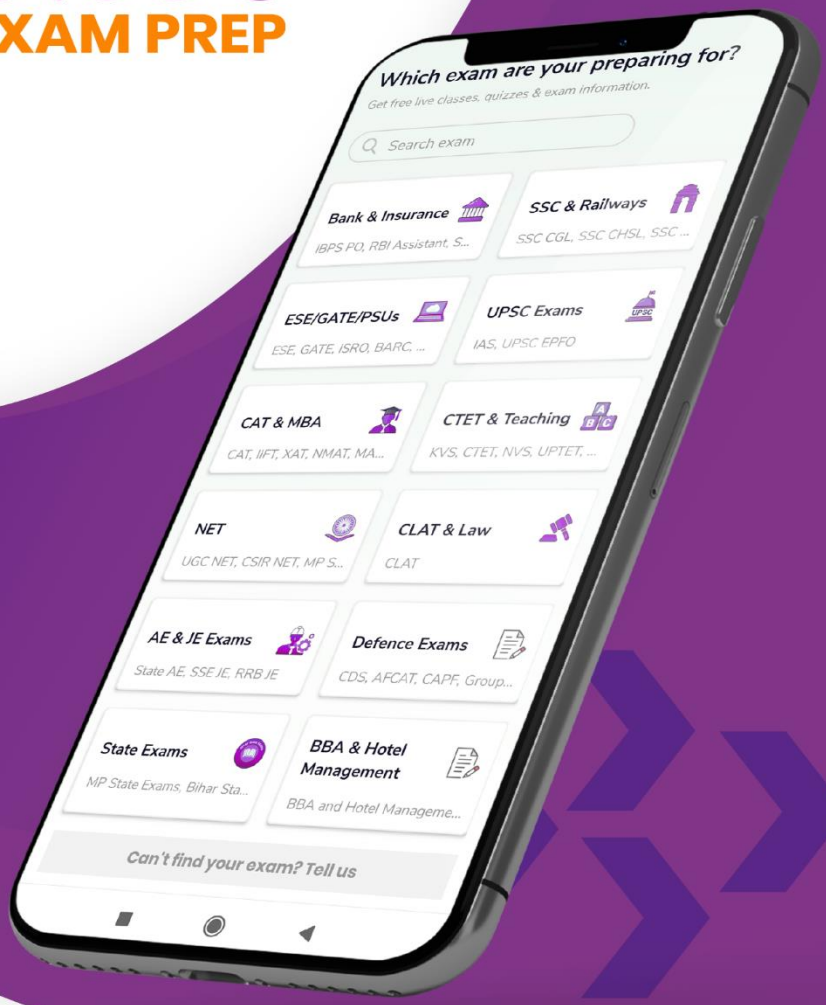
BYJU'S EXAM PREP



IBPS PO Pre 2020

Quant Question Paper with Solution

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Direction: What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value)

1. $468.02 + 79.91 \div 5.01 = ?^2$
A. 12
B. 11
C. 18
D. 22
E. 24

2. 49.99% of 6400.002 ÷ 999.99 = ?
A. 3.6
B. 5
C. 4.8
D. 2.4
E. 3.2

3. ? ÷ 2.997 + 799.98 × 8.9 = 9199.978
A. 6000
B. 5000
C. 4000
D. 4800
E. 6400

4. $(1110.02 + 89.81) \div ? - \sqrt{15} = 15.98$
A. 60
B. 120
C. 80
D. 75
E. 40

5. $? \times 350.01 \div 3.99^2 = 983 \div 14.001$
A. 1.2
B. 1.8
C. 2.8
D. 3.2
E. 4

Direction: What value will come in place of the question mark (?) in the following question?

