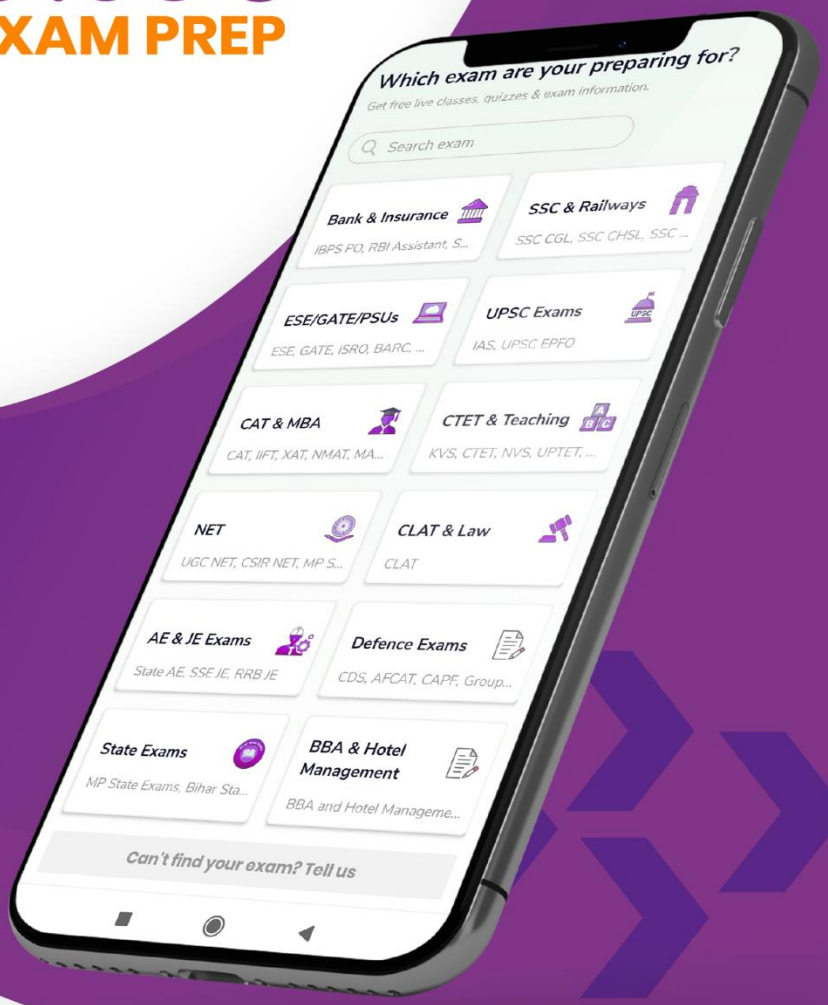
BYJU'S EXAM PREP



IBPS PO Pre 2021

Quant Question Paper with Solution

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Direction: What should come in place of the question mark (?) in the following number series?

1. 580, 557, 528, 497, ?
A. 412
B. 452
C. 431
D. 460
E. 428

2.81, 72, 136, 111, ?
A. 319
B. 327
C. 341
D. 264
E. 275

3.9, 19, 39, 79, ?
A. 193
B. 167
C. 159
D. 145
E. 141

4.6, 12, 30, 105, ?
A. 525
B. 584
C. 495
D. 446
E. 502

5.14, 20, 28, 39, ?
A. 97
B. 61
C. 54
D. 49
E. 44

Direction: Study the following table carefully and answer the given question.

In the table given below, the cumulative sales of Analog and Digital watch together and cumulative sales of Digital watch for the year 2009 to 2013 is given.

Year	Cumulative number of Analog & Digital watches sold	Cumulative number of Digital watches sold
2009	960	440
2010	2010	840
2011	3210	1560
2012	4450	2400
2013	5530	2886

6. What is the ratio of number of Analog watches sold in the years 2011 and 2012?
A. 5 : 4
B. 6 : 5
C. 11 : 9
D. 7 : 5
E. None of these

7.What is the difference of the average number of Digital watches sold in the years 2011 and 2012 together and number of Analog watches sold in the year 2010?

