S3. Ans(e)
Sol. 8 + 72 = ? + 7 – 17
? = 90

S4. Ans(c)
Sol. 156 – 50 = ? – 74
? = 180

S5. Ans(b)
Sol.
? = 347

S6. Ans.(e)
Sol. (speed of boat in downstream –Speed of boat in upstream) × 4 = 16 km
Different in 1 hr. = 4km
So, speed of stream = 2 kmph
Speed of boat in still water = 18 km/hr.

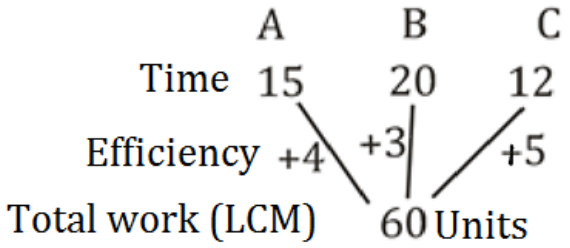
downstream = 20 km/hr., Upstream = 16 km/hr.
Required Distance = 3 × 16 = 48 km

S7. Ans.(a)
Sol.

A	:	B
6000× 12	:	5600 ×10
9	:	7

∴ B's share = $2400 \times \frac{7}{16} = 1050$

S8. Ans.(d)
Sol.



∴ tank filled in 1 min = $\frac{4}{2} + 3 + 5 = 10$ units
Total time = $\frac{60}{10}$ = 6 minutes

S9. Ans.(d)
Sol.
Volume of cone = Volume of 3 cylinder
$\frac{1}{3} \times \pi \times (12)^2 \times 7 = 3 \times \pi \times 4^2 \times h$
⇒ h = 7 cm

S10. Ans. (b)
Sol.
Required result = $8_{C_6} \times 5_{C_3}$
$= 28 \times 10 = 280$

S11. Ans(e)
Sol.
I. $x^2 + 8x - 7x - 56 = 0$
(x +8) (x - 7) = 0
x = -8, 7

II. $y^2 = 49$
y = $\pm$ 7
clearly, no relation can be established

S12. Ans(a)

Sol.
I. $x^2 + 4x - 3x - 12 = 0$
(x + 4) (x - 3) = 0
x = -4, 3

II. $y^2 - 3y - 5y + 15 = 0$
(y – 3) (y – 5) = 0
y=3,5
clearly, x ≤ y

S13. Ans(e)
Sol.
I. $4x^2 - 6x - 2x + 3 = 0$
(2x - 1) (2x - 3) = 0
$x = \frac{1}{2}, \frac{3}{2}$

II. $4y^2 - 1 = 0$
(2y – 1) (2y + 1) = 0
$y = -\frac{1}{2}, \frac{1}{2}$
clearly, x ≥ y

S14. Ans(d)
Sol.
(II) × 3 – (I) × 2
On solving,
x = -3, y = 5
$x < y$

S15. Ans. (c)
Sol.
I. $6x^2 - 9x - 4x + 6 = 0$
(3x - 2) (2x – 3) = 0
x = $\frac{2}{3}, \frac{3}{2}$

II. $y^2 - 1 = 0$
y = -1 , 1
clearly, no relation