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CDC 01 2022 DILR

Scorecard (procreview.jsp?sid=aaaN5tjtX0b7WgArBjowyMon Jan 09 00:02:18 IST 2023&qsetId=18jwPHYrPvM=&qsetName=CDC 01 2022 DILR)

Accuracy (AccSelectGraph.jsp?sid=aaaN5tjtX0b7WgArBjowyMon Jan 09 00:02:18 IST 2023&qsetId=18jwPHYrPvM=&qsetName=CDC 01 2022 DILR)

Qs Analysis (QsAnalysis.jsp?sid=aaaN5tjtX0b7WgArBjowyMon Jan 09 00:02:18 IST 2023&qsetId=18jwPHYrPvM=&qsetName=CDC 01 2022 DILR)

Video Attempt / Solution (VideoAnalysis.jsp?sid=aaaN5tjtX0b7WgArBjowyMon Jan 09 00:02:18 IST 2023&qsetId=18jwPHYrPvM=&qsetName=CDC 01 2022 DILR)

Solutions (Solution.jsp?sid=aaaN5tjtX0b7WgArBjowyMon Jan 09 00:02:18 IST 2023&qsetId=18jwPHYrPvM=&qsetName=CDC 01 2022 DILR)

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Section-1

Sec 1

Directions for questions 1 to 4: Answer the questions on the basis of the information given below.

Wankhede Stadium is an oval shaped cricket ground in Mumbai. The final match of the One Day International (ODI) Cricket World Cup was once played between India and Sri Lanka at this stadium. There were four stands - Kapil, Gavaskar, Tendulkar and Ganguly - to the East, West, North and South of the ground respectively. People bought tickets for these stands and watched the match at the stadium.
Some other information is given below:
(i) The seats in each stand were in rows. Row 2 was behind row 1, row 3 was behind row 2 … and so on in each stand.
(ii) The number of rows in Kapil, Gavaskar, Tendulkar and Ganguly stands were 20, 12, 15 and 10 respectively.
(iii) Each row of a particular stand had an equal number of seats.
(iv) The seat numbers of row 1 of a particular stand were 1, 2, 3, ..., n, where n was the total number of seats in row 1, the seat numbers of row 2 were n + 1, n + 2, n + 3, ... , 2n, the seat numbers of row 3 were 2n + 1, 2n + 2, 2n + 3, ..., 3n, and so on.
(v) The occupancy of Kapil, Gavaskar, Tendulkar and Ganguly stands were 55.55…%, 60%, 57.14…% and 53.84…% respectively.
(vi) Due to Covid-19 pandemic no two consecutive seats could be occupied in any row of all the stands.

Q.1 [11831809]
What was the total number of seats occupied in the North stand?

✔

Solution:
Correct Answer : 60
Your Answer : 60

Answer key/Solution

From the conditions (ii) and (v), the information can be shown in the table:

Stand	Direction	No. of rows	Occupancy
Kapil	East	20	55.55…% = 5/9
Gavaskar	West	12	60% = 3/5
Tendulkar	North	15	57.14…% = 4/7
Ganguly	South	10	53.84…% = 7/13

From condition (v), the occupancy of North (Tendulkar) stand was 57.14…% = 4/7 i.e., 4 seats out of 7 seats were occupied. From condition (vi), no two consecutive seats could be occupied in any row. The number of seats in a row of North stand was 7. So in row 1, seats 1, 3, 5 and 7 were occupied. From condition (ii), total number of rows in North stand was 15. Hence, the total number of occupied seats in North stand was 4 × 15 = 60.

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Directions for questions 1 to 4: Answer the questions on the basis of the information given below.

Wankhede Stadium is an oval shaped cricket ground in Mumbai. The final match of the One Day International (ODI) Cricket World Cup was once played between India and Sri Lanka at this stadium. There were four stands - Kapil, Gavaskar, Tendulkar and Ganguly - to the East, West, North and South of the ground respectively. People bought tickets for these stands and watched the match at the stadium.
Some other information is given below:
(i) The seats in each stand were in rows. Row 2 was behind row 1, row 3 was behind row 2 … and so on in each stand.
(ii) The number of rows in Kapil, Gavaskar, Tendulkar and Ganguly stands were 20, 12, 15 and 10 respectively.
(iii) Each row of a particular stand had an equal number of seats.
(iv) The seat numbers of row 1 of a particular stand were 1, 2, 3, ..., n, where n was the total number of seats in row 1, the seat numbers of row 2 were n + 1, n + 2, n + 3, ... , 2n, the seat numbers of row 3 were 2n + 1, 2n + 2, 2n + 3, ..., 3n, and so on.
(v) The occupancy of Kapil, Gavaskar, Tendulkar and Ganguly stands were 55.55…%, 60%, 57.14…% and 53.84…% respectively.
(vi) Due to Covid-19 pandemic no two consecutive seats could be occupied in any row of all the stands.

