

NABARD Gr A 2022

Imp. Quantitative Aptitude Questions PDF

1. There are 7 red balls and 8 yellow balls in a bag. Two balls are simultaneously drawn at random. What is the probability that both the balls are of same colour?

A. $\frac{3}{18}$

B. $\frac{13}{30}$

C. $\frac{3}{10}$

D. $\frac{7}{18}$

E. $\frac{7}{15}$

2. The ratio of the speed of the boat and the speed of the river is 2:1. If the time taken in 105 km distance downstream is 10 hours less than the same distance traveled upstream then find out the speed of the boat.

A. 7 km/h

B. 21 km/h

C. 14 km/h

D. 5 km/h

E. 8 km/h

3. Train-A crosses a pole in 25 seconds and another Train-B crosses a pole in 1 min and 15 sec. Length of Train-A is half length of Train B. What is the respective ratio between the speeds of Train-A and Train-B?

A. 3 : 2

B. 3 : 4

C. 4 : 3

D. Cannot be determined

E. None of these

Direction: Each question below is followed by two statements I and II. You have to determine whether the data given in the statement is sufficient for answering the question. You should use the data and your knowledge of Mathematics to choose the best possible answer.

4. There are seven consecutive even numbers. Find the largest even number

Statement I: largest even number is 50% more than the smallest even number

Statement II: Average of the even numbers is 30

A. If the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.

B. If the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.

C. If the data either in Statement I or in Statement II alone are sufficient to answer the question.



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- D. If the data in both Statements I and II together are necessary to answer the question.
E. If the data even in both Statements I and II together are not sufficient to answer the question.

Direction: Each question below is followed by two statements **I** and **II**. You have to determine whether the data given in the statement is sufficient for answering the question. You should use the data and your knowledge of Mathematics to choose the best possible answer.

5. How long will it take to empty the tank if both the inlet pipe A and the outlet pipe B are opened simultaneously?

Statement I: A can fill the tank in 16 minutes.

Statement II: B can empty the full tank in 8 minutes.

- A. If the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question
B. If the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
C. If the data either in Statement I or in Statement II alone are sufficient to answer the question.
D. If the data in both Statements I and II together are necessary to answer the question.
E. If the data even in both Statements I and II together are not sufficient to answer the question.

Direction: Each question below is followed by two statements I and II. You have to determine whether the data given in the statement is sufficient for answering the question. You should use the data and your knowledge of Mathematics to choose the best possible answer.

6. A train crosses another train running in opposite direction in t seconds. What is the speed of train?

I. One train crosses a signal pole in 10 seconds

II. Both the train have the same length and same speed

- A. I alone
B. II alone
C. Either I alone or II alone
D. Both I and II
E. Both I and II are not sufficient

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.

7. 1) $(x - 8)^2 = 0$



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2) $y = \sqrt{64}$

- A. $x > y$
- B. $x < y$
- C. $x \geq y$
- D. $x \leq y$
- E. $x=y$ or No relation can be established

Direction: 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.

8. $3x^2 - 17x + 24 = 0$

$3y^2 + 5y - 2 = 0$

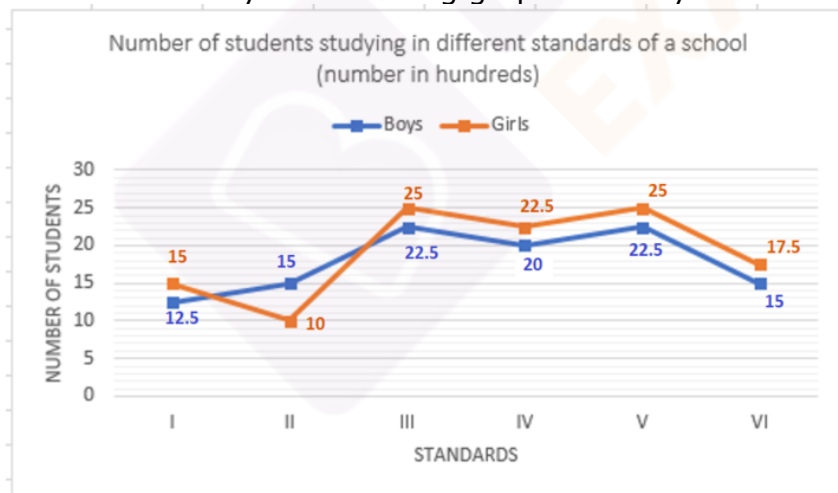
- A. If $x > y$
- B. If $x < y$
- C. If $x \geq y$
- D. If $x \leq y$
- E. If $x = y$ or relation cannot be established