6. 42, 67, 116, ?, 406, 695
A. 221
B. 237
C. 242
D. 336
E. 194

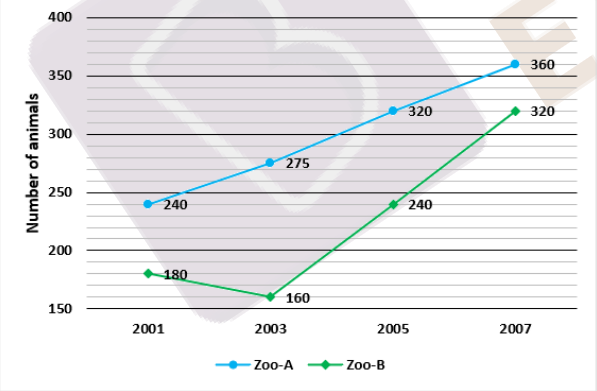
7. 32, 50, 86, ?, 212, 302
A. 168
B. 126
C. 140
D. 158
E. None of these

8. 230, 204, 187, 177, 172, ?
A. 170
B. 168
C. 171
D. 167
E. 169

9.2.4, 3.6, 5.1, 6.9, ?, 11.4
A. 8.5
B. 9.2
C. 9
D. 10.5
E. 10

10.1, ?, 3, 15, 105, 945
A. 2
B. 1.5
C. 0.5
D. 1
E. None of these

Direction: Study the following line graph carefully and answer the questions given below.
In the below line graph, the number of animals in two zoo A and B in the years – 2001, 2003, 2005 and 2007 is given.



11. What is the ratio of the number of animals in zoo-A in the years 2001 and 2005 together and the number of animals in zoo-B in the years 2003 and 2007 together?
A. 7 : 6
B. 6 : 7
C. 5 : 6
D. 7 : 5
E. None of these

12.What is the sum of the differences of the number of animals in zoo-A and zoo-B in the years 2001, 2003 and 2005?
A. 185
B. 235
C. 255
D. 275
E. None of these

13.If in the year 2005, 35% of animals in zoo-A and 55% of animals in zoo-B are carnivorous, then what is the sum of the number of carnivorous animals in zoo A and B in the years 2005?
A. 184
B. 198
C. 222
D. 244
E. None of these

14.Sum of the number of animals in zoo-B in the years 2001, 2003 and 2005 together is what percent more/less than the sum of the number of animals in zoo-A in the years 2001 and 2007 together?
A. $6\frac{1}{4}\%$
B. $5\frac{1}{3}\%$
C. $3\frac{1}{3}\%$
D. $8\frac{1}{3}\%$
E. None of these

15.If the number of animals in zoo-B in the years 2009 is 25% more than that in the year 2007, then what is the average number of animals in zoo-B in the years 2005, 2007 and 2009?
A. 225
B. 320
C. 260
D. 240
E. None of these

16.A and B started a business in a partnership. Ratio between the investments of A and B was 5 : 4. If A invested for 12 months and at the end of the year the ratio of profit was 15 : 8, then for how much time B invested?
A. 8 months
B. 9 months
C. 6 months
D. 10 months
E. None of these

17.A and B together can do a piece of work in 12 days, A and C together can do the same work in 15 days. If B and C together can do the same work in 20 days, then in how many days A, B and C together can complete the same work?
A. 8
B. 6
C. 10
D. 9
E. None of these

18.4 years hence, the ratio of ages A and B will be 5 : 7 and 6 years hence, the ratio of ages will be 11 : 15, then find their present ages.
A. 20 years, 26 years
B. 16 years, 24 years
C. 18 years, 28 years
D. 12 years, 18 years
E. None of these

19.Running at the speed of 3 km/hr, a person reaches his destination 10 minutes later than usual time. if he increases his speed by 1 km/hr, he reaches his destination 15 min earlier. find the distance to his destination.

