Quiz Date: 6th March 2020

Q1. Difference of the compound interest received in 1st year and 2nd year at 20% per annum at CI is Rs 1200 then find the sum?
(a) Rs 25,000
(b) Rs 36,000
(c) Rs 35,000
(d) Rs 24,000
(e) Rs 30,000

Q2. Find the total distance covered by boat in each upstream and downstream in 7 hours if the speed of boat in still water and speed of current is 21 km/h and 3 km/h respectively?
(a) 280 km
(b) 294 km
(c) 315 km
(d) 301 km
(e) 322 km

Q3. Ratio of income of A to that of B is 5:9. If expenditure of A is $\frac{3}{8}$th of his income and expenditure of B is $\frac{4}{9}$th of his income and sum of their saving is Rs 1950 then find the difference between their income?
(a) Rs 900
(b) Rs 1000
(c) Rs 880
(d) Rs 960
(e) Rs 920

Q4. A alone can do a work in 12 days while A and B together can do that work in 7.5 days. Find the time taken by C alone to do that work if C takes 3 days more than that of B alone to do that work?
(a) 33 days
(b) 30 days
(c) 23 days
(d) 27 days
(e) 28 days

Q5. Ratio of base and perpendicular side of a right-angled triangle is 3:4 and its base is equal to the side of a square having area 81 cm^2. Find the perimeter of the triangle?
(a) 30 cm
(b) 36 cm
(c) 33 cm
(d) 42 cm
(e) 40 cm

Directions (6-10): 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.

Q6. I. $x^2 - 13x + 40 = 0$
II. $2y^2 - y - 15 = 0$

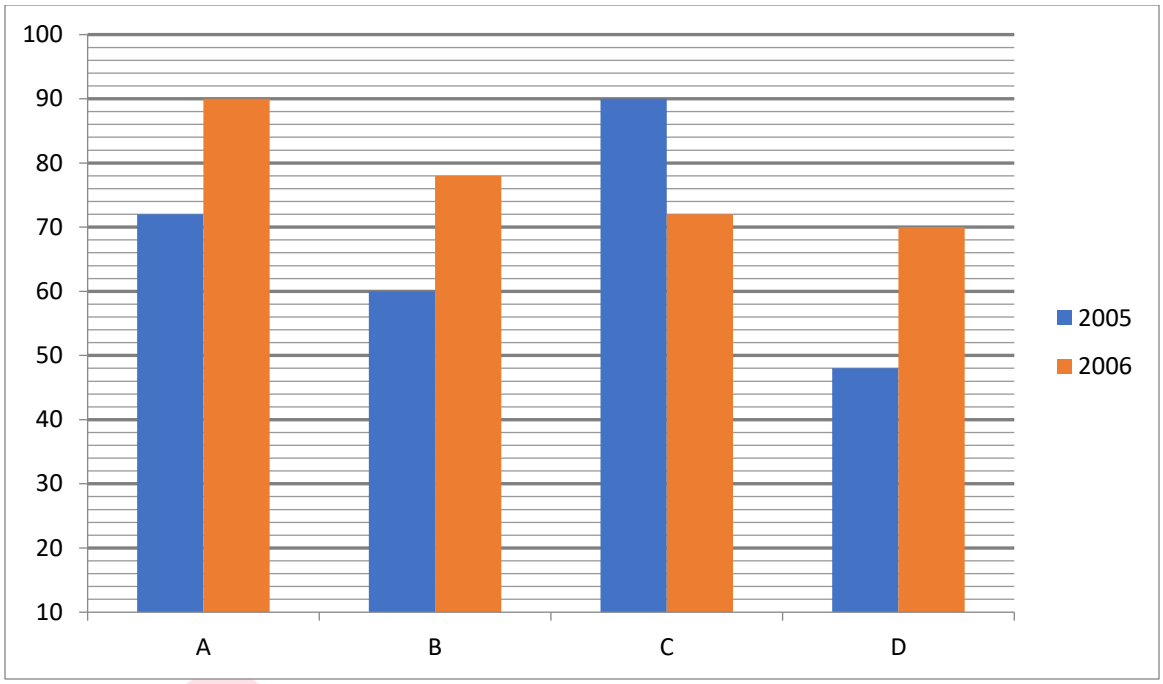
Q7. I. $5x^2 + 17x + 6 = 0$
II. $2y^2 + 11y + 12 = 0$

Q8. I. $7x^2 - 19x + 10 = 0$
II. $8y^2 + 2y - 3 = 0$

Q9. I. $x^2 - 8x + 15 = 0$
II. $y^2 - 3y + 2 = 0$

Q10. I. $3x^2 - 7x + 4 = 0$
II. $2y^2 - 9y + 10 = 0$

Directions (11-15): Study the bar chart given below and answer the following questions. Bar chart shows the number of books read by 4 different persons (A, B, C & D) in 2005 and 2006.