9.1) $x^2 - 6x + 9 = 0$

2) $y^2 - 11y + 24 = 0$

- A. if $x < y$
- B. if $x \leq y$
- C. if $x=y$ or no relation can be established
- D. if $x > y$
- E. if $x \geq y$

Direction: Study the following graph carefully to answer the questions:



10. What is the approximate average number of girls studying in all the Standards together?

- A. 1193



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- B. 1917
- C. 1534
- D. 2246
- E. 2048

11. The number of boys studying in Standard II is what percent of the total number of boys studying in all the Standards together? (Rounded off to two digits after decimal)

- A. 13.95
- B. 16.21
- C. 10.45
- D. 13.22
- E. None of these

12. The number of girls studying in Standard V is what percent of the total number of students studying in all the Standards together? (Rounded off to the nearest integer)

- A. 21
- B. 8
- C. 11
- D. 19
- E. 15

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

13. 36, ?, 44, 68, 116, 196, 316

- A. 40
- B. 39
- C. 36
- D. 38
- E. 42

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

14. 7, 8, 9, 13, 31, 127, ?

- A. 725
- B. 723
- C. 729
- D. 731
- E. 727

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

15. 18.49, 20.25, 22.09, 24.01, 26.01, ?

- A. 26.09
- B. 28.09



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- C. 29.09
- D. 28.90
- E. 29.21

Direction: 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 .

16. I. $16x^2 + 61x + 58 = 0$

II. $16y^2 + 34y + 15 = 0$

- A. $x < y$
- B. $x > y$
- C. $x \leq y$
- D. $x \geq y$
- E. $x = y$ or no relation can be established

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 .

17.

I. $8X^2 + 38X + 17 = 0$

II. $3Y^2 + 62X + 95 = 0$

- A. $Y > X$
- B. $X > Y$
- C. $X \leq Y$
- D. $X \geq Y$
- E. $X = Y$ or no relation can be established

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 .

18. I. $X^2 - 529 = 0$

II. $Y^3 - 19683 = 0$

- A. $Y > X$
- B. $X > Y$
- C. $X \leq Y$
- D. $X \geq Y$
- E. $X = Y$ or no relation can be established

19. In two types of bronze, ratio of copper and tin are $7 : 3$ and $13 : 7$ respectively. The ratio in which these two types of bronze should be mixed, so that the ratio of copper and tin in this new type of bronze becomes $2 : 1$ is

- A. $3 : 2$
- B. $1 : 2$
- C. $5 : 4$
- D. $3 : 4$
- E. None of these



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20. The ratio of wine and water in container A is 2 : 3 and in container B is 3 : 5. Each container contains 40 liters mixture. If 20% quantity of container A mixed into container B, then how much quantity of water must be mixed in container B so that the ratio of wine and water becomes 1 : 2?

- A. 5.5 liters
- B. 6.6 liters
- C. 5.9 liters
- D. 7.2 liters
- E. None of these

21. In a solution of acid and water, acid is 20% and in another solution acid is 35%. How many litres of the first solution must be added to 40 litres of the second solution to make a solution of 30% acid?

- A. 15 litres
- B. 20 litres
- C. 21 litres
- D. 24 litres
- E. None of these

Directions: Study the given passage carefully and answer the questions .

An Institute consists of 2400 students preparing for different exams, viz SSC CGL, SSC CHSL, IBPS PO, Railway NTPC and RRB PO. The ratio of male to female students in the Institute is 7 : 3. Fifteen percent of the males prepare for SSC CGL exam. Twenty five percent of the females prepare for RRB PO exam. The ratio of males to females preparing for SSC CGL exam is 7:11. One-ninth of the females prepare for IBPS PO exam. Twenty five percent of the males prepare for Railway NTPC exam. The number of females preparing for Railway NTPC exam is 10 percent of the males preparing for the same. The remaining females prepare for the SSC CHSL exam. The total number of students preparing for IBPS PO exam is 285. Thirty five percent of the males prepare for SSC CHSL and the remaining prepare for RRB PO exam.

