

IBPS PO Prelims 2018 Previous Year Questions (Quant)



1. Rs. 7000 is divided unequally in two parts and invested in scheme A, which offer 10% p.a. compound interest annually for 2 years and in scheme B, which offer 15% p.a. simple interest for 3 years. If the interest earned from scheme A is 84% of that earned from scheme B. Find the sum invested in scheme A.

A. Rs. 4200
B. Rs. 2700
C. Rs. 3000
D. Rs. 4000
E. Rs. 4500

2. A bag contains X red balls and 5 green balls. 2 balls are picked up randomly one after the other without replacement from the bag, then the probability of both balls being red is $\frac{3}{7}$. What will be the value of X?

A. 10
B. 15
C. 13
D. 20
E. 22

3. A alone can do a work in 20 days. B is 25% more efficient than A. A and B started working and worked for 4 days, then C alone completed the remaining job in 22 days. In how many days C alone can complete the entire job?

A. 30
B. 35
C. 40
D. 42
E. 45

Direction (4 - 8) : Study the information carefully and answer the following questions:

A salon distributed 450 vouchers of free haircut and pedicure. The number of haircut vouchers were 130 more than the number of pedicure vouchers. The ratio between the number of male and female redeeming the pedicure vouchers is 13 : 7. The number of vouchers redeemed by male for haircut were 15 more than that of vouchers redeemed by male for pedicure. All the vouchers were redeemed.

4. Number of females redeeming pedicure vouchers are approximately what percent of the number of people redeeming haircut vouchers?

A. 24%
B. 15%
C. 19%
D. 22%
E. 17%

5. If 30 people with pedicure vouchers took a manicure service and 50% of those, who had haircut vouchers took a manicure service, then total how many people took manicure service?

A. 160
B. 150
C. 170
D. 175
E. None of these

6. How many males redeemed the pedicure voucher?

A. 94
B. 100
C. 86
D. 104
E. 98

7. How many males redeemed the haircut vouchers?

A. 105
B. 110
C. 119
D. 290
E. 120

8. What is the difference between the number of males and females having the pedicure vouchers?

A. 54
B. 56
C. 58
D. 48
E. 62

Direction (9 - 13) : The given table shows the number of shirts produced and percentage of shirts failed the quality test in 4 years by a company. Study the table carefully and answer the given questions.

Year	No. of Shirts produced (in lakh)	% of shirts failed the quality test
2014	3.2	2.5%
2015	4.0	2.25%
2016	2.8	1.25%
2017	3.6	1.25%

Note: Shirts which failed the quality test were not sold.

9. Average number of shirts that passed the quality test in the year 2016 and 2017 is

- A. 3.16 lakh
- B. 3.46 lakh
- C. 3.36 lakh
- D. 2.96 lakh
- E. None of these

10. The number of shirts that failed quality test reduced by what percent in the year 2017 as compared to the year 2014?

- A. 40.75 %
- B. 43.75%
- C. 42.75%
- D. 45.75%
- E. 44.75%

11. Out of total shirts produced in 2015, the number of white shirts produced is one-third less than the number of coloured shirts produced, then how many coloured shirts were produced in the year 2015?

- A. 2.5 lakh
- B. 2.3 lakh
- C. 2.2 Lakh
- D. 2.4 lakh
- E. None of these

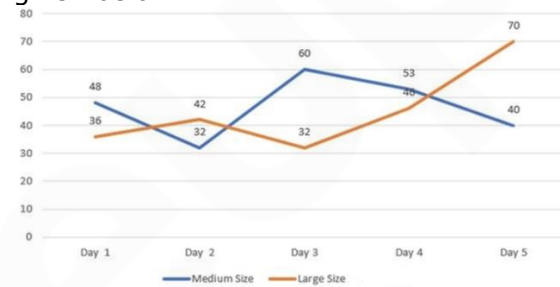
12. In 2015, 10% of the total number of shirts, which passed the quality test was not sold. How many shirts in the year 2015 did not sell despite being passed the quality test?

- A. 37400
- B. 39500
- C. 39100
- D. 38600
- E. 37500

13. In 2014, all shirts which passed the quality test were sold at an average price of Rs. 500 per shirt. What was the revenue (in Rs. crore) of that year?

- A. 0.156 Cr
- B. 15.6 Cr
- C. 1.56 Cr
- D. 1.52 Cr
- E. 1.54 Cr

Direction (14 – 18) : The following line graph shows the sales of woxx boxes of two sizes medium and large on 5 different days by a company ABC. Study the line graph carefully and answer the questions given below:



14. How many large size woxx boxes were sold together in all the given days?

- A. 245
- B. 240
- C. 244
- D. 226
- E. 210

15. Total number of woxx boxes of given two sizes, sold on day 1 is approximately what percent of the total number of woxx boxes given two sizes sold on day 4?

- A. 84%
- B. 84.5%
- C. 86%
- D. 84.3%
- E. 84.9%

16. What is the average of the number of woxx boxes of medium size, sold on day 1, day 4 and day 5?

- A. 44
- B. 45
- C. 46
- D. 47
- E. 48

17. Find the ratio between the total number of medium size wax boxes sold on day 3 and day 5 together and the number of same size wax boxes sold on day 1 and day 2 together.

- A. 3 : 4
- B. 4 : 3
- C. 5 : 4
- D. 4 : 5
- E. None of these

18. The number of wax boxes of medium size sold on day 5 is what percent more than the number of wax boxes of large size sold on day 3?

- A. 25%
- B. 33.33%
- C. 20%
- D. 16%
- E. None of these

19. The volume of a cylinder is $500\pi \text{ cm}^3$ and the radius is 5 cm. The height of the cylinder is equal to the diagonal of a square. Find the perimeter (in cm) of the square.

- A. $40/\sqrt{2}$
- B. $40\sqrt{2}$
- C. 40
- D. 60
- E. 10

Direction (20 – 24) : In the following question two equations are given in variables X and Y. You have to solve these equations and determine relation between X and Y.

- 20. A) $2x^2 + 5x + 3 = 0$
- B) $2y^2 - 7y + 6 = 0$
- A. $x > y$
- B. $x < y$
- C. $x \leq y$
- D. $x \geq y$
- E. $x = y$ or no relation can be established.

- 21. A) $3x^2 - 7x + 4 = 0$
- B) $2y^2 - 3y + 1 = 0$
- A. $x > y$
- B. $x < y$
- C. $x \leq y$
- D. $x \geq y$
- E. $x = y$ or no relation can be established.

- 22. A) $x^2 + 12x + 35 = 0$
- B) $y^2 + 17y + 72 = 0$
- A. $x > y$
- B. $x < y$
- C. $x \leq y$
- D. $x \geq y$
- E. $x = y$ or no relation can be established.

- 23. A) $x^2 - 10x + 25 = 0$
- B) $y^2 = 25$
- A. $x > y$
- B. $x < y$
- C. $x \leq y$
- D. $x \geq y$
- E. $x = y$ or no relation can be established.

- 24. A) $x^2 - 36x + 324 = 0$
- B) $y^2 - 42y + 441 = 0$
- A. $x > y$
- B. $x < y$
- C. $x \leq y$
- D. $x \geq y$
- E. $x = y$ or no relation can be established.

- 25. Two trains leave Delhi for Kolkata at 4:00 am and 4:30 am and travel at a speed of 50 Km/h and 75 Km/h respectively, then after how many kilometers from Delhi both trains will be together?
- A. 85 Km
- B. 75 Km
- C. 45 Km
- D. 55 Km
- E. None of these

- 26. John bought a machine for Rs. 50,000 and spent Rs. 2000 on repairs and Rs. 500 on transport and sold it with 20% profit. What price (in Rs.) did he sell the machine?
- A. 62000
- B. 60000
- C. 61000
- D. 63000
- E. None of these

- 27. The average age of a group of some persons is 16.75 years. By joining 20 new persons with an average age of 13.25 years, the average age of the group becomes 15 years. Find out the number of persons in the group initially.