Q.2 [11831809]
If the cost per ticket for Ganguly stand was Rs 2,500 , then what was the total revenue (in Rs. lakh) from Ganguly stand?

1 ◯ 1.75

2 ◯ 1.5

3 ◯ 2.75

4 ◯ 2.25

✔

Solution:
Correct Answer : 1
Your Answer : 1

Answer key/Solution

From the conditions (ii) and (v), the information can be shown in the table:

Stand	Direction	No. of rows	Occupancy
Kapil	East	20	55.55...% = 5/9
Gavaskar	West	12	60% = 3/5
Tendulkar	North	15	57.14...% = 4/7
Ganguly	South	10	53.84...% = 7/13

From condition (v), the occupancy of Ganguly stand was 53.84...% = 7/13 i.e., 7 seats out of 13 seats were occupied. From condition (vi), no two consecutive seats could be occupied in any row. The number of seats in each row of this stand was 13. So in row 1, seats 1, 3, 5, 7, 9, 11 and 13 were occupied. From condition (ii), total number of rows in Ganguly stand was 10. Hence, the revenue from Ganguly stand was = 7 × 10 × 2500 = Rs. 1,75,000.

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Directions for questions 1 to 4: Answer the questions on the basis of the information given below.

Wankhede Stadium is an oval shaped cricket ground in Mumbai. The final match of the One Day International (ODI) Cricket World Cup was once played between India and Sri Lanka at this stadium. There were four stands - Kapil, Gavaskar, Tendulkar and Ganguly - to the East, West, North and South of the ground respectively. People bought tickets for these stands and watched the match at the stadium.
Some other information is given below:
(i) The seats in each stand were in rows. Row 2 was behind row 1, row 3 was behind row 2 … and so on in each stand.
(ii) The number of rows in Kapil, Gavaskar, Tendulkar and Ganguly stands were 20, 12, 15 and 10 respectively.
(iii) Each row of a particular stand had an equal number of seats.
(iv) The seat numbers of row 1 of a particular stand were 1, 2, 3, ..., n, where n was the total number of seats in row 1, the seat numbers of row 2 were n + 1, n + 2, n + 3, ... , 2n, the seat numbers of row 3 were 2n + 1, 2n + 2, 2n + 3, ..., 3n, and so on.
(v) The occupancy of Kapil, Gavaskar, Tendulkar and Ganguly stands were 55.55…%, 60%, 57.14…% and 53.84…% respectively.
(vi) Due to Covid-19 pandemic no two consecutive seats could be occupied in any row of all the stands.

Q.3 [11831809]
Which of the following seats cannot be occupied in the West stand, if after every 5 seats in each row there was a commuting path? (The seats adjacent to the commuting path are not considered as adjacent seats and hence both can be occupied.)

1 ◯ 23

2 ◯ 38

3 ◯ 101

4 ◯ 74

✔

Solution:
Correct Answer : 4
Your Answer : 4

Answer key/Solution

From the conditions (ii) and (v), the information can be shown in the table:

Stand	Direction	No. of rows	Occupancy
Kapil	East	20	55.55...% = 5/9
Gavaskar	West	12	60% = 3/5
Tendulkar	North	15	57.14...% = 4/7
Ganguly	South	10	53.84...% = 7/13

From condition (v), the occupancy of West stand was 60% = 3/5 i.e., 3 seats out of 5 seats were occupied. From condition (vi), no two consecutive seats could be occupied in any row. After every 5 seats in each row there was a commuting path. Let us assume there was one commuting path in the West stand.

Row 1	1	2	3	4	5		6	7	8	9	10
Row 2	11	12	13	14	15		16	17	18	19	20
Row 3	21	22	23	24	25		26	27	28	29	30
Row 4	31	32	33	34	35		36	37	38	39	40
...	...	...	...	...	...		...	...	...	...	...

In the first 5 seats, odd numbered seats were occupied and in the next 5 seats, even numbered seats were occupied and so on. Therefore, seat numbers 23, 38 and 101 were occupied.
Hence, seat number 74 cannot be occupied.

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Directions for questions 1 to 4: Answer the questions on the basis of the information given below.

Wankhede Stadium is an oval shaped cricket ground in Mumbai. The final match of the One Day International (ODI) Cricket World Cup was once played between India and Sri Lanka at this stadium. There were four stands - Kapil, Gavaskar, Tendulkar and Ganguly - to the East, West, North and South of the ground respectively. People bought tickets for these stands and watched the match at the stadium.
Some other information is given below:
(i) The seats in each stand were in rows. Row 2 was behind row 1, row 3 was behind row 2 … and so on in each stand.
(ii) The number of rows in Kapil, Gavaskar, Tendulkar and Ganguly stands were 20, 12, 15 and 10 respectively.
(iii) Each row of a particular stand had an equal number of seats.
(iv) The seat numbers of row 1 of a particular stand were 1, 2, 3, ..., n, where n was the total number of seats in row 1, the seat numbers of row 2 were n + 1, n + 2, n + 3, ... , 2n, the seat numbers of row 3 were 2n + 1, 2n + 2, 2n + 3, ..., 3n, and so on.
(v) The occupancy of Kapil, Gavaskar, Tendulkar and Ganguly stands were 55.55…%, 60%, 57.14…% and 53.84…% respectively.
(vi) Due to Covid-19 pandemic no two consecutive seats could be occupied in any row of all the stands.