A. 100
B. 120
C. 130
D. 180
E. None of these

8.In the year 2014 sales of Digital watches increased by 15% compared to year 2012 then what is the difference between the number of Digital watches sold in the years 2014 and 2010?
A. 500
B. 420
C. 566
D. 480
E. None of these

9.Number of Analog watches sold in the year 2009 is what percent more than that in the year 2012?
A. 25%
B. 20%
C. 30%
D. 45%
E. None of these

10.In Digital watches sold in the years 2013, ratio of steel frame and non-steel frame watches is 4:5 . What is the number of non-steel frame Digital watches sold in the year 2013?
A. 210
B. 250
C. 270
D. 300
E. None of these

11.The curved surface area of a cylinder is 1056 cm^2. The ratio of height to radius is 6 : 7 . What is the total surface area of the cylinder?
A. 2860 cm^2
B. 2145 cm^2
C. 1716 cm^2
D. 2288 cm^2
E. None of these

12.A boat goes 2D km downstream and D km upstream in 7.5 hours. If the downstream and upstream speeds of the boat are 12 km/hr and 4 km/hr, then what is the value of D?
A. 9
B. 15
C. 18
D. 24
E. None of these

13.Length of rectangle A is equal to the breadth of rectangle B . Breadth of the rectangle A is 5 less than the length of the rectangle A . Area of rectangle B is 80 cm^2 more than that of rectangle A . If length of rectangle B is 13 cm, and breadth of rectangle A is more than 3 cm then what is the perimeter of rectangle A?

A. 40 cm
B. 24 cm
C. 50 cm
D. 30 cm
E. None of these

14.A person spend 20% of his monthly salary in paying EMI. He spends 15% of his remaining salary in house rent and then 25% of the remaining salary is spend in paying car insurance. If he is left with Rs. 1530, find his monthly salary.
A. Rs. 4000
B. Rs. 3600
C. Rs. 3000
D. Rs. 2700
E. None of these

15.Two friends Jaya and Rupali started a business with investments of Rs. 24000 and Rs. 18000 respectively. After 6 months Sonali joined the business with Rs. 30000 and at the same time Jaya left the business. At the end of 1 year, profit share of Sonali was Rs. 4000 more than the profit share of Jaya. Find the profit share of Rupali.
A. Rs. 28400
B. Rs. 27000
C. Rs. 24000
D. Rs. 32800
E. None of these

Direction: In the following question two equations are given in variables X and Y. You have to solve these equations and determine the relation between X and Y.

16.
I. $X^2 - 7X + 12 = 0$
II. $Y^2 - 7Y + 10 = 0$
A. $Y > X$
B. $X > Y$
C. $X \leq Y$
D. $X \geq Y$
E. X = Y or no relation can be established

17.I. $X^2 - 13X + 36 = 0$
II. $3Y^2 - 29Y + 18 = 0$
A. $Y > X$
B. $X > Y$
C. $X \leq Y$
D. $X \geq Y$
E. X = Y or no relation can be established

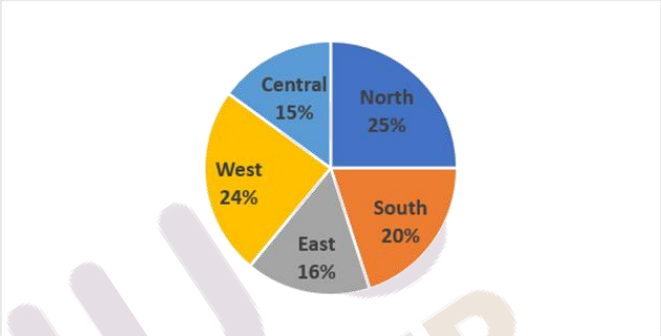
18.I. $6X^2 + 19X + 10 = 0$
II. $Y^2 + 10Y + 25 = 0$
A. $Y > X$
B. $X > Y$
C. $X \leq Y$
D. $X \geq Y$
E. X = Y or no relation can be established

19.I. $X^2 - 15X + 56 = 0$
II. $Y^2 = 49$
A. Y > X
B. X > Y
C. X ≤ Y
D. X ≥ Y
E. X = Y or no relation can be established