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- A. 20
- B. 21
- C. 23
- D. 24
- E. 26

28. If the ratio of incomes of A and B in 2001 is 2 : 3 and the ratio of incomes of A in 2001 and 2002 is 4 : 5. Find the expenditure of A in 2002, if saving in the same year is Rs. 4000. It is given that in 2001 the sum of income of A and B is Rs. 25000.

- A. Rs. 5000
- B. Rs. 10500
- C. Rs. 9500
- D. Rs. 7500
- E. Rs. 8500

29. The ratio of ages of Ram and shaym is 2 : 6 and after 5 years the ratio of their age becomes 6 : 8. What will be their average age (in years) after 10 years?

- A. 12
- B. 13
- C. 14
- D. 15
- E. None of these

30. One container contains a mixture of spirit and water in the ratio 2: 3 and another contains the mixture of spirit and water in the ratio 3: 2. How much quantity from the second should be mixed with 10 litres of the first so that the resultant mixture has ratio of 4: 5?

- A. 2.86 litres
- B. 3.45 litres
- C. 4.31 litres
- D. 5.67 litres
- E. 8.94 litres

Direction: Find the wrong term in the following number series?

31. 0.5 , 2, 1, 4, 32, 512

- A. 0.5
- B. 2
- C. 4
- D. 32
- E. 512

Direction: Find the wrong term in the following number series?

32. 4, 5.1, 7.3, 10.6, 15, 20, 27.1

- A. 7.3
- B. 20
- C. 27.1
- D. 4
- E. 15

Direction: Find the wrong term in the following number series?

33. 2, 3, 8, 31, 154, 924, 6460

- A. 3
- B. 31
- C. 154
- D. 924
- E. 6460

Direction: Find the wrong term in the following number series.

34. 2, 6, 10, 19, 36, 69, 134

- A. 36
- B. 19
- C. 10
- D. 6
- E. 2

Direction: Find the wrong term in the following number series?

35. 251, 252, 254, 227, 243, 118, 154

- A. 251
- B. 252
- C. 254
- D. 227
- E. 118

###ANSWERS###

1. Ans. E.

Amount invested in scheme A be Rs.X and amount invested in scheme B be Rs.(7000-X)

Interest earned from scheme A = $X \times [10 + 10 + (10 \times 10)/100]\% = X \times (21/100)$
 Return from Scheme B = $(7000 - X) \times (3 \times 15/100) = (7000 - X) \times 45/100$

ATQ

$$X \times (21/100) = [(7000 - X) \times 45/100] \times (84/100)$$

$$\Rightarrow X = (7000 - X) \times 1.8$$

$$\Rightarrow 2.8X = 7000 \times 1.8$$

$$\Rightarrow X = 7000 \times (18/28) = 4500$$

Hence, answer is option E.

2. Ans. A.

Let the number of red balls be X, then Probability of getting 1st ball red = $X/(X+5)$

Probability of getting 2nd ball red (Without replacement) = $(X-1)/(X+4)$

Probability of getting both balls red = $[X/(X+5)] \times [(X-1)/(X+4)] = 3/7$

On solving, we get

$$X = 10$$

3. Ans. C.

A alone can do = 20days

Efficiency ratio of A & B = 4 : 5

Time required will be in ratio = 5:4

Hence B alone will do it in =16 days

LCM of (16,20)= 80 ,Assume work size of 80 units

1 day work of A= 4 units

1 day work of B= 5 units

Work done by both in 4 days= $4 \times (5+4) = 36$ units

Work left= $80-36 = 44$ units

Now C takes 22 days to complete= 44 units.

