

## IBPS Clerk Previous Year Question Paper 2018

### Quantitative Aptitude (Questions & Solutions)

**Directions Q. (1-3):** In the following table four persons P, Q, R and S are selling items on different days of the week.

	P	Q	R	S
<b>Saturday</b>	45	40	25	20
<b>Sunday</b>	40	55	48	25
<b>Monday</b>	25	20	15	41
<b>Tuesday</b>	35	45	42	39

**Q. (1)** What was the ratio of items sold by P on Saturday & items sold by Q on Sunday?

- a. 9:11
- b. 10:13
- c. 8:11
- d. 9:13
- e. None of them

**Answer:** a (9 : 11)

**Solution:** Total number of items sold by P on Saturday = 45

Total number of items sold by Q on Sunday = 55

Therefore, the required ratio =  $45 : 55 = 9 : 11$

**Q. (2)** Find the ratio of item sold by P on Saturday and Sunday to item sold by S on Monday & Tuesday?

- a. 17:16
- b. 14:11
- c. 16:17
- d. 17:15

e. None of these

**Answer:** a

**Solution:** Number of items sold by P on Saturday = 45

Number of items sold by P on Sunday = 40

Therefore, the total number of items sold by P on Saturday and Sunday =  $(45 + 40) = 85$

Now, the number of items sold by S on Monday = 41

Number of items sold by S on Tuesday = 39

Therefore, the total number of items sold by S on Monday and Tuesday =  $(41 + 39) = 80$

Hence, required ratio =  $85 : 80 = 17 : 16$

**Q. (3)** What percent of items sold by S on Sunday is equal to the items sold by P on Tuesday?

- a. 140%
- b. 130%
- c. 120%
- d. 125%
- e. None of these

**Answer:** a

**Solution:** Total number of items sold by P on Tuesday = 35

Total number of items sold by S on Sunday = 25

Therefore, required percentage =  $(35/25) \times 100 = 140\%$

**Directions Q. (4-8):** What will come in the place of question (?) mark in the following number series.

**Q. (4)** 200, 193, 179, 158, ?, 95

- a. 135
- b. 133
- c. 132
- d. 130
- e. 128

**Answer:** d

**Solution:** The pattern of the given series is as follows:

- $200 - 193 = 7$
- $193 - 179 = 14 = 7 \times 2$
- $179 - 158 = 21 = 7 \times 3$

Therefore,  $7 \times 4 = 28$

Now,  $158 - 28 = 130$

$130 - 95 = 35 = 7 \times 5$

Hence, the required number = 130

**Q. (5)** 3, 43, 81, 115, 143, ?

- 163
- 172
- 166
- 160
- 168

**Answer:** a

**Solution:** The pattern of the given series is as follows:

- $43 - 3 = 40$
- $81 - 43 = 38 = (40 - 2)$
- $115 - 81 = 34 = (38 - 4)$
- $143 - 115 = 28 = (34 - 6)$

Therefore,  $143 + (28 - 8) = 163$

Hence, the required number is 163

**Q. (6)** 9, 45, 180, 540, ?, 1080

- 720
- 900
- 1080
- 1200
- 960

**Answer:** c

**Solution:** The pattern of the given series is as follows:

- $9 \times 5 = 45$
- $45 \times 4 = 180$
- $180 \times 3 = 540$

Therefore,  $540 \times 2 = 1080$

Hence, the required number is 1080

**Q. (7)** 50, 54, 45, 61, 36, ?

- a. 66
- b. 72
- c. 75
- d. 80
- e. 84

**Answer:**

**Solution:** The pattern of the given series is as follows:

- $54 - 50 = 4 = (2)^2$
- $45 - 54 = -9 = -(3)^2$
- $61 - 45 = 16 = (4)^2$
- $36 - 61 = -25 = -(5)^2$