20.I. $2X^2 - 9X + 4 = 0$
II. $Y^2 - 8Y + 16 = 0$
A. Y > X
B. X > Y
C. X ≤ Y
D. X ≥ Y
E. X = Y or no relation can be established

21.I. $10X^2 + 33X + 9 = 0$
II. $2Y^2 + 13Y + 21 = 0$
A. Y > X
B. X > Y
C. X ≤ Y
D. X ≥ Y
E. X = Y or no relation can be established

Direction: Study the following data carefully and answer the given question.
The pie chart given below shows the percentage of total number of students in Science and Commerce streams together in 5 regions – North, South, East, West and Central.
Total number of students in Science and Commerce streams in 5 regions = 4000



The table given below shows the number of students in Science stream in 5 regions – North, South, East, West and Central.

Region	Number of students in Science stream
North	600
South	450
East	400
West	360
Central	350

22. The number of students in Science stream in South region is what percent more/less than that in East region?
A. 10% more
B. 15% less
C. 20% more
D. 12.5% more
E. None of these

23.If the total number of students in Science stream in all regions is distributed in a degree pie-chart, what will be the central angle for West region?
A. 60°
B. 66°
C. 45°
D. 54°
E. 72°

24.What is the ratio of the number of students in Commerce stream in Central region and number of students in science stream in South region?
A. 7 : 9
B. 5 : 9
C. 3 : 5
D. 4 : 5
E. None of these

25.What is the average number of students in commerce stream in South, West and Central region?
A. Rs. 360
B. Rs. 400
C. Rs. 450
D. Rs. 350
E. None of these

26.What is the difference of the number of students in Science stream in North and Central regions?
A. 350
B. 300
C. 250
D. 200
E. 360

27.The total number of students in Science and Commerce streams together in Central region is what percent less than that in South region?
A. 20%
B. 22.5%
C. 30%
D. 12.5%
E. None of these

28.Interest received on investment of Rs. X at the rate of 10% per annum compound interest for 2 years is Rs. 3180 less than the interest received on investment of Rs. (X + 2000) at the rate of 20% per annum compound interest for 2 years. What is the value of X?
A. 1000
B. 5000
C. 8000
D. 10000
E. 12500

29.A person going point A to point B, which are 40 km apart. If he increases his speed by 2 km/hr, he reaches B, 1 hour before than usual time. If he decreases his speed by 3 km/hr, he reaches his destination 3 hours late. Find the original speed.
A. 8 km/hr
B. 4 km/hr
C. 5 km/hr
D. 10 km/hr
E. None of these

30.The average weight of A, B and C is 72 kg and the average weight of B, C and D is 76 kg. The average weight of D and E is 74 kg and the average weight of B and C is 73 kg. What is the average weight of A and E?
A. 71 kg
B. 75 kg
C. 72 kg
D. 68 kg
E. 65 kg

31.The present age of Ananya and her husband is 5 : 6. The present age Ananya's daughter is $\frac{1}{6}$th of Ananya's present age. Ananya's daughter is 3 years younger than her son. Find the sum of the present age of Ananya and her husband, if the age of Ananya's son, after 5 years is 13 years?
A. 70 years
B. 72 years
C. 66 years
D. 54 years
E. 60 years

Direction: Study the following information carefully and answer the given question.
The data is given with respect to the number of employees in three companies A, B and C. Each employee likes either tea or coffee. The ratio of the number of employees who like tea in company A to the number of employees who like coffee in company C is 10 : 9. The number of employees who like coffee in company A is 260 more than the number of employees who like coffee in company C. Total number of employees in company B is 1420. The number of employees who like tea in company C is 640. The total number of employees who likes tea in all three companies is 1940. The total number of employees who like coffee in company B and C is 1260
32. What is the ratio of the number of employees who like coffee in company A to the number of employees who like tea in company B?