A. 10 km
B. 12 km
C. 5 km
D. 4 km
E. None of these

20.A person invests certain amount on simple interest. After 8 years he gets 16% interest. If he invests the same sum for 4 years, then he gets Rs. 9600 as interest, then the sum is
A. Rs. 96000
B. Rs. 80000
C. Rs. 48000
D. Rs. 60000
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.
21.
I. $X^3 = 125$
II. $Y^3 = 8$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or no relation can be established

22.
I. $2x + 3y = 52$
II. $5x - 2y = 16$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or no relation can be established

23.
I. $X^2 - 5x + 6 = 0$
II. $2y^2 - 7y + 3 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or no relation can be established

24.
I. $X^2 = 9^2$
II. $(Y - 8)^2 = 9$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or no relation can be established

25.
I. $X^2 - 5x + 6 = 0$
II. $Y^2 - y - 6 = 0$
A. X > Y
B. X < Y

C. X ≥ Y
D. X ≤ Y
E. X = Y or no relation can be established

Direction: Study the following information carefully and answer the questions given below.
In the table, percentage of shirts (formal and casual) sold out of the total number of shirts sold in the week and number of casual shirts sold data related to the number of shirts sold on five week days – Monday, Tuesday, Wednesday, Thursday and Friday are given.
Total number of shirts sold in the week = x

Day	Percentage of total shirts sold	Number of casual shirts sold
Monday	14%	32
Tuesday	16%	24
Wednesday	12%	28
Thursday	22%	56
Friday	18%	20

Note: Total number of shirts sold on Saturday and Sunday together = 72

26. What is the average number of total shirts sold on Wednesday, Friday, Saturday and Sunday together?
A. 64
B. 24
C. 36
D. 48
E. None of these

27.What is the sum of the formal shirts sold on Monday, Tuesday and Wednesday together?
A. 102
B. 168
C. 84
D. 64
E. None of these

28.What is the ratio of the number of casual shirts sold on Monday and Wednesday together and number of formal shirts sold on Tuesday and Thursday together?
A. 4 : 3
B. 3 : 4
C. 5 : 3
D. 6 : 5
E. None of these

29.40% of casual shirts sold and 25% of formal shirts sold on Friday of brand X, then the number of shirts sold of brands other than X on Friday is
A. 21
B. 31
C. 41
D. 51
E. None of these

30.Number of casual shirts sold on Thursday is what percent more than the number of formal shirts sold on Tuesday?
A. 20%
B. 50%
C. 40%
D. 37.5%
E. None of these

31.A shopkeeper bought 80 pens in Rs. 400. He sold 40 pens at 60% profit and sold the remaining pens at 20% profit. If he had sold all the pens at a 15% profit, how much less profit would he have made?
A. Rs. 65
B. Rs. 80
C. Rs. 100
D. Rs. 120
E. None of these

32.Present age of B will be half of A's age 4 years hence and double of A's age 5 years ago, then what is the present age of B?
A. 6 years B. 4 years
C. 8 years D. 12 years
E. None of these

33.A started a business with a certain capital. After 3 months A left the business and B joins the business and remains in business. If the ratio of the profit at the end of the year is 5 : 6 and the initial investment of A is Rs. 6000, then the investment of B is
A. Rs. 1800 B. Rs. 2400
C. Rs. 3600 D. Rs. 4800
E. None of these

Direction: Study the following information carefully and answer the questions given below.
25% of the boys and 60% of the girls from a college participated in an event. Total number of girls in the college is equal to the number of boys, who do not participate in the event.

34. The number of girls, who participated in the event is what percent more than the number of boys, who participated in the event?
A. 30% B. 35%
C. 50% D. 80%
E. None of these

35.If the difference the number of boys and girls, who participated in the event is 40, then the total number of boys and girls in the college is
A. 175
B. 210
C. 350
D. 420
E. None of these