22. The total number of students preparing for RRB PO exam form is approx. what percent of the total number of students in the Institute?

- A. 16%
- B. 18%
- C. 20%
- D. 14%
- E. 12%

23. The number of females preparing for Railway NTPC exam forms what percent of the total number of people preparing for Railway NTPC exam in the Institute?

- A. $10^{11} \frac{2}{1} \%$
- B. $9^{11} \frac{1}{1} \%$



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- C. $12^4 \frac{3}{4}\%$
D. $15^{11} \frac{2}{11}\%$
E. None of these

24. What is the difference between males preparing for RRB PO exam and Males preparing for IBPS PO exam?

- A. 15
B. 18
C. 10
D. 8
E. 5

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

25. 11, 19, 40, 87, 173, ?

- A. 301
B. 311
C. 304
D. 294
E. 350

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

26. 0, 26, 78, ?, 260, 390

- A. 169
B. 156
C. 247
D. 195
E. 182

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

27. 63, 81, 73, 94, 58, ?

- A. 78
B. 122
C. 82
D. 98
E. 104



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###ANSWERS###

1. Ans. E.

Number of balls = 7 red balls and 8 yellow balls

$$\text{Probability of drawing both red balls} = \frac{{}^7_2C}{{}^{15}_2C} = \frac{7 \times 6}{15 \times 14} = \frac{1}{5}$$

$$\text{Probability of drawing both yellow balls} = \frac{{}^8_2C}{{}^{15}_2C} = \frac{8 \times 7}{15 \times 14} = \frac{4}{15}$$

$$\text{So, the probability that both the balls are of same colour} = \frac{1}{5} + \frac{4}{15} = \frac{3}{15} + \frac{4}{15} = \frac{7}{15}$$

So, option (E) is the correct answer.

2. Ans. C.

Let the speed of river = x

So, speed of the boat = $2x$

According to the question,

$$105/[2x-x] - 105/[2x+x] = 10$$

$$[105/x] - [105/3x] = 10$$

$$[(315-105)/3x] = 10$$

$$210 = 30x$$

$$x = 7$$

So speed of the river = 7 km/h

Speed of the boat = $7 \times 2 = 14$ km/h

3. Ans. A.

Let length of train A be x metres

\therefore Length of train B = $2x$ metres

$$\text{Speed of train A} = \frac{x}{25} \text{ m/sec}$$

$$\text{Speed of train B} = \frac{2x}{75} \text{ m/sec}$$

$$\therefore \text{Ratio} = \frac{x}{25} : \frac{2x}{75}$$

$$= 3 : 2$$

4. Ans. C.

Statement I:

Let the seven consecutive even numbers are $2x, 2x+2, 2x+4, 2x+6, 2x+8, 2x+10, 2x+12$

According to question,

$$1.50 \times 2x = 2x + 12$$

$$3x = 2x + 12$$

$$x = 12$$



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So, the largest even number = $24 + 12 = 36$

So, statement I alone is sufficient to answer the question.

Statement II:

Let the seven consecutive even numbers are $2x, 2x+2, 2x+4, 2x+6, 2x+8, 2x+10, 2x+12$

So, $2x + 2x + 2 + 2x + 4 + 2x + 6 + 2x + 8 + 2x + 10 + 2x + 12 = 30 \times 7$

According to question,

$$14x + 42 = 210$$

$$14x = 168$$

$$x = 12$$

So, the largest even number = $24 + 12 = 36$

So, statement II alone is sufficient to answer the question.

Thus, the data either in Statement I or in Statement II alone are sufficient to answer the question.

So option (C) is the correct answer.

5. Ans. D.

From statement **I**: I. A's 1 minute's filling work = $\frac{1}{16}$

From statement **II**: B's 1 minute's filling work = $\frac{1}{8}$

(A + B)'s 1 minute's emptying work = $\left(\frac{1}{8} - \frac{1}{16}\right) = \frac{1}{16} \Rightarrow$ Tank will be emptied in 16 minutes.