Therefore, the efficiency of C = $44/22 = 2$

Hence time taken by C alone to complete the work= $80/2 = 40$ days

4. Ans. C.

Say haircut voucher =H pedicure voucher
 $P = H-130$

$$H+P = 450,$$

$$H=290, P=160$$

Male getting pedicure= $160 \times (13/20) = 104$

Female Getting Pedicure= $160 \times (7/20) = 56$

Male Haircut= $104 + 15 = 119$

Female haircut= $290 - 119 = 171$

	Male	Female	Total
Haircut	119	171	290
Pedicure	104	56	160
Total	223	227	450

Required % = $(56/290) \times 100 = 19\%$ approximately

5. Ans. D.

Say haircut voucher =H pedicure voucher
 $P = H-130$

$$H+P = 450,$$

$$H=290, P=160$$

Male getting pedicure= $160 \times (13/20) = 104$

Female Getting Pedicure= $160 \times (7/20) = 56$

Male Haircut= $104 + 15 = 119$

Female haircut= $290 - 119 = 171$

	Male	Female	Total
Haircut	119	171	290
Pedicure	104	56	160
Total	223	227	450

Total for manicure= $30 + 50\%$ of 290
 $= 30 + 145 = 175$

6. Ans. D.

Say haircut voucher =H pedicure voucher
 $P = H-130$

$$H+P = 450,$$

$$H=290, P=160$$

Male getting pedicure= $160 \times (13/20) = 104$

Female Getting Pedicure= $160 \times (7/20) = 56$

Male Haircut= $104 + 15 = 119$

Female haircut= $290 - 119 = 171$

Males redeemed pedicure voucher= 104

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	Male	Female	Total
Haircut	119	171	290
Pedicure	104	56	160
Total	223	227	450

7. Ans. C.

Say haircut voucher = H pedicure voucher

$$P = H - 130$$

$$H + P = 450,$$

$$H = 290, P = 160$$

$$\text{Male getting pedicure} = 160 \times \left(\frac{13}{20}\right) = 104$$

$$\text{Female Getting Pedicure} = 160 \times \left(\frac{7}{20}\right) = 56$$

$$\text{Male Haircut} = 104 + 15 = 119$$

$$\text{Female haircut} = 290 - 119 = 171$$

$$\text{Males redeemed pedicure voucher} = 104$$

	Male	Female	Total
Haircut	119	171	290
Pedicure	104	56	160
Total	223	227	450

8. Ans. D.

Say haircut voucher = H pedicure voucher

$$P = H - 130$$

$$H + P = 450,$$

$$H = 290, P = 160$$

$$\text{Male getting pedicure} = 160 \times \left(\frac{13}{20}\right) = 104$$

$$\text{Female Getting Pedicure} = 160 \times \left(\frac{7}{20}\right) = 56$$

$$\text{Male Haircut} = 104 + 15 = 119$$

$$\text{Female haircut} = 290 - 119 = 171$$

$$\text{Males redeemed pedicure voucher} = 104$$

	Male	Female	Total
Haircut	119	171	290
Pedicure	104	56	160
Total	223	227	450

$$\text{Required Difference} = 104 - 56 = 48$$

9. Ans. A.

$$\% \text{ of shirts failed in quality test} = 1.25 \%$$

$$\% \text{ of shirts passed in quality test} = (100 - 1.25) = 98.75 \%$$

$$\text{Required average} = \frac{\{98.75\% \text{ of } (2.8 + 3.6)\}}{2} = 3.16 \text{ lakh.}$$

10. Ans. B.

$$\text{Shirts failed test in 2014} = 2.5\% \text{ of } 3.2 \text{ lakh} = 8000$$

$$\text{Shirts failed test in 2017} = 1.25\% \text{ of } 3.6 \text{ lakh} = 4500$$

$$\text{Decrease in percentage} = \frac{(8000 - 4500)}{8000} \times 100 = 43.75\%$$

11. Ans. D.

In the year 2015:

$$\text{No. of coloured shirts} : \text{No. of white shirts} = 3 : (3 - 1) = 3 : 2$$

$$\text{Hence, answer} = \left(\frac{3}{5}\right) \times 4 = 2.4 \text{ lakh}$$

12. Ans. C.

$$\text{Number of shirts, which passed the quality test in 2015} = 97.75\% \text{ of } 4.0 \text{ lakh}$$

$$\text{Hence, answer} = 10\% \text{ of } (97.75\% \text{ of } 4.0 \text{ lakh}) = 39100.$$