Now,  $6^2 = 36$

Therefore,  $36 + 36 = 72$

Hence, the required number = 72

**Q. (8)** 1, 6, 25, 76, 153, ?

- a. 150
- b. 144
- c. 154
- d. 165
- e. 158

**Answer:** c

**Solution:** The pattern of the series is as follows:

- $(1 \times 5) + 1 = 6$

- $(6 \times 4) + 1 = 25$
- $(25 \times 3) + 1 = 76$
- $(76 \times 2) + 1 = 153$

Therefore,  $(153 \times 1) + 1 = 154$

Hence, the required number = 154

**Directions Q. (9-13):** Calculate the exact value of the 'X' in the given following questions.

**Q. (9)**  $X^2 + (9^2 + 34) \div 5 = 39$

- a. 5
- b. 4
- c. 8
- d. 6
- e. 9

**Answer:** b

**Solution:**  $X^2 + (115 \div 5) = 39$

$\Leftarrow X^2 = 39 - 23 = 16$

$\Leftarrow X = 4$

**Q. (10)**  $6 \times 16 \times 5 \div 3 - X^2 = 96$

- a. 6
- b. 7
- c. 8
- d. 9
- e. 5

**Answer:** c

**Solution:**  $6 \times 16 \times 5 \div 3 - X^2 = 96$

$\Leftarrow (480 \div 3) - X^2 = 96$

$\Leftarrow 160 - 96 = X^2$

$\Leftarrow X^2 = 64$

$$\Leftarrow X = 8$$

**Q. (11)**  $X^2 + 473 = 24 \times 43 - 66.66\%$  of 501

- a. 14
- b. 15
- c. 225
- d. 196
- e. None of these

**Answer:** b

**Solution:**  $X^2 + 473 = 24 \times 43 - 66.66\%$  of 501

$$\Leftarrow X^2 + 473 = 1032 - 333.96$$

$$\Leftarrow X^2 = 698 - 473 \text{ (consider } 698.03 = 698)$$

$$\Leftarrow X^2 = 225$$

$$\Leftarrow X = 15$$

**Q. (12)**  $33(1/3)\%$  of  $X + 32 \times 42 = 35 \times 84$

- a. 4788
- b. 4690
- c. 4566
- d. 4285
- e. None of these

**Answer:** a

**Solution:**  $33(1/3)\%$  of  $X + 32 \times 42 = 35 \times 84$

$$\Leftarrow 33(1/3)\% \text{ of } X = 2940 - 1344$$

$$\Leftarrow X / 3 = 1596 \text{ [The fractional equivalent of } 33(1/3)\% \text{ is } 1/3]$$

$$\Leftarrow X = 1596 \times 3 = 4788$$

**Q. (13)**  $124 + X + 169 = 18$

- a. 27
- b. 28
- c. 29
- d. 30

e. 31

**Answer:** e

**Solution:**  $124 + X + 169 = 18$

Squaring both sides, we get,  $124 + X + 169 = 324$

$\Leftrightarrow X = 324 - 293 = 31$

**Q. (14)** Ratio of present ages of two persons A and B is 3:2 and after four years the ratio of their age (B: A) become 7:10. Then find the present age of B?

- a. 20 years
- b. 18 years
- c. 24 years
- d. 36 years
- e. 30 years

**Answer:** c

**Solution:** Let, the present ages of A and B be  $3a$  and  $2a$  respectively.

Therefore, after four years, the ages of A and B will be  $(3a + 4)$  and  $(2a + 4)$  respectively.

According to the question,  $2a + 4 = 3(3a + 4) + 10$

$\Leftrightarrow 20a + 40 = 21a + 28$

$\Leftrightarrow a = 12$

Therefore, the present age of B =  $2a = 2 \times 12 = 24$  years.

**Q. (15)** The ratio of the principal and the final amount is 5:8 on simple interest in 5 years. What is the rate of interest?