Thus, both I and II are necessary to answer the question.

6. Ans. E.

Let the length of trains be a and b metres

Their speeds be x m/s and y m/s respectively

Time = Distance/Speed

From statement I:

$$\text{Time taken to cross the pole} = 10 = a/x$$

From statement II:

$$a = b$$

$$x = y$$

Now,

Time taken to cross each other = Relative distance/relative speed

$$= (a + b)/(x+y)$$

$$= 2a/2x$$

$$= a/x$$

$$= 10 \text{ (from statement I)}$$

But we cannot find the value of x as a is unknown

Hence both the statements are not sufficient to answer

7. Ans. E.



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For $(x - 8)^2 = 0$

We get $(x - 8)(x - 8) = 0$

Hence $x = 8$

For $y = \sqrt{64}$

Hence $y = 8$

We get, $x = y$

8. Ans. A.

$$3x^2 - 17x + 24 = 0$$

$$3x^2 - 9x - 8x + 24 = 0$$

$$(3x - 8)(x - 3) = 0$$

$$x = 8/3 \text{ or } 3$$

$$3y^2 + 5y - 2 = 0$$

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

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

$$y = 1/3 \text{ or } -2$$

$$x > y$$

9. Ans. B.

$$x^2 - 6x + 9 = 0$$

$$x = 3, 3$$

$$y^2 - 11y + 24 = 0$$

$$y = 8, 3$$

10. Ans. B.

Average number of girls studying in all the standards together

$$= \left(\frac{15 + 10 + 25 + 22.5 + 25 + 17.5}{6} \right) \times 100$$

$$= \frac{11500}{6}$$

$$= 1916.66$$

$$\approx 1917 \text{ (approx)}$$

11. Ans. A.

Total number of boys studying in all the standards together

$$= (12.5 + 15 + 22.5 + 20 + 22.5 + 15) \times 100$$

$$= 10750$$

Number of boys studying in class VI

$$= 15 \times 100 = 1500$$

$$\text{Required percentage} = \frac{1500}{10750} \times 100$$

$$= 13.95$$



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12. Ans. C.

Total number of boys in all Standard = $(12.5+15+22.5+20+22.5+15)*100 = 10750$

Total number of girls in all Standard = $(15+10+25+22.5+25+17.5)*100 = 11500$

Total number of students studying in all the standards together

$$= 11500 + 10750 = 22250$$

Number of girls studying in class V

$$= 25 \times 100$$

$$= 2500$$

$$\text{Required percentage} = \frac{2500}{22250} \times 100$$
$$= 11.24$$

$$\approx 11(\text{approx})$$

13. Ans. C.

Pattern is:

$$+(1^2-1), +(3^2-1), +(5^2-1), +(7^2-1), +(9^2-1), +(11^2-1),$$

$$36, 36, 44, 68, 116, 196, 316$$

14. Ans. E.

Pattern of the series is:

$$7 + 0! = 7$$

$$7 + 1! = 8$$

$$7 + 2! = 9$$

$$7 + 3! = 13$$

$$7 + 4! = 31$$

$$7 + 5! = 127$$

$$7 + 6! = 727$$

Here, '!' means factorial

15. Ans. B.

Pattern of the series is:

$$4.3^2 = 18.49$$

$$4.5^2 = 20.25$$

$$4.7^2 = 22.09$$

$$4.9^2 = 24.01$$

$$5.1^2 = 26.01$$

$$5.3^2 = 28.09$$

16. Ans. A.

$$\text{I. } 16x^2 + 61x + 58 = 0$$

$$\Rightarrow 16x^2 + 32x + 29x + 58 = 0$$

$$\Rightarrow 16x(x + 2) + 29(x + 2) = 0$$

$$\Rightarrow (16x + 29)(x + 2) = 0$$

$$\Rightarrow x = -2, -1.8$$

$$\text{II. } 16y^2 + 34y + 15 = 0$$

$$\Rightarrow 16y^2 + 24y + 10y + 15 = 0$$

$$\Rightarrow 8y(2y + 3) + 5(2y + 3) = 0$$



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$$\Rightarrow (8y + 5)(2y + 3) = 0$$

$$\Rightarrow y = -1.5, -0.625$$

Hence, $x < y$.