A. 6 : 5
B. 8 : 7
C. 5 : 4
D. 3 : 2
E. None of these

33.What is the difference between the number of employees in company A and company C?
A. 200
B. 180
C. 220
D. 240
E. 280

34.Find the number of employees who like coffee in company A and B together.
A. 1640
B. 1520
C. 1780
D. 1620
E. None of these

35.The number of employees who likes tea in company B is what percentage of the total number of employees in company A?
A. 50%
B. 40%
C. 60%
D. 30%
E. 45%

ANSWERS

1. Ans. D.
The pattern of the series is:
580 – 23 = 557
557 – 29 = 528
528 – 31 = 497
497 – 37 = 460
Here, 23, 29, 31 and 37 are consecutive prime numbers.
Hence, the missing number is 460.
2. Ans. B.
The pattern of the series is:
$81 - 3^2 = 72$
$72 + 4^3 = 136$
$136 - 5^2 = 111$
$111 + 6^3 = 327$
Hence, the missing number is 327.
3. Ans. C.
The pattern of the series is:
$9 \times 2 + 1 = 19$
$19 \times 2 + 1 = 39$
$39 \times 2 + 1 = 79$
$79 \times 2 + 1 = 159$
Hence, the missing number is 159.
4. Ans. A.
The pattern of the series is:
$6 \times 2 = 12$
$12 \times 2.5 = 30$
$30 \times 3.5 = 105$
$105 \times 5 = 525$
Here,
$2 + 0.5 = 2.5$
$2.5 + 1 = 3.5$
$3.5 + 1.5 = 5$
Hence, the missing number is 525.

5. Ans. C.
The pattern of the series is:
14 + 6 = 20
20 + 8 = 28
28 + 11 = 39
39 + 15 = 54
Here,
6 + 2 = 8
8 + 3 = 11
11 + 4 = 15
Hence, the missing number is 54.
6. Ans. B.

Year	Number of Analog & Digital watches sold	Number of Digital watches sold	Number of Analog watches sold
2009	960	440	960 – 440 = 520
2010	2010 – 960 = 1050	840 – 440 = 400	1050 – 400 = 650
2011	3210 – 2010 = 1200	1560 – 840 = 720	1200 – 720 = 480
2012	4450 – 3210 = 1240	2400 – 1560 = 840	1240 – 480 = 400
2013	5530 – 4450 = 1080	2886 – 2400 = 486	1080 – 486 = 594

Required ratio = 480 : 400 = 6 : 5.
Hence, option B is correct.

7. Ans. C.

Year	Number of Analog & Digital watches sold	Number of Digital watches sold	Number of Analog watches sold
2009	960	440	960 – 440 = 520
2010	2010 – 960 = 1050	840 – 440 = 400	1050 – 400 = 650
2011	3210 – 2010 = 1200	1560 – 840 = 720	1200 – 720 = 480
2012	4450 – 3210 = 1240	2400 – 1560 = 840	1240 – 480 = 400
2013	5530 – 4450 = 1080	2886 – 2400 = 486	1080 – 486 = 594

The average number of Digital watches sold in the years 2011 and 2012 together = $\frac{720 + 840}{2}$ = 780

The number of Analog watches sold in the year 2010 = 650

So, the required difference = 780 – 650 =130.

Hence, option C is correct.

8. Ans. C.

Year	Number of Analog & Digital watches sold	Number of Digital watches sold	Number of Analog watches sold
2009	960	440	960 – 440 = 520
2010	2010 – 960 = 1050	840 – 440 = 400	1050 – 400 = 650
2011	3210 – 2010 = 1200	1560 – 840 = 720	1200 – 720 = 480
2012	4450 – 3210 = 1240	2400 – 1560 = 840	1240 – 480 = 400
2013	5530 – 4450 = 1080	2886 – 2400 = 486	1080 – 486 = 594

The number of Digital watches sold in the years 2014 = 1.15 × 840 = 966

So, the required difference = 966 – 400 = 566.

Hence, option C is correct.

9. Ans. C.

Year	Number of Analog & Digital watches sold	Number of Digital watches sold	Number of Analog watches sold
2009	960	440	960 – 440 = 520
2010	2010 – 960 = 1050	840 – 440 = 400	1050 – 400 = 650
2011	3210 – 2010 = 1200	1560 – 840 = 720	1200 – 720 = 480
2012	4450 – 3210 = 1240	2400 – 1560 = 840	1240 – 480 = 400
2013	5530 – 4450 = 1080	2886 – 2400 = 486	1080 – 486 = 594

Required percentage = $\frac{520-400}{400} \times 100 = 30\%$

Hence, option A is correct.