- a. 8%
- b. 12%
- c. 24%
- d. 15%
- e. 30%

**Answer:** b

**Solution:** Let the principal amount be  $5y$ , and the final amount be  $8y$ .

Therefore, the interest earned will be =  $8y - 5y = 3y$

Using the formula of simple interest we get,

$$(P \times R \times T) / 100 = 3y$$

$$\Leftrightarrow (5y \times R \times 5) / 100 = 3y$$

Hence,  $R = 12\%$

**Directions Q. (16-20):** In each question, two equations numbered (I) and (II) are given. Solve both equations and mark appropriate answer.

- If  $x=y$  or no relation can be established
- If  $x>y$
- If  $x<y$
- If  $x\geq y$
- If  $x\leq y$

**Q. (16)** I.  $8x^2 + 6x + 1 = 0$

II.  $3y^2 + 7y + 2 = 0$

**Answer:** e ( $x \leq y$ )

**Solution:** Equation I  $\Rightarrow 8x^2 + 6x + 1 = 0$

$$\Leftrightarrow 8x^2 + 4x + 2x + 1 = 0$$

$$\Leftrightarrow 4x(2x + 1) + (2x + 1) = 0$$

$$\Leftrightarrow (4x + 1)(2x + 1) = 0$$

$$\Leftrightarrow x = -1/4, -1/2$$

Equation II  $\Rightarrow 3y^2 + 7y + 2 = 0$

$$\Leftrightarrow 3y^2 + 6y + y + 2 = 0$$

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

$$\Leftrightarrow (3y + 1)(y + 2) = 0$$

$$\Leftrightarrow y = -1/3, -1/2$$

Therefore,  $x \leq y$

**Q. (17)** I.  $x^2 = 196$

II.  $y^2 - 26y + 169 = 0$



**Answer:**  $b (x > y)$

**Solution:** Equation I  $\Rightarrow x^2 = 196$

$$\Leftrightarrow x = 196$$

$$\Leftrightarrow x = 14$$

Equation II  $\Rightarrow y^2 - 26y + 169 = 0$

$$\Leftrightarrow y^2 - 13y - 13y + 169 = 0$$

$$\Leftrightarrow y(y - 13) - 13(y - 13) = 0$$

$$\Leftrightarrow (y - 13)(y - 13) = 0$$

$$\Leftrightarrow y = 13$$

Hence,  $x > y$

**Q. (18)** I.  $9x^2 - 12x + 4 = 0$

II.  $8y^2 - 9y + 1 = 0$

**Answer:** a (relation between  $x$  and  $y$  cannot be determined)

**Solution:** Equation I  $\Rightarrow 9x^2 - 12x + 4 = 0$

$$\Leftrightarrow 9x^2 - 6x - 6x + 4 = 0$$

$$\Leftrightarrow 3x(3x - 2) - 2(3x - 2) = 0$$

$$\Leftrightarrow (3x - 2)(3x - 2) = 0$$

$$\Leftrightarrow x = 2/3$$

Equation II  $\Rightarrow 8y^2 - 9y + 1 = 0$

$$\Leftrightarrow 8y^2 - 8y - y + 1 = 0$$

$$\Leftrightarrow 8y(y - 1) - (y - 1) = 0$$

$$\Leftrightarrow (8y - 1)(y - 1) = 0$$

$$\Leftrightarrow y = 1, 1/8$$

Hence, relation between  $x$  and  $y$  cannot be determined.