13. Ans. B.

$$\text{Total no. of shirts passed the quality test} = 3,20,000 \times (1 - 2.5/100) = 3,20,000 \times 97.5/100 = 3,12,000$$

$$\text{Hence, the total revenue} = 3,12,000 \times 500 = \text{Rs. } 15.6 \text{ Crore.}$$

14. Ans. D.

$$\text{Required number of large size wax boxes} = 36 + 42 + 32 + 46 + 70 = 226$$

15. Ans. E.

$$\text{Total number of sold wax boxes on day 1} = 48 + 36 = 84$$

$$\text{Total number of sold wax boxes on day 4} = 53 + 46 = 99$$

$$\text{Hence, the required percent} = \left(\frac{84}{99}\right) \times 100 = 84.84 \approx 84.9\%.$$

16. Ans. D.

$$\text{Total number of wax box of medium size, sold on Day 1, Day 4 and Day} = 48 + 53 + 40 = 141$$

$$\text{Hence, the required average} = \frac{141}{3} = 47$$

17. Ans. C.

$$\text{Hence required ratio} = (60 + 40) : (48 + 32) = 100 : 80 = 5 : 4.$$

18. Ans. A.

$$\text{Required percentage} = \left[\frac{(40 - 32)}{32}\right] \times 100 = 25\%$$

19. Ans. B.

$$\text{Given, } r = 5 \text{ cm and volume of cylinder} = \pi r^2 h = 500\pi$$

$$\Rightarrow h = 20 \text{ cm}$$

$$\text{So, the diagonal of square} = 20 \text{ cm}$$

⇒ Side of the square = Diagonal/ $\sqrt{2}$ =
 $20/\sqrt{2} = 10\sqrt{2}$ cm
 ∴ Perimeter of square = 4 × side = 4 × 10
 $\sqrt{2} = 40\sqrt{2}$ cm

20. Ans. B.

A $2x^2 + 5x + 3 = 0$

So $2x^2 + 2x + 3x + 3 = 0$

So $2x(x+1)+3(x+1) = 0$

So $(2x+3)(x+1)=0$

So $x = -3/2$ or $x = -1$

B. $2y^2 - 7y + 6 = 0$

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

So $y = +2$ or $y = +3/2$

Thus $x < y$

21. Ans. D.

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

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

$X = 4/3$ or 1

B. $2y^2 - 3y + 1 = 0$

$2y^2 - 2y - y + 1 = 0$

$Y = 1$ or $1/2$

Thus D is correct

22. Ans. A.

A. $x^2 + 12x + 35 = 0$

$x^2 + 7x + 5x + 35 = 0$

$x = -7$ or -5

B. $y^2 + 17y + 72 = 0$

$y^2 + 8y + 9y + 72 = 0$

$Y = -8$ or -9

So $x > y$

23. Ans. D.

A. $x^2 - 10x + 25 = 0$

$x^2 - 5x - 5x + 25 = 0$

$x = +5$

B. $y^2 = 25$

$Y = +5, -5$

So $x \geq y$

24. Ans. B.

A. $x^2 - 36x + 324 = 0$

$x^2 - 18x - 18x + 324 = 0$

$x = 18$

B. $y^2 - 42y + 441 = 0$

$y^2 - 21y - 21y + 441 = 0$

$y = 21$

$x < y$

25. Ans. B.

Train A starts at 4:00 am and Train B starts at 4:30 am

In 30 minutes the train with 50 Km speed reach at a distance of 25 Km

And their relative speed is $(75 - 50) = 25$ Km/h (since both are running in same direction)

So, Time taken to cover train B to reach at train A $\rightarrow 25/25 = 1$ Hr

The two trains will be together after 1 hour from 4:30.

hence, distance from delhi = $75 * 1 = 75$ km

or, $50 * 1.5 = 75$ (since train A travels for 1.5 hour)

26. Ans. D.

Cost Price = Rs. $(50000 + 2000 + 500) =$ Rs. 52,500

Profit = 20%

Hence, selling price = 120% of 52500 = Rs. Rs. 63,000

27. Ans. A.

Let the number of persons in the group Initially be x, then

$x \times 16.75 + 20 \times 13.25 = (x + 20) \times 15$
 $\Rightarrow 1.75x = 20 \times (15 - 13.25)$

$\Rightarrow 1.75x = 20 \times 1.75$

$\Rightarrow x = 20$

28. Ans. E.

$A_{2001}:A_{2002} = 4:5$

$A_{2001}:B_{2001} = 2:3$

We have to make A_{2001} same in both cases.