10. Ans. C.

Year	Number of Analog & Digital watches sold	Number of Digital watches sold	Number of Analog watches sold
2009	960	440	960 – 440 = 520
2010	2010 – 960 = 1050	840 – 440 = 400	1050 – 400 = 650
2011	3210 – 2010 = 1200	1560 – 840 = 720	1200 – 720 = 480
2012	4450 – 3210 = 1240	2400 – 1560 = 840	1240 – 480 = 400
2013	5530 – 4450 = 1080	2886 – 2400 = 486	1080 – 486 = 594

The number of Digital watches sold in the years 2013 = 486

So, the required number = $\frac{5}{(4+5)} \times 486 = 270$.

Hence, option A is correct.

11. Ans. D.

Let height be 6x cm, then radius = 7x cm

Given, curved surface area = 1056 cm^2

So, $2\pi rh = 1056$

$\Rightarrow 2 \times \frac{22}{7} \times 7x \times 6x = 1056$

$\Rightarrow x^2 = 4$

$\Rightarrow x = 2$

So, the total surface area = $2\pi r(h + r) = 2 \times \frac{22}{7} \times 7x \times (6x + 7x)$

$= 2 \times \frac{22}{7} \times 14 \times 26 = 2288$ cm^2

Hence, option D is correct.

12. Ans. C.

Downstream time + Upstream time = 7.5 hours

So, $\frac{2D}{12} + \frac{D}{4} = 7.5$

$\Rightarrow \frac{5D}{12} = 7.5$

$\Rightarrow D = 18$

Hence, option C is correct.

13. Ans. D.

Let breadth of rectangle A be x cm, then

Length of rectangle A = Breadth of rectangle B = (x + 5) cm

Given, length of rectangle B = 13 cm

According to question,

$x(x + 5) + 80 = 13 \times (x + 5)$

$\Rightarrow x^2 + 5x + 80 = 13x + 65$

$\Rightarrow x^2 - 8x + 15 = 0$

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

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

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

$\Rightarrow x = 5, 3$

Since $x > 3$ therefore $x = 5$

So, the perimeter of rectangle A = $2[x + (x + 5)] = 4x + 10 = 30$ cm.

Hence, option D is correct.

14. Ans. C.

Let the monthly salary be 100x.

Amount of salary left after paying EMI = 80% of 100x = 80x

Amount of salary left after paying house rent = $0.85 \times 80x = 68x$

Amount of salary left after paying for car insurance = $0.75 \times 68 = 51x$

Now, $51x = 1530$

$\Rightarrow x = 30$
Monthly salary = 100 × 30 = Rs. 3000
15. Ans. C.
Ratio of profit shares of Jaya, Rupali and Sonali
= 24000 × 6 : 18000 × 12 : 30000 × 6
= 4 : 6 : 5
Let the profit shares of Jaya, Rupali and Sonali be Rs. 4x, Rs. 6x and Rs. 5x respectively.
Now, 5x – 4x = 4000
$\Rightarrow x = 4000$
Profit share of Rupali = 6 × 4000 = Rs. 24000
16. Ans. E.
I. $X^2 - 7X + 12 = 0$
$\Rightarrow X^2 - 4X - 3X + 12 = 0$
$\Rightarrow X(X - 4) - 3(X - 4) = 0$
$\Rightarrow (X - 4)(X - 3) = 0$
$\Rightarrow X = 4, 3$
II. $Y^2 - 7Y + 10 = 0$
$\Rightarrow Y^2 - 5Y - 2Y + 10 = 0$
$\Rightarrow Y(Y - 5) - 2(Y - 5) = 0$
$\Rightarrow (Y - 5)(Y - 2) = 0$
$\Rightarrow Y = 5, 2$
Hence, no relation can be established.
17. Ans. E.
I. $X^2 - 13X + 36 = 0$
$\Rightarrow X^2 - 9X - 4X + 36 = 0$
$\Rightarrow X(X - 9) - 4(X - 9) = 0$
$\Rightarrow (X - 9)(X - 4) = 0$
$\Rightarrow X = 9, 4$
II. $3Y^2 - 29Y + 18 = 0$
$\Rightarrow 3Y^2 - 27Y - 2Y + 18 = 0$
$\Rightarrow 3Y(Y - 9) - 2(Y - 9) = 0$
$\Rightarrow (Y - 9)(3Y - 2) = 0$
$\Rightarrow Y = 9, \frac{2}{3}$
Hence, no relation can be established.