**Q. (19)** I.  $x^3 = 343$

II.  $y^2 - 196 = 0$

**Answer:**  $c (x < y)$

**Solution:** Equation I  $\Rightarrow x^3 = 343$

$$\Leftrightarrow x^3 = 7^3$$

$$\Leftrightarrow x = 7$$

Equation II  $\Rightarrow y^2 = 196$

$$\Leftrightarrow y^2 = 13^2$$

$$\Leftrightarrow y = 13$$

Hence,  $x < y$

**Q. (20)** I.  $3x^2 + 18x + 24 = 0$

II.  $2y^2 - 11y + 15 = 0$

**Answer:**  $c (x < y)$

**Solution:** Equation I  $\Rightarrow 3x^2 + 18x + 24 = 0$

$$\Leftrightarrow 3x^2 + 12x + 6x + 24 = 0$$

$$\Leftrightarrow 3x(x + 4) + 6(x + 4) = 0$$

$$\Leftrightarrow (3x + 6)(x + 4) = 0$$

$$\Leftrightarrow x = -6/3, -4$$

Equation II  $\Rightarrow 2y^2 - 11y + 15 = 0$

$$\Leftrightarrow 2y^2 - 6y - 5y + 15 = 0$$

$$\Leftrightarrow 2y(y - 3) - 5(y - 3) = 0$$

$$\Leftrightarrow (2y - 5)(y - 3) = 0$$

$$\Leftrightarrow y = 5/2, 3$$

Hence,  $x < y$

**Q. (21)** In a city, 68% of the population is literate in which ratio of male to female is 11:6. And ratio of illiterate male to female is 3: 1 . Find the ratio of literate female to illiterate female in that city.

- a. 3:2
- b. 2:1
- c. 3:1

- d. 4:1
- e. 5:2

**Answer:** c (3 : 1)

**Solution:** Percentage of literates in the city = 68%

Percentage of illiterates in the city =  $100 - 68 = 32\%$

Ratio of literate male to literate female = 11 : 6

Therefore, number of literate male =  $(11/17) \times 68$

Number of literate female =  $(6/17) \times 68$

Ratio of illiterate male to female = 3: 1

Therefore, the number of illiterate male =  $(3/4) \times 32 = 24$

Number of literate female =  $(1/4) \times 32 = 8$

Hence, the ratio of literate female to illiterate female in that city =  $[(6/17) \times 68] : 8 = 3 : 1$

**Q. (22)** Ratio of length to breadth of a rectangle is 4:3. If the area of the rectangle is  $108 \text{ cm}^2$  and breadth of this rectangle is equal to the side of a square then find the area of that square.

- a.  $49 \text{ cm}^2$
- b.  $100 \text{ cm}^2$
- c.  $64 \text{ cm}^2$
- d.  $81 \text{ cm}^2$
- e.  $121 \text{ cm}^2$

**Answer:** d ( $81 \text{ cm}^2$ )

**Solution:** Let, the length and breadth of the rectangle be  $4a$  and  $3a$  respectively.

According to the question, area of the rectangle =  $108 \text{ cm}^2$

$$\Leftarrow \text{length} \times \text{breadth} = 108 \text{ cm}^2$$

$$\Leftarrow 4a \times 3a = 108 \text{ cm}^2$$

$$\Leftarrow 12 a^2 = 108$$

$$\Leftarrow a^2 = 9$$

$$\Leftarrow a = 3$$

Hence, the length of the rectangle =  $4 \times 3 = 12 \text{ cm}$

Breadth of the rectangle =  $3 \times 3 = 9 \text{ cm}$

Therefore, the area of the square =  $9^2 = 81 \text{ cm}^2$

**Q. (23)** A passenger train that runs at the speed of 78 km/h leaves the station 8 hours after the goods train left and overtakes it in 5 hours. What is the speed of goods train?

- a. 15 km/h
- b. 30 km/h
- c. 60 km/h
- d. 13 km/h
- e. 72 km/h

**Answer:** b

**Solution:** Let the speed of the goods train be  $y$  km/hr

Therefore, the distance traveled in 8 hr by goods train =  $8y$  km

Now, relative speed of both trains in same direction =  $(78 - y)$  km/hr

Sol, the distance travelled in 5 hr by passenger train will be =  $5 \times (78 - y)$  km

Therefore,  $8y = 5 \times (78 - y)$

$\Rightarrow y = 30$  km/hr

**Q. (24)** A man invested 15% of his monthly income in LIC and remaining gave to his mother. Mother spends 10% of it in household expenses and she had left with Rs 30,600 then find the salary of man?