ANSWERS

1. Ans. D.
$?^2 = 468.02 + 79.91 \div 5.01$
$\approx 468 + 80 \div 5 = 468 + 16 = 484 = 22^2$
$\Rightarrow ? = 22$
2. Ans. E.
?= 49.99% of 6400.002 ÷ 999.99 ≈ 50% of 6400 ÷ 1000 = 3200 ÷ 1000 = 3.2
3. Ans. A.
$? \div 2.997 + 799.98 \times 8.9 = 9199.978$
After approximation, we get
$? \div 3 + 800 \times 9 = 9200$
$\Rightarrow ? = (9200 - 7200) \times 3 = 2000 \times 3 = 6000.$
?= 49.99% of 6400.002 ÷ 999.99 ≈ 50% of 6400 ÷ 1000 = 3200 ÷ 1000 = 3.2
4. Ans. A.
$(1110.02 + 89.81) \div ? - \sqrt{15} = 15.98$
After approximation, we get
$(1110 + 90) \div ? - 4 = 16$
$\Rightarrow 1200 \div ? = 16 + 4 = 20$
$\Rightarrow ? = 1200 \div 20 = 60.$
5. Ans. D.
$? \times 350.01 \div 3.99^2 = 983 \div 14.001$
After approximation, we get
$? \times 350 \div 16 = 980 \div 14$
$\Rightarrow ? \times 350 \div 16 = 70$
$\Rightarrow ? = (70 \times 16) \div 350 = 3.2$
6. Ans. B.
The pattern of the series is (square of prime numbers)
$+5^2, +7^2, +11^2, +13^2, +17^2$
7. Ans. C.
+18, + 36, +54, +72, +90
8. Ans. A.
$-(5^2 + 1), -(4^2 + 1), -(3^2 + 1), -(2^2 + 1), -(1^2 + 1)$

9. Ans. C.
+1.2, +1.5, +1.8, +2.1, +2.4
10. Ans. D.
×1, ×3, ×5, ×7, ×9
11. Ans. A.
number of animals in zoo-A in the years 2001 and 2005 together = 240+320 = 560
number of animals in zoo-B in the years 2003 and 2007 together = 160+320 = 480
Required Ratio,
⇒ 560 : 480
⇒ 7 : 6
12. Ans. C.
difference of the number of animals in zoo-A and zoo-B in the years 2001= 60
difference of the number of animals in zoo-A and zoo-B in the years 2003= 115
difference of the number of animals in zoo-A and zoo-B in the years 2005= 80
required Sum= 60+115+80
= 255
13. Ans. D.
In the years 2005,
35% of animals in zoo-A= 112
55% of animals in zoo-B = 132
Required sum= 244
14. Ans. C.
Sum of the number of animals in zoo-B in the years 2001, 2003 and 2005 together
= 180+160+240
=580
sum of the number of animals in zoo-A in the years 2001 and 2007 together= 240+360
= 600
Required %= $\frac{600-580}{600}\times 100 = 3\frac{1}{3}\%$

15. Ans. B.

number of animals in zoo-B in the years 2009 = $320\times \frac{125}{100}$

= 400

Average number of animals in zoo-B in the years 2005, 2007 and 2009= $\frac{240+320+400}{3}$

= 320

16. Ans. A.

Let B invested for x months, then

According to question

(5 × 12) : (4 × x) = 15 : 8

⇒ 15 : x = 15 : 8

⇒ x = 8

17. Ans. C.

Let the total work = 60 (LCM of 12, 15 and 20)

Efficiency of A and B together = $\frac{60}{12}$ = 5

Efficiency of B and C together = $\frac{60}{20}$ = 3

Efficiency of C and A together = $\frac{60}{15}$ = 4

So, efficiency of A, B and C together = $\frac{5+3+4}{2}$ = 6

Hence, the required number of days = $\frac{60}{6}$ = 10 days.

18. Ans. B.

Let the present ages of A and B be a years and b years, then

According to question

$\frac{a+4}{5} = \frac{b+4}{7}$

⇒ 7a – 5b = –8 …. (i)

And

$\frac{a+6}{11} = \frac{b+6}{15}$

⇒ 15a – 11b = –24 …. (ii)

On solving equations (i) and (ii), we get

a = 16 and b = 24

Hence, the ages of A and B will be 16 years and 24 years respectively.