18. Ans. B.

I. $6X^2 + 19X + 10 = 0$

$\Rightarrow 6X^2 + 15X + 4X + 10 = 0$

$\Rightarrow 3X(2X + 5) + 2(2X + 5) = 0$

$\Rightarrow (2X + 5)(3X + 2) = 0$

$\Rightarrow X = -\frac{5}{2}, -\frac{2}{3}$

II. $Y^2 + 10Y + 25 = 0$

$\Rightarrow Y^2 + 5Y + 5Y + 25 = 0$

$\Rightarrow Y(Y + 5) + 5(Y + 5) = 0$

$\Rightarrow (Y + 5)(Y + 5) = 0$

$\Rightarrow Y = -5$

Hence, $X > Y$.

19. Ans. D.

I. $X^2 - 15X + 56 = 0$

$\Rightarrow X^2 - 8X - 7X + 56 = 0$

$\Rightarrow X(X - 8) - 7(X - 8) = 0$

$\Rightarrow (X - 8)(X - 7) = 0$

$\Rightarrow X = 8, 7$

II. $Y^2 = 49$

$\Rightarrow Y^2 - 49 = 0$

$\Rightarrow Y^2 - 7^2 = 0$

$\Rightarrow (Y - 7)(Y + 7) = 0$

$\Rightarrow Y = 7, -7$

Hence, $X \geq Y$.

20. Ans. C.

I. $2X^2 - 9X + 4 = 0$

$\Rightarrow 2X^2 - 8X - X + 4 = 0$

$\Rightarrow 2X(X - 4) - 1(X - 4) = 0$

$\Rightarrow (X - 4)(2X - 1) = 0$

$\Rightarrow X = 4, \frac{1}{2}$

II. $Y^2 - 8Y + 16 = 0$

$\Rightarrow Y^2 - 4Y - 4Y + 16 = 0$

$\Rightarrow Y(Y - 4) - 4(Y - 4) = 0$

$\Rightarrow (Y - 4)(Y - 4) = 0$

⇒ Y = 4
Hence, X ≤ Y.
21. Ans. D.
I. $10X^2 + 33X + 9 = 0$
⇒ $10X^2 + 30X + 3X + 9 = 0$
⇒ $10X(X + 3) + 3(X + 3) = 0$
⇒ $(X + 3)(10X + 3) = 0$
⇒ $X = -3, -\frac{3}{10}$
II. $2Y^2 + 13Y + 21 = 0$
⇒ $2Y^2 + 6Y + 7Y + 21 = 0$
⇒ $2Y(Y + 3) + 7(Y + 3) = 0$
⇒ $(Y + 3)(2Y + 7) = 0$
⇒ $Y = -3, -\frac{7}{2}$
Hence, X ≥ Y.
22. Ans. D.

Region	Total number of students in Science & Commerce stream	Total number of students in Science stream	Total number of students in Commerce stream
North	4000 × 0.25 = 1000	600	1000 – 600 = 400
South	4000 × 0.20 = 800	450	800 – 450 = 350
East	4000 × 0.16 = 640	400	640 – 400 = 240
West	4000 × 0.24 = 960	360	960 – 360 = 600
Central	4000 × 0.15 = 600	350	600 – 350 = 250

The number of students in Science stream in South region = 450
The number of students in Science stream in East region = 400
So, the required percentage = $\frac{450 - 400}{400} \times 100$ = 12.5% more.
Hence, option D is correct.