- a. Rs. 37,500
- b. Rs. 36,000
- c. Rs. 38,000
- d. Rs. 42,000
- e. Rs. 40,000

**Answer:** e

**Solution:** Amount given to mother =  $(100 - 15)\% = 85\%$

According to the question, she spends 10% of it.

$\Rightarrow 10\%$  of  $85 = 8.5\%$

Therefore, remaining amount =  $85 - 8.5 = 76.5\%$

Now,  $76.5\%$  of the total amount = 30600

Hence, the salary of the man =  $30600 / 76.5 \times 100 = 40,000/-$

**Q. (25)** The population of a town is 311250. The ratio of the population of women to men is 1075:1000. There are 24% literate among men and 8% literate among women. What is the total number of literate people in the town? What percentage of persons in the town are illiterate?

- a. 48900, 84.3%
- b. 58000, 92.1%
- c. 48000, 58.6%
- d. 68000, 89.7%
- e. None of the above

**Answer:** e

**Solution:** Total population = 311250

Total literate percent in the town =  $100 - (24 + 8) \% = 68 \%$

Total illiterate percent in the town =  $(100 - 68) \% = 32 \%$

Therefore, the number of literate people in the town = 68 % of 311250  
= 211650

**Q. (26)** A is 1.5 times more efficient than B and C is two times efficient than A. A and B take  $7\frac{1}{2}$  days to complete the work. How many days will B & C take to complete the work together?

- a.  $4\frac{1}{6}$  days
- b.  $5\frac{2}{3}$  days
- c.  $5\frac{5}{6}$  days
- d.  $3\frac{5}{6}$  days
- e. None of these

**Answer:** e

**Solution:** Efficiency of A is 1.5 time more than B, so, efficiency ratio of A: B =  $(1+1.5) : 1$

$$= 2.5 : 1$$

$$= 5 : 2$$

Therefore, efficiency ratio of A: C =  $1 : 2$

$$= 5 : 10$$

So, efficiency ratio of A : B : C =  $5 : 2 : 10$

Therefore, work completed by A & B in  $7\frac{1}{2}$  days =  $(5+2) \times 7\frac{1}{2}$   
=  $52\frac{1}{2}$  unit

Hence, time taken by B & C to complete this work =  $52\frac{1}{2} / (2+10)$   
=  $35 / 8$   
=  $4\frac{3}{8}$  days

**Q. (27)** There are 40 children in a class in which boys are 4 more than the girls. Average weight of all the students is 42.5 kg and the average weight of all the girls is 48 kg then find the average weight of all the boys.

- a. 39.5 kg
- b. 38 kg
- c. 40.5 kg
- d. 36.75 kg
- e. 40.25 kg

**Answer:** b

**Solution:** Let, the number of girls = x

Therefore, the number of boys = x+4

According to the question,  $x + (x + 4) = 40$

Therefore,  $x = 18$

Hence, the number of boys =  $x + 4 = 18 + 4 = 22$

Now, the sum of the weight of the whole class =  $42.5 \times 40 = 1700$

Sum of the weight of the girls =  $18 \times 48 = 864$

Therefore, the sum of the weight of the boys =  $1700 - 864 = 836$

Hence, the average weight of boys =  $836 / 22 = 38$  kg

**Directions Q. (28-29):** What value will come in place of the question mark (?) in the following question?

**Q. (28)** ?% of 300 + 16 = 81 + 49

- a. 24
- b. 36

- c. 25
- d. 21
- e. None of these

**Answer:** a

**Solution:**  $(?)\%$  of 300 + 16 = 81 + 49

$$\begin{aligned}\Leftrightarrow (?)\% \text{ of } 300 &= 81 + 7 - 16 \\ &= 72\end{aligned}$$

$$\Leftrightarrow (?) = (72 \times 100) / 300 = 24$$

**Q. (29)**  $4/7$  of 21 /  $32$  of  $(?) = 81 \times 12$

- a. 2592
- b. 2468
- c. 3294
- d. 2672
- e. None of these

**Answer:** a

**Solution:**  $4/7$  of 21 /  $32$  of  $(?) = 81 \times 12$

$$\begin{aligned}\Leftrightarrow (?) &= 81 \times 12 \times (7/4) \times (32/21) \\ &= 2592\end{aligned}$$