17. Ans. E.

I. $8X^2 + 38X + 17 = 0$

$$\Rightarrow 8X^2 + 34X + 4X + 17 = 0$$

$$\Rightarrow 2X(4X + 17) + 1(4X + 17) = 0$$

$$\Rightarrow (4X + 17)(2X + 1) = 0$$

$$\Rightarrow X = -17/4 \text{ \& } -1/2$$

II. $3Y^2 + 62Y + 95 = 0$

$$\Rightarrow 3Y^2 + 57Y + 5Y + 95 = 0$$

$$\Rightarrow 3Y(Y + 19) + 5(Y + 19) = 0$$

$$\Rightarrow (Y + 19)(3Y + 5) = 0$$

$$\Rightarrow Y = -19 \text{ \& } -5/3$$

Hence, No relation can be established between X and Y

18. Ans. A.

I. $X^2 - 529 = 0$

$$\Rightarrow X^2 = 529$$

$$\Rightarrow X = \sqrt{529}$$

$$\Rightarrow X = +23 \text{ \& } -23$$

II. $Y^3 - 19683 = 0$

$$\Rightarrow Y = \sqrt[3]{19683}$$

$$\Rightarrow Y = 27$$

Hence, $Y > X$

19. Ans. B.

Given, two types of bronze are mixed, so that the ratio of copper and tin in this new type of bronze becomes 2 : 1.

$$\text{Fraction of copper in new bronze} = 2/3 = 40/60$$

$$\text{Fraction of copper in 1}^{\text{st}} \text{ type of bronze} = 7/10 = 42/60$$

$$\text{Fraction of copper in 2}^{\text{nd}} \text{ type of bronze} = 13/20 = 39/60$$

Using Alligation:

$$42/60 \quad 39/60$$

$$40/60$$

$$1/60 \quad 2/60$$

$$\text{Ratio in which they should be mixed} = 1/60 : 2/60 = 1 : 2$$

20. Ans. B.

20% of 40 = 8 liter (from container A)

$$\text{Wine in 8 liter mixture} = \frac{2}{5} \times 8 = \frac{16}{5}$$

$$\text{Water in 8 liter mixture} = \frac{3}{5} \times 8 = \frac{24}{5}$$

In container B, wine = 15 liters water = 25 liters



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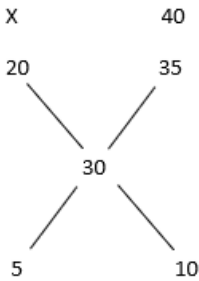
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$$\begin{aligned} \text{Now wine in container B} &= 15 + \frac{16}{5} = \frac{91}{5} \\ &= 25 + \frac{24}{5} = \frac{149}{5} \end{aligned}$$

Now water in container B =
 Let x liter water more mixed in container B
 $\frac{1}{2} = \frac{(91/5)}{((149/5)+x)}$

$$x = 6.6 \text{ liter}$$

21. Ans. B.



$$\frac{x}{40} = \frac{5}{10} \Rightarrow x = 20$$

22. Ans. A.

Total no. of students = 2400

No. of males = $\frac{7}{10} \times 2400 = 1680$ & No. of females = 720
 Males (SSC CGL) = 15% of 1680 = 252

Females (SSC CGL) = $\frac{11}{7} \times 252 = 396$
 \therefore Females (RRB PO) = 25% of 720 = 180

& Females (IBPS PO) = $\frac{1}{9} \times 720 = 80$
 No. of Males preparing for IBPS PO = 285 - 80 = 205
 \therefore No. of males preparing for Railway NTPC = 25% of 1680 = 420
 Females (Railway NTPC) = 10% of 420 = 42

Males (SSC CHSL) = $\frac{35 \times 1680}{100} = 588$
 No. of females in SSC CHSL = (720 - 396 - 80 - 42 - 180) = 22
 No. of Male in RRB PO = 1680 - 252 - 205 - 420 - 588 = 215