23. Ans. A.

Region	Total number of students in Science & Commerce stream	Total number of students in Science stream	Total number of students in Commerce stream
North	4000 × 0.25 = 1000	600	1000 – 600 = 400
South	4000 × 0.20 = 800	450	800 – 450 = 350
East	4000 × 0.16 = 640	400	640 – 400 = 240
West	4000 × 0.24 = 960	360	960 – 360 = 600
Central	4000 × 0.15 = 600	350	600 – 350 = 250

Total number of students in science stream in all regions = 600 + 450 + 400 + 360 + 360 = 2160

So, central angle for West region = $\frac{360°}{2160}$ × 360 = 60°.

Hence, option A is correct.

24. Ans. B.

Region	Total number of students in Science & Commerce stream	Total number of students in Science stream	Total number of students in Commerce stream
North	4000 × 0.25 = 1000	600	1000 – 600 = 400
South	4000 × 0.20 = 800	450	800 – 450 = 350
East	4000 × 0.16 = 640	400	640 – 400 = 240
West	4000 × 0.24 = 960	360	960 – 360 = 600
Central	4000 × 0.15 = 600	350	600 – 350 = 250

Required ratio = 250 : 450 = 5 : 9.

Hence, option B is correct.

25. Ans. B.

Region	Total number of students in Science & Commerce stream	Total number of students in Science stream	Total number of students in Commerce stream
North	4000 × 0.25 = 1000	600	1000 – 600 = 400
South	4000 × 0.20 = 800	450	800 – 450 = 350
East	4000 × 0.16 = 640	400	640 – 400 = 240
West	4000 × 0.24 = 960	360	960 – 360 = 600
Central	4000 × 0.15 = 600	350	600 – 350 = 250

Required average = $\frac{350 + 600 + 250}{3}$ = 400.

Hence, option D is correct.

26. Ans. C.

Region	Total number of students in Science & Commerce stream	Total number of students in Science stream	Total number of students in Commerce stream
North	4000 × 0.25 = 1000	600	1000 – 600 = 400
South	4000 × 0.20 = 800	450	800 – 450 = 350
East	4000 × 0.16 = 640	400	640 – 400 = 240
West	4000 × 0.24 = 960	360	960 – 360 = 600
Central	4000 × 0.15 = 600	350	600 – 350 = 250

The required difference = 600 – 350 = 250.

Hence, option C is correct.

27. Ans. E.

Region	Total number of students in Science & Commerce stream	Total number of students in Science stream	Total number of students in Commerce stream
North	4000 × 0.25 = 1000	600	1000 – 600 = 400
South	4000 × 0.20 = 800	450	800 – 450 = 350
East	4000 × 0.16 = 640	400	640 – 400 = 240
West	4000 × 0.24 = 960	360	960 – 360 = 600
Central	4000 × 0.15 = 600	350	600 – 350 = 250

The total number of students in Science and Commerce streams together in Central region = 600

The total number of students in Science and Commerce streams together in South region = 800

So, the required percentage = $\frac{800-600}{800} \times 100 = 25\%$.

Hence, option E is correct.

28. Ans. D.

$(X + 2000)\left[\left(1+\frac{20}{100}\right)^2 - 1\right] - X\left[\left(1+\frac{10}{100}\right)^2 - 1\right] = 3180$

$\Rightarrow (X + 2000)(1.44 - 1) - X(1.21 - 1) = 3180$

$\Rightarrow 0.44X + 880 - 0.21X = 3180$

$\Rightarrow 0.23X = 2300$

$\Rightarrow X = 10000$

Hence, option D is correct.

29. Ans. A.

Let his original speed = x km/hr, then

According to question,

$\frac{40}{(x-3)} - \frac{40}{(x+2)} = 3 + 1$

$\Rightarrow \frac{(x+2)-(x-3)}{(x-3)(x+2)} = \frac{4}{40}$

$\Rightarrow x^2 - x - 6 = 50$

$\Rightarrow x^2 - x - 56 = 0$

On solving we get x = 8

Hence, the original speed = x km/hr = 8 km/hr.