Q.4 [11831809]

If the Sports Minister of the Government of India watched the match sitting in the middle of row 5 of the East Stand, then in which of the following seats did the Sports Minister sit?

1 ◯ 39

2 ◯ 41

3 ◯ 40

4 ◯ 43

✔

Solution:

Correct Answer : 2

Your Answer : 2

Answer key/Solution

From the conditions (ii) and (v), the information can be shown in the table:

Stand	Direction	No. of rows	Occupancy
Kapil	East	20	55.55...% = 5/9
Gavaskar	West	12	60% = 3/5
Tendulkar	North	15	57.14...% = 4/7
Ganguly	South	10	53.84...% = 7/13

From condition (v), the occupancy of East stand was 55.55...% = 5/9 i.e., 5 seats out of 9 seats were occupied. From condition (vi), no two consecutive seats could be occupied in any row. The number of seats in a row of East stand was 9.

Row 1	1	2	3	4	5	6	7	8	9
Row 2	10	11	12	13	14	15	16	17	18
Row 3	19	20	21	22	23	24	25	26	27
Row 4	28	29	30	31	32	33	34	35	36
Row 5	37	38	39	40	41	42	43	44	45
...	...	...	...	...	...	...	...	...	...

Since the sports minister was sitting in the middle of row 5. Hence, he was sitting on seat 41.

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Directions for questions 5 to 10: Answer the questions on the basis of the information given below.

Six employees – A, B, C, D, E and F - completed their annual appraisals for the year 2021-22. The appraisal had two parts - compulsory and optional. The compulsory part consisted of self, peer and mentor appraisals. After the ratings were received in these three compulsory appraisals, the employees aspiring for promotions or change of profile had options to be appraised individually by the HR head, HODs of other departments and Chairman: also for each of these any employee had a choice to be appraised or not to be appraised. In case of Non-Appraisal, NA is mentioned in place of the ratings in the table of optional appraisal ratings given below. For each of these appraisals an employee could get a rating from 1 to 5, based on their performance during the year. The ratings given are as follows:

1	2	3	4	5
Unsatisfactory	Satisfactory	Good	Very Good	Excellent

Employee	HR - Head	Other HODs	Chairman
A	NA	NA	5
B	4	3	4
C	2	NA	NA
D	NA	4	NA
E	5	5	4
F	2	NA	NA

Further, it is also known that:
(i) A, B and E had the same total ratings after the compulsory appraisals were over. A had a lesser self rating than peer rating, B had a lesser peer rating than self rating and E had a lesser mentor rating than self rating.
(ii) C and F gave equal self ratings and received equal peer ratings whereas F got double the mentor rating of C.
(iii) The total ratings received by A, C, D and F were distinct prime numbers between 10 and 20 in no specific order whereas the remaining employees received ratings of 25 and 28.
(iv) None of the employees got an Unsatisfactory rating.
(v) The existing salaries of all the employees are whole numbers and the increments received by the employees after the appraisals were as follows:
No increment for ratings less than or equal to 10. Increment of 5% for ratings between 11 and 15, 10% for ratings between 16 and 20, 15% for ratings between 21 and 25; 20% for ratings between 26 and 30.

Q.5 [11831809]
Which of the following is the sum of self-ratings of A, B and E?

1 ◯ 12

2 ◯ 13

3 ◯ 14

4 ◯ 15

Solution:

Correct Answer : 3

Your Answer : 3

Answer key/Solution

Step-1:

From conditions (i) and (iii), we know that B and E had equal ratings at the end of the compulsory appraisals and their total scores are 25 and 28. So B must have 25 and E must have 28 and their scores at the end of the compulsory appraisals will be 14, which is also true for A.

So the total score of A is 14 + 5 = 19.

The ratings for A, B and E in the compulsory appraisals will be (4, 5, 5), (5, 4, 5) and (5, 5, 4) respectively.

Since none of the employees got an Unsatisfactory rating, from condition (ii), we can say that the mentor ratings for C and F were 2 and 4 respectively. So other ratings being equal we can say that the total score of F is 2 more than the total score of C and both are prime numbers that can take values 11, 13 or 17 (as 19 is already A's score).

So the scores of C and F are 11 and 13 respectively. In the compulsory appraisals C and F received ratings of 9 and 11 respectively. So both C and F either got (4, 3) or (5, 2) (in no specific order) in self and peer appraisals.

The only prