DI Mixed Chart Questions for SBI PO Mains, IBPS PO Mains and RBI Grade B Exams.

DI Mixed Chart No. 77

Directions : Study the following table and bar chart carefully and answer the questions given beside.

Two cities, namely Agra and Meerut, were tested for COVID-19 cases in three months March, April, and May.

Both the cities have Urban and Rural areas, and the tests were conducted in both areas.

Outcomes of the tests were either positive or negative.

| Month	Number of Tests in both the cities together	Negative outcomes out of total number of tests in both the cities
March	100	30 %
April	200	35 %
May	360	50 %

The column chart below shows some other information about the tests.

P = Number of positive cases in Agra

Q = Number of negative cases in Meerut

R = Number of tests conducted in Urban area of Agra

S = Number of tests conducted in Urban area of Meerut
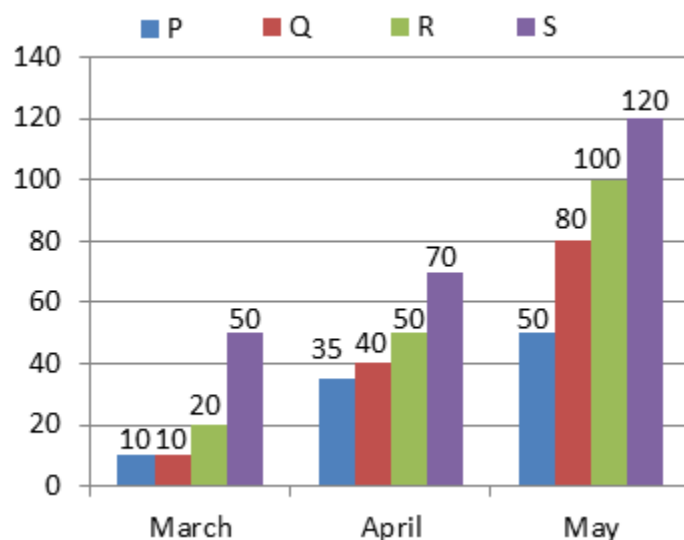
In a given month, it is also known that number of tests found negative in rural area is equal to the number of tests found negative in urban area (True for both the cities)

1. **Find the difference between the total number of positive cases in Urban and Rural areas of Meerut in the three months together.**

A. 55 B. 65 C. 70 D. 75 E. 110

2. **Find the number of positive cases in April in the two cities together is what percent more than the number of negative cases in the two cities in March?**

A. 120% B. 133.33% C. 233.33% D. 333.33% E. 300%

3. **In which case there was no positive test result:**

A. Urban area of Meerut in March   B. Rural area of Meerut in all the three months
C. Rural area of Agra in May   D. Urban area of Agra in all the three months
E. None of these

4. **Find the average number of negative cases in the three months in Agra.**

A. 50 B. 60 C. 120 D. 150 E. 75

5. **Find the total number of positive cases in the urban area of Agra and Meerut together.**

A. 150 B. 175 C. 220 D. 270 E. 300
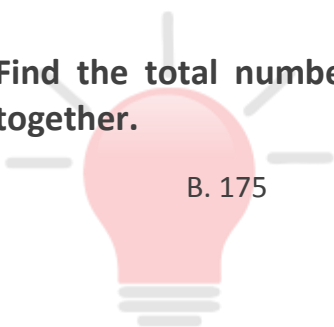
Correct Answers:

1	2	3	4	5
B	D	C	A	D

Common explanations :

Using the given table chart in the question, we find the following table.

(Table-1)

Month	Positive (+ve)	Negative (-ve)
March	70	30
April	130	70
May	180	180

Using the values of P and Q from column chart, we have the following information.

(Table-2)

Month	Positive (+ve)		Negative (-ve)	
	Agra	Meerut	Agra	Meerut
March	10	60	20	10
April	35	95	30	40
May	50	130	100	80

From this table, we have that total number of tests (Urban + Rural) in Agra in

March = 10 + 20 = 30

April = 35 + 30 = 65

May = 50 + 100 = 150

From value of R in March, we have

Urban test in Agra = 20 (+ve and –ve both)

Rural test in Agra = 10

From value of R in April, we have

Urban test in Agra = 50

Rural test in Agra = 15

From value of R in May, we have

Urban test in Agra = 100 (+ve and –ve both)

Rural test in Agra = 50

Now, we have last information that in a given month, number of tests found negative in rural area is equal to the number of tests found negative in urban area.

Consider March of Agra.

Let the number of Rural test found positive/negative = R^+/R^-; and Urban test found positive = U^+/U^-

So, we have been given that $R^- = U^-$

We have from the calculations above that

(March in Agra)

$U^+ + U^- = 20$ ------(i)

$R^+ + R^- = 10$ ------(ii)

From table 1, we have

$R^- + U^- = 20$ ------(iii)

$R^+ + U^+ = 10$ ------(iv)

But since $R^- = U^- = Y$ (say), we have from (iii)

$R^- = U^- = 10$

Putting value of $R^- = U^- = 10$ in (i), (ii) and (iv), we get

$U^+ = 10$

$R^+ = 0$

Similarly we find for each month and both the cities.

We fill all the values in the table given below.

(Table-3)

	Agra				Meerut			
	Urban		Rural		Urban		Rural	
	+ve	-ve	+ve	-ve	+ve	-ve	+ve	-ve
March	10	10	0	10	45	5	15	5
April	35	15	0	15	50	20	45	20
May	50	50	0	50	80	40	50	40

Answers :

1. From table-3 of common explanation, we have

    The number of positive cases in Urban Meerut = 45 + 50 + 80 = 175

    The number of positive cases in Rural Meerut = 15 + 45 + 50 = 110

    Difference = 65

    Hence, option B is correct.

2. From table-2 in the common explanation, we have

    Number of positive cases in April = 35 + 95 = 130

    Number of negative cases in March = 20 + 10 = 30

    Percentage = $\dfrac{130 - 30}{30} \times 100$ = 333.33%

    Hence, option D is correct.

3. From table-3 of common explanation, we see that the Rural area of Agra in May has zero case.

    Hence, option C is correct.

4. From table-2 of the common explanation, we have

    Total number of negative cases in the three months = 20 + 30 + 100 = 150

    Average = $\dfrac{150}{3}$ = 50
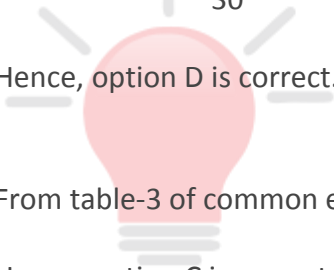
    Hence, option A is correct.

5. From table-3 in the common explanation, we have

    The total number of positive cases in the urban area of Agra = 10 + 35 + 50 = 95

    The total number of positive cases in the urban area of Meerut = 45 + 50 + 80 = 175

    Total = 270

    Hence, option D is correct.