Q11. Find average number of books read by A, C & D in 2005.
(a) 64
(b) 70
(c) 75
(d) 60
(e) 56

Q12. Find ratio of books read by B & C together in 2005 to books read by A & D together in 2006.
(a) 15 : 16
(b) 5 : 6
(c) 1 : 5
(d) 4 : 7
(e) 2 : 3

Q13. Books read by A & D together in 2005 are what percent more than books read by C in 2006?
(a) $46\frac{2}{3}\%$
(b) $54\frac{1}{3}\%$
(c) $25\frac{2}{3}\%$
(d) $33\frac{1}{3}\%$
(e) $66\frac{2}{3}\%$

Q14. Books read by A & C together in 2005 are how much more or less than books read by B & D together in 2006?
(a) 24
(b) 14
(c) 18
(d) 22
(e) 28

Q15. Books read by B & C together in 2006 are what percent of books read by B in 2005?
(a) 100%
(b) 120%
(c) 250%
(d) 200%
(e) 160%

Solutions

S1. Ans.(e)
Sol.
Let the sum be Rs 100x
CI in first year= Rs 20x
CI in two years= 44% of 100x= Rs 44x
CI in 2nd year= 44x-20x= Rs 24x
ATQ
24x-20x=1200
x=300
Required sum=Rs 30,000

S2. Ans.(b)
Sol.
Speed in upstream=18 km/hr
Speed in downstream= 24 km/hr
Required total distance= $(24 + 18) \times 7 = 294\ km$

S3. Ans.(d)
Sol.
Let income of A and B be Rs 5x and Rs 9x respectively
Expenditure of A=Rs $\frac{15}{8}x$
Saving of A=$Rs\ \frac{25}{8}x$
Expenditure of B= Rs 4x
Saving of B= Rs 5x
ATQ

$$\frac{65}{8}x = 1950$$

x=240

required difference= Rs 960

S4. Ans.(c)
Sol.
Let total work be 60 units (LCM of 12 and 7.5)
Efficiency of A= 5 units/ day
Efficiency of A and B together= 8 units/ day
Efficiency of B= 3 units/ day
Time taken by B alone to do that work=20 days
Time taken by C alone=23 days

S5. Ans.(b)
Sol.
Side of the square=9 cm
Perpendicular side of the triangle= 12 cm
Hypotenuse of the triangle=$\sqrt{81+144}=\sqrt{225}=15\ cm$
Perimeter of the triangle= 36 cm

S6. Ans.(a)
Sol.
I. x^2 -13x + 40= 0
x^2 - 5x – 8x + 40 = 0
x (x -5) – 8 (x - 5) = 0
x = 5, 8
II. $2y^2$ - y – 15 = 0
$2y^2$ - 6y + 5y – 15 = 0
2y (y - 3) + 5 (y - 3) = 0
y=3, -5/2
x > y

S7. Ans.(e)
Sol.
I. $5x^2$ + 17x + 6 = 0
$5x^2$ + 15x + 2x + 6 = 0

$5x\ (x + 3) + 2(x + 3) = 0$

$x = -3, -\frac{2}{5}$

II. $2y^2 + 11y + 12 = 0$

$2y^2 + 8y + 3y + 12 = 0$

$2y\ (y + 4) + 3\ (y + 4) = 0$

$y = -4, -\frac{3}{2}$

No relation

S8. Ans.(a)

Sol.

$7x^2 - 19x + 10 = 0$

$7x^2 - 14x - 5x + 10 = 0$

$7x\ (x - 2) - 5\ (x - 2) = 0$

$x = 2, \frac{5}{7}$

II. $8y^2 + 2y - 3 = 0$

$8y^2 + 6y - 4y - 3 = 0$

$2y\ (4y + 3) - 1\ (4y + 3) = 0$

$y = \frac{-3}{4}, \frac{1}{2}$

x >y

S9. Ans.(a)

Sol.

I. $x^2 - 8x + 15 = 0$

$\Rightarrow x^2 - 5x - 3x + 15 = 0$

$\Rightarrow x(x - 5) - 3(x - 5) = 0$

$\Rightarrow (x - 3)(x - 5) = 0$

$\therefore x = 3\ or\ 5$

II. $y^2 - 3y + 2 = 0$

$\Rightarrow y^2 - 2y - y + 2 = 0$

$\Rightarrow y(y - 2) - 1(y - 2) = 0$

$\Rightarrow (y - 1)(y - 2) = 0$

$\therefore$ y = 1 or 2

$\therefore x > y$

S10. Ans.(c)

Sol.

I. $3x^2 - 7x + 4 = 0$

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

$\Rightarrow (3x - 4)\ (x - 1) = 0$

$x = \frac{4}{3}\ or\ 1$

II. $2y^2 - 9y + 10 = 0$

$\Rightarrow 2y^2 - 4y - 5y + 10 = 0$

$\Rightarrow (2y - 5)(y - 2) = 0$
$\Rightarrow y = \frac{5}{2}$ or 2
$y > x$

S11. Ans.(b)
Sol. Required average = $\frac{72+90+48}{3}$
= 70

S12. Ans.(a)
Sol. Required ratio = $\frac{60+90}{90+70}$
= $\frac{150}{160}$
= 15: 16

S13. Ans.(e)
Sol. Required % = $\frac{\{(72+48)-72\}}{72} \times 100$
= $\frac{200}{3}\%$
= $66\frac{2}{3}\%$

S14. Ans.(b)
Sol. Required difference = (72 + 90) – (78 + 70)
= 162 – 148
= 14

S15. Ans.(c)
Sol. Required % = $\frac{78+72}{60} \times 100$
= $\frac{150}{60} \times 100$