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Exam	Male	Females	Total
SSC CGL	252	396	648
SSC CHSL	588	22	610
IBPS PO	205	80	285
Railway NTPC	420	42	462
RRB PO	215	180	395

$$\text{Reqd. \%} = \frac{395}{2400} \times 100 = 16.45\%$$

23. Ans. B.

Total no. of students = 2400

$$\text{No. of males} = \frac{10}{7} \times 2400 = 1680 \text{ \& No. of females} = 720$$

Males (SSC CGL) = 15% of 1680 = 252

$$\text{Females (SSC CGL)} = \frac{11}{7} \times 252 = 396$$

∴ Females (RRB PO) = 25% of 720 = 180

$$\text{\& Females (IBPS PO)} = \frac{1}{9} \times 720 = 80$$

No. of Males preparing for IBPS PO = 285 - 80 = 205

∴ No. of males preparing for Railway NTPC = 25% of 1680 = 420

Females (Railway NTPC) = 10% of 420 = 42

$$\text{Males (SSC CHSL)} = \frac{35 \times 1680}{100} = 588$$

No. of females in SSC CHSL = (720 - 396 - 80 - 42 - 180) = 22

No. of Male in RRB PO = 1680 - 252 - 205 - 420 - 588 = 215

Exam	Male	Females	Total
SSC CGL	252	396	648
SSC CHSL	588	22	610
IBPS PO	205	80	285
Railway NTPC	420	42	462
RRB PO	215	180	395



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$$\text{Required \%} = \frac{42}{462} \times 100 = 9\frac{1}{11}\%$$

24. Ans. C.

Total no. of students = 2400

No. of males = $\frac{7}{10} \times 2400 = 1680$ & No. of females = 720

Males (SSC CGL) = 15% of 1680 = 252

Females (SSC CGL) = $\frac{11}{7} \times 252 = 396$

∴ Females (RRB PO) = 25% of 720 = 180

& Females (IBPS PO) = $\frac{1}{9} \times 720 = 80$

No. of Males preparing for IBPS PO = 285 - 80 = 205

∴ No. of males preparing for Railway NTPC = 25% of 1680 = 420

Females (Railway NTPC) = 10% of 420 = 42

Males (SSC CHSL) = $\frac{35 \times 1680}{100} = 588$

No. of females in SSC CHSL = (720 - 396 - 80 - 42 - 180) = 22

No. of Male in RRB PO = 1680 - 252 - 205 - 420 - 588 = 215

Exam	Male	Females	Total
SSC CGL	252	396	648
SSC CHSL	588	22	610
IBPS PO	205	80	285
Railway NTPC	420	42	462
RRB PO	215	180	395

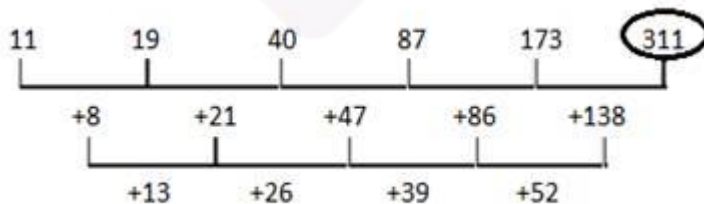
No. of males in RRB PO = 215

No. of males in IBPS PO = 205

Difference = 10

25. Ans. B.

The pattern of the series is:



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Hence, the missing number is 311.

26. Ans. B.

The pattern of the series is:

$$13 \times 1 \times 0 = 0$$

$$13 \times 2 \times 1 = 26$$

$$13 \times 3 \times 2 = 78$$

$$13 \times 4 \times 3 = 156$$

$$13 \times 5 \times 4 = 260$$

$$13 \times 6 \times 5 = 390$$

Hence, the missing number is 156.

27. Ans. D.

In the given series next number is obtained by adding/subtracting the product of the previous number's digits. It happens alternately.

$$63 + 6 \times 3 = 81$$

$$81 - 8 \times 1 = 73$$

$$73 + 7 \times 3 = 94$$

$$94 - 9 \times 4 = 58$$

$$58 + 5 \times 8 = 98$$

Hence, the missing number is 98.



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