$A_{2001}:B_{2001} = 4:6$

Let A's income in 2001 = 4x

Let B's income in 2001 = 6x

A and B income in 2001 = 25000 [Given]

$10x = 25000$

$x = 2500$

A's income in 2001 = 4x = 4*2500 = Rs10000

B's income in 2001 = 6x = 6*2500 = Rs15000

A's income in 2002 = 5x = 5*2500 = Rs12500

Savings of A in 2002 = Rs4000

Expenditure = Income - Savings = 12500 - 4000 = Rs8500

29. Ans. A.

Let the current ages be y and 3y

Their ages after 5 years $\rightarrow y+5$ & $3y+5$

$\rightarrow (y+5)/(3y+5) = 3/4 \rightarrow y = 1$

So, their current ages are 1 & 3 years and after 10 years the average age be 12 years.

30. Ans. A.

Ratio of mixture of spirit and water in Container 1 = 2: 3

Amount of mixture taken = 10 litres

Amount of spirit = $\frac{2}{5} \times 10 = 4$ litres

Amount of water = $\frac{3}{5} \times 10 = 6$ litres

Ratio of mixture of spirit and water in Container 2 = 3: 2

Amount of mixture taken = x litres

Amount of spirit = $\frac{3}{5} \times x = \frac{3x}{5}$ litres

Amount of water = $\frac{2}{5} \times x = \frac{2x}{5}$ litres

Ratio of mixture of spirit and water in resultant mixture = 4: 5

Therefore, $(4 + \frac{3x}{5}) / (\frac{6}{5} + \frac{2x}{5}) = \frac{4}{5}$

$(\frac{20}{5} + \frac{3x}{5}) / (\frac{30}{5} + \frac{2x}{5}) = \frac{4}{5}$

$(20 + 3x) / (30 + 2x) = \frac{4}{5}$

$100 + 15x = 120 + 8x$

$7x = 20; x = 2.86$ litres

So option (1) is the correct answer.

31. Ans. B.

0.5, 2, 1, 4, 32, 512

taking from opposite side

$512 \div 2^4 = 32$

$32 \div 2^3 = 4$

$4 \div 2^2 = 1$

$1 \div 2^1 = 0.5 \neq 2$

$0.5 \div 2^0 = 0.5$

hence 2 is wrong term.

32. Ans. B.

$5.1 = 4 + 1.1$

$7.3 = 5.1 + 2.2$

$10.6 = 7.3 + 3.3$

$15 = 10.6 + 4.4$

$20.5 = 15 + 5.5$ (Hence, 20 is the wrong term)

$27.1 = 20.5 + 6.6$

33. Ans. D.

$3 = (2 \times 2) - 1$

$8 = (3 \times 3) - 1$

$31 = (8 \times 4) - 1$

$154 = (31 \times 5) - 1$

$923 = (154 \times 6) - 1$ (Hence, 924 is the wrong term)

$6460 = (923 \times 7) - 1$

34. Ans. D.

$134 - 69 = 65$ further $65 - 33 = 32$

$69 - 36 = 33$ $33 - 17 = 16$

$36 - 19 = 17$ $17 - 9 = 8$

$9 - 10 = 9$ $9 - 5 = 4$

$10 - 5 = 5$

35. Ans. B.

$251 - 1^3 = 250$ ----(Hence, 252 is the wrong term)

$250 + 2^2 = 254$

$254 - 3^3 = 227$

$227 + 4^2 = 243$

$243 - 5^3 = 118$

$118 + 6^2 = 154$

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