19. Ans. C.
Let the distance to his destination be d km, then
According to question
$\frac{d}{3} - \frac{d}{(3+1)} = \frac{10+15}{60}$
$\Rightarrow \frac{d}{3} - \frac{d}{4} = \frac{5}{12}$
$\Rightarrow \frac{d}{12} = \frac{5}{12}$
$\Rightarrow d = 5$
Hence, the distance to his destination = d = 5 km
20. Ans. E.
In 8 years, he gets 16% as interest, then
In 4 years, he will get $\frac{16}{2}$ = 8% as interest
According to question
8% ≡ Rs. 9600
⇒ 1% ≡ Rs. 1200
⇒ 100% ≡ Rs. 120000
Hence, the sum = 100% ≡ Rs. 120000.
21. Ans. A.
I. $X^3 = 125$
X= +5
II. $Y^3 = 8$
Y= +2
X > Y
22. Ans. B.
By solving the both equations
X= 8, y = 12
X < Y
23. Ans. E.
$X^2 - 5X + 6 = 0$
$\Rightarrow X^2 - 3X - 2X + 6 = 0$
$\Rightarrow X(X - 3) - 2(X - 3) = 0$
$\Rightarrow (X - 3)(X - 2) = 0$
$\Rightarrow X = +3, +2$
$2y^2 - 7y + 3 = 0$

⇒ $2Y^2 - 6Y - Y + 3 = 0$
⇒ $2Y(Y - 3) - 1(Y - 3) = 0$
⇒ $(2Y - 1)(Y - 3) = 0$
⇒ $Y = 3, 0.5$
Hence, No relation can be established.
24. Ans. E.
I. $X^2 = 9^2$
⇒ $X = +9, -9$
II. $(Y - 8)^2 = 9$
⇒ $(Y - 8)^2 = 3^2$
⇒ $Y = 8 + 3$ or $8 - 3$
⇒ $Y = 11$ or 5
So, no relation can be established between X and Y.
25. Ans. E.
$X^2 - 5X + 6 = 0$
⇒ $X^2 - 3X - 2X + 6 = 0$
⇒ $X(X - 3) - 2(X - 3) = 0$
⇒ $(X - 3)(X - 2) = 0$
⇒ $X = +3, +2$
$Y^2 - y - 6 = 0$
⇒ $Y^2 - 3Y + 2Y + 6 = 0$
⇒ $Y(Y - 3) + 2(Y - 3) = 0$
⇒ $(Y - 3)(Y + 2) = 0$
⇒ $Y = 3, -2$
no relation can be established
26. Ans. D.
Total number of shirts sold on weekdays = (14 + 16 + 12 + 22 + 18)% of x = 82% of x
Total number of shirts sold on weekends = (100 – 82)% of x = 18% of x
According to the question
18% of x = 72
⇒ x = 400
Number of formal shirts sold = Total number of shirts sold – Number of casual shirts sold

Day	Percentage of total shirts sold	Number of casual shirts sold	Number of casual shirts sold
Monday	14%	32	24
Tuesday	16%	24	40
Wednesday	12%	28	20
Thursday	22%	56	32
Friday	18%	20	52

The average number of total shirts sold on Wednesday, Friday, Saturday and Sunday together = $\frac{(28 + 20) + (20 + 52) + 72}{4}$ = 48

27. Ans. C.

Total number of shirts sold on weekdays = (14 + 16 + 12 + 22 + 18)% of x = 82% of x

Total number of shirts sold on weekends = (100 – 82)% of x = 18% of x

According to the question

18% of x = 72

⇒ x = 400

Number of formal shirts sold = Total number of shirts sold – Number of casual shirts sold

Day	Percentage of total shirts sold	Number of casual shirts sold	Number of casual shirts sold
Monday	14%	32	24
Tuesday	16%	24	40
Wednesday	12%	28	20
Thursday	22%	56	32
Friday	18%	20	52

The sum of the formal shirts sold on Monday, Tuesday and Wednesday together = 24 + 40 + 20 = 84

