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
Saturday	45	40	25	20
Sunday	40	55	48	25
Monday	25	20	15	41
Tuesday	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) x 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 x 2
- 179 - 158 = 21 = 7 x 3

Therefore, 7 x 4 = 28

Now, 158 - 28 = 130

130 - 95 = 35 = 7 x 5

Hence, the required number = 130

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

a. 163
b. 172
c. 166
d. 160
e. 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, ?

a. 720
b. 900
c. 1080
d. 1200
e. 960

Answer: c

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

- 9 x 5 = 45
- 45 x 4 = 180
- 180 x 3 = 540

Therefore, 540 x 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: b

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 x 5) + 1 = 6

- (6 x 4) + 1 = 25
- (25 x 3) + 1 = 76
- (76 x 2) + 1 = 153

Therefore, (153 x 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: $6 \times 16 \times 5 \div 3 - X^2 = 96$

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

$\Leftarrow 160 - 96 = X^2$

$\Leftarrow X^2 = 64$

⇐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

⇐$X^2 + 473 = 1032 - 333.96$

⇐$X^2 = 698 - 473$ (consider 698.03 = 698)

⇐$X^2 = 225$

⇐$X = 15$

Q. (12) 33(1/3)% of X + 32×42= 35×84

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

Answer: a

Solution: 33(1/3)% of X + 32×42= 35×84

⇐33(1/3)% of X = 2940 - 1344

⇐X / 3 = 1596 [The fractional equivalent of 33(1/3)% is 1/3]

⇐X = 1596 x 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

⇐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 + 43a + 4= 710

⇐20a + 40 = 21a + 28

⇐a = 12

Therefore, the present age of B = 2a = 2 x 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 x R x T) /100 = 3y

⇐(5y x R x 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.

a. If x=y or no relation can be established
b. If x>y
c. If x<y
d. If x>=y
e. If x<=y

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

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

Answer: e (x <= y)

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

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

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

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

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

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

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

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

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

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

Therefore, x <= y

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

II. $y^2 – 26y + 169 = 0$

Answer: b (x > y)

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

$\Leftarrow x = 196$

$\Leftarrow x = 14$

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

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

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

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

$\Leftarrow y = 13$

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 $\Rightarrow 9x^2 – 12x + 4 = 0$

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

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

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

$\Leftarrow x = 2/3$

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

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

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

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

$\Leftarrow y = 1, 1/8$

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 $\Rightarrow x^3 = 343$

$\Leftarrow x^3 = 7^3$

$\Leftarrow x = 7$

Equation II $\Rightarrow y^2 = 196$

$\Leftarrow y^2 = 13^2$

$\Leftarrow y = 13$

Hence, x < y

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

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

Answer: c (x < y)

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

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

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

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

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

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

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

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

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

$\Leftarrow y = 5/2, 3$

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) x 68

Number of literate female = (6/17) x 68

Ratio of illiterate male to female = 3: 1

Therefore, the number of illiterate male = (3/4) x 32 = 24

Number of literate female = (1/4) x 32 = 8

Hence, the ratio of literate female to illiterate female in that city = [(6/17) x 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 cm^2 and breadth of this rectangle is equal to the side of a square then find the area of that square.

a. 49 cm^2

b. 100 cm^2

c. 64 cm^2

d. 81 cm^2

e. 121 cm^2

Answer: d (81 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 cm^2

$\Leftarrow$length x breadth = 108 cm^2

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

$\Leftarrow 12\ a^2 = 108$

$\Leftarrow a^2 = 9$

$\Leftarrow a = 3$

Hence, the length of the rectangle = 4 x 3 = 12 cm

Breadth of the rectangle = 3 x 3 = 9 cm

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

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 is 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 x (78-y) km

Therefore, 8y = 5 x (78-y)

⇐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.

⇐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 x 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(1/2) days to complete the work. How many days will B & C take to complete the work together?

a. 4(1/6) days
b. 5(2/3) days
c. 5(5/6) days
d. 3(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(1/2) days= (5+2) x 7(1/2)

= 52(1/2) unit

Hence, time taken by B & C to complete this work = 52(1/2) / (2+10)

= 35 / 8

= 4(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 x 40 = 1700

Sum of the weight of the girls = 18 x 48 = 864

Therefore, the sum of the weight of the boys = 1700 - 864 = 863

Hence, the average weight of boys = 863 / 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

⇐(?)% of 300 = 81 +7 - 16

= 72

⇐(?) = (72 x 100) / 300 = 24

Q. (29) 4 / 7 of 21 / 32 of (?) = 81 × 12

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

Answer: a

Solution: 4 / 7 of 21 / 32 of (?) = 81×12

⇐(?) = 81×12 × (7 / 4) × (32 / 21)

= 2592

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 km/hr

Therefore, the speed of the boat in upstream = 18 - 3 = 15 km/hr

Hence, time taken to travel 52.5 km = 52.5 / 15 = 3.5 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

$\Leftarrow$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 cm^2
b. 616 cm^2
c. 588 cm^2
d. 532 cm^2
e. 630 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

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

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

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

$\Leftarrow R_A = 45 / 2.14$

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

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

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

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