**Q. (30)** Sum of the speed of the boat in upstream and downstream is 36km/h. The speed of the stream is 3km/h. find the time taken to cover the 52.5 km upstream, assume the speed of the boat in still water is constant throughout.

- a. 3 hours
- b. 4 hours
- c. 3.5 hours
- d. 4.5 hours
- e. None of these

**Answer:** c

**Solution:** Speed of the boat = [(speed of the boat in upstream) + (speed of the boat in downstream)] / 2

$$= 36 / 2 = 18 \text{ km/hr}$$

Therefore, the speed of the boat in upstream =  $18 - 3 = 15 \text{ km/hr}$

Hence, time taken to travel 52.5 km =  $52.5 / 15 = 3.5 \text{ hours}$

**Q. (31)** In an exam if 7 marks given for right answer and 4 marks deducted for wrong answers and total marks given to a student is 263, then how many right answers given by student if total attempts is 58?

- a. 44
- b. 45
- c. 42
- d. 40
- e. None of these

**Answer:** b

**Solution:** Let, the number of questions that are correct = a

Therefore, total marks obtained =  $7a - 4(58 - a) = 263$

$$\Leftrightarrow 11a = 263 + 232$$

$$= 495$$

Therefore,  $a = 495 / 11 = 45$

**Q. (32)** The difference between the circumference and the diameter of circle A is 90 cm . If the radius of circle B is 7 cm less than circle A then find the area of circle B?

- a.  $556 \text{ cm}^2$
- b.  $616 \text{ cm}^2$
- c.  $588 \text{ cm}^2$
- d.  $532 \text{ cm}^2$
- e.  $630 \text{ cm}^2$

**Answer:** b

**Solution:** Let the radius of circle A be  $R_A$

Given, the radius of circle B =  $R_A - 7$

Therefore, circumference of circle A - diameter of circle A = 90 cm

$$\Leftrightarrow 2\pi R_A - 2R_A = 90$$

$$\Leftrightarrow 2R_A (\pi - 1) = 90$$

$$\Leftrightarrow R_A [(22 / 7) - 1] = 45$$

$$\Leftrightarrow R_A = 45 / 2.14$$



$\Leftarrow R_A = 21$  (consider 21.02 cm = 21 cm)

Now, radius of circle B =  $21 - 7 = 14$  cm

We know, area of a circle =  $\pi r^2 = \frac{22}{7} \times 14 \times 14 = 616 \text{ cm}^2$

**Directions Q. (33-35):** Read the given information and answer the question that follows.

7 people P, Q, R, S, T, V, and W give a test starting from Monday to Sunday. 4 people give the test between R and S. P gives the test on Wednesday. No person gives the test between P and Q. There are 3 people who give the test between T and V. T gives the test before V. W does not give the test on Sunday. At least 2 people give the test before S.

**Q. (33)** How many people attempt the test after R?

- a. 1
- b. 5
- c. 3
- d. 4
- e. None

**Answer:** b (5)

**Q. (34)** Who gives the test on Sunday?

- a. P
- b. R
- c. S
- d. Q
- e. V

**Answer:** c (S gives the test on Sunday)

**Q. (35)** W gives the test in which of the following days?

- a. Monday
- b. Tuesday
- c. Thursday
- d. Friday

e. Saturday

**Answer:** e (W gives the test on Saturday)

**Solution Q. (33-35):** We get the following arrangement after referring to the given situation:

Monday	T
Tuesday	R
Wednesday	P
Thursday	Q
Friday	V
Saturday	W
Sunday	S