30. Ans. D.
Total weight of B and C = 73 × 2 = 146 kg
Total weight of A, B and C = 72 × 3 = 216 kg
Total weight of B, C, D = 76 × 3 = 228 kg
Weight of A = 216 – 146 = 70 kg
Weight of D = 228 – 146 = 82 kg
Total weight of D and E = 74 × 2 = 148 kg
Weight of E = 148 – 82 = 66 kg
Average weight of A and E = $\frac{70+66}{2}$ = 68 kg
Hence, option D is correct.
31. Ans. C.
Present age of Ananya's son = 13 – 5 = 8 years
Present age of Ananya's daughter = 8 – 3 = 5 years
Present age of Ananya = 5 × 6 = 30 years
Present age of Ananya's husband = $\frac{30}{5} \times 6$ = 36 years
Required sum = 30 + 36 = 66 years
Hence, option C is correct.
32. Ans. B.
Let the number of employees who like tea in company A be 10x.
So, the number of employees who like coffee in company C = 9x
The number of employees who like coffee in company A = 9x + 260
The number of employees who like tea in company C = 640
The number of employees who like coffee in company B = 1260 – 9x
The number of employees who like tea in company B
= 1940 – 10x – 640 = 1300 – 10x
According to the data provided in the question, we get:
1300 – 10x + 1260 – 9x = 1420
⇒ 2560 – 1420 = 19x
⇒ 19x = 1140
⇒ x = 60
The number of employees who like tea in company A = 600
The number of employees who like coffee in company C = 540
The number of employees who like coffee in company A = 800
The number of employees who like tea in company C = 640

The number of employees who like coffee in company B = 720
The number of employees who like tea in company B = 700
Required ratio = 800 : 700 = 8 : 7
Hence, option B is correct.
33. Ans. C.
Let the number of employees who like tea in company A be 10x.
So, the number of employees who like coffee in company C = 9x
The number of employees who like coffee in company A = 9x + 260
The number of employees who like tea in company C = 640
The number of employees who like coffee in company B = 1260 – 9x
The number of employees who like tea in company B
= 1940 – 10x – 640 = 1300 – 10x
According to the data provided in the question, we get:
1300 – 10x + 1260 – 9x = 1420
⇒ 2560 – 1420 = 19x
⇒ 19x = 1140
⇒ x = 60
The number of employees who like tea in company A = 600
The number of employees who like coffee in company C = 540
The number of employees who like coffee in company A = 800
The number of employees who like tea in company C = 640
The number of employees who like coffee in company B = 720
The number of employees who like tea in company B = 700
Total number of employees in company A = 600 + 800= 1400
Total number of employees in company C = 640 + 540 = 1180
Required difference = 1400 – 1180 = 220
Hence, option C is correct.
34. Ans. B.
Let the number of employees who like tea in company A be 10x.
So, the number of employees who like coffee in company C = 9x
The number of employees who like coffee in company A = 9x + 260
The number of employees who like tea in company C = 640
The number of employees who like coffee in company B = 1260 – 9x
The number of employees who like tea in company B
= 1940 – 10x – 640 = 1300 – 10x

According to the data provided in the question, we get:
1300 – 10x + 1260 – 9x = 1420
⇒ 2560 – 1420 = 19x
⇒ 19x = 1140
⇒ x = 60
The number of employees who like tea in company A = 600
The number of employees who like coffee in company C = 540
The number of employees who like coffee in company A = 800
The number of employees who like tea in company C = 640
The number of employees who like coffee in company B = 720
The number of employees who like tea in company B = 700
Required number of employees = 800 + 720 = 1520
Hence, option B is correct.
35. Ans. A.
Let the number of employees who like tea in company A be 10x.
So, the number of employees who like coffee in company C = 9x
The number of employees who like coffee in company A = 9x + 260
The number of employees who like tea in company C = 640
The number of employees who like coffee in company B = 1260 – 9x
The number of employees who like tea in company B
= 1940 – 10x – 640 = 1300 – 10x
According to the data provided in the question, we get:
1300 – 10x + 1260 – 9x = 1420
⇒ 2560 – 1420 = 19x
⇒ 19x = 1140
⇒ x = 60
The number of employees who like tea in company A = 600
The number of employees who like coffee in company C = 540
The number of employees who like coffee in company A = 800
The number of employees who like tea in company C = 640
The number of employees who like coffee in company B = 720
The number of employees who like tea in company B = 700
Total number of employees in company A = 800 + 600 = 1400
Required percentage = $\frac{700}{1400} \times 100$ = 50%
Hence, option A is correct.