28. Ans. E.

Total number of shirts sold on weekdays = (14 + 16 + 12 + 22 + 18)% of x = 82% of x

Total number of shirts sold on weekends = (100 – 82)% of x = 18% of x

According to the question

18% of x = 72

⇒ x = 400

Number of formal shirts sold = Total number of shirts sold – Number of casual shirts sold

Day	Percentage of total shirts sold	Number of casual shirts sold	Number of casual shirts sold
Monday	14%	32	24
Tuesday	16%	24	40
Wednesday	12%	28	20
Thursday	22%	56	32
Friday	18%	20	52

The number of casual shirts sold on Monday and Wednesday together = 32 + 28 = 60

The number of formal shirts sold on Tuesday and Thursday together = 40 + 32 = 72

Hence, the required ratio = 60 : 72 = 5 : 6

29. Ans. D.

Total number of shirts sold on weekdays = (14 + 16 + 12 + 22 + 18)% of x = 82% of x

Total number of shirts sold on weekends = (100 – 82)% of x = 18% of x

According to the question

18% of x = 72

⇒ x = 400

Number of formal shirts sold = Total number of shirts sold – Number of casual shirts sold

Day	Percentage of total shirts sold	Number of casual shirts sold	Number of casual shirts sold
Monday	14%	32	24
Tuesday	16%	24	40
Wednesday	12%	28	20
Thursday	22%	56	32
Friday	18%	20	52

The number of shirts sold of brand X on Friday = 40% of 20 + 25% of 52 = 8 + 13 = 21

Hence, the required number of shirts sold = (20 + 52) – 21 = 72 – 21 = 51.

30. Ans. C.
Total number of shirts sold on weekdays = (14 + 16 + 12 + 22 + 18)% of x = 82% of x
Total number of shirts sold on weekends = (100 – 82)% of x = 18% of x
According to the question
18% of x = 72
⇒ x = 400
Number of formal shirts sold = Total number of shirts sold – Number of casual shirts sold

Day	Percentage of total shirts sold	Number of casual shirts sold	Number of casual shirts sold
Monday	14%	32	24
Tuesday	16%	24	40
Wednesday	12%	28	20
Thursday	22%	56	32
Friday	18%	20	52

Required percentage = $\frac{56-40}{40} \times 100 = 40\%$.

31. Ans. C.
Cost of per pen= 400/80
= 5 Rs/pen
Profit on 40 pens(at 60% profit)= 5×40×60%= 120 Rs
Profit on remaining pens(at 20% profit)= 5×40×20%= 40 Rs
Total profit on All the pens(at 15% profit)= 5×80×15%=60
Required difference= (120+40)-60
=100 Rs.
32. Ans. A.
Let the present ages of A and B be a years and b years, then
According to question
$b = \frac{(a+4)}{2} = 2(a-5)$
⇒ (a + 4) = 4(a – 5)
⇒ (4a – a) = 4 × 5 + 4 = 24
⇒ 3a = 24
⇒ a = 8
Hence, the present age of B = b = 2(a – 5) = 2(8 – 5) = 6 years.

33. Ans. B.
Let investment of B = Rs. x, then
According to question
(6000 × 3) : {x × (12 – 3)} = 5 : 6
⇒ 2000 : x = 5 : 6
⇒ x = 2400
34. Ans. D.
ATQ, (100-25)% of Boys = Total number of girls
⇒ 75% of B= G
⇒ Boys : Girls = 4 : 3
Let number of Boys & girls respectively 4x , 3x
Required% = $\frac{(60\%\ of\ 3x - 25\%\ of\ 4x)}{25\%\ of\ 4x} \times 100 = 80$
35. Ans. C.
ATQ, (100-25)% of Boys = Total number of girls
⇒ 75% of B= G
⇒ Boys : Girls = 4 : 3
Let number of Boys & girls respectively 4x , 3x
⇒ 60% of 3x – 25% of 4x = 40
⇒ X= 50
So number of boys & girls= (3x + 4x) = 7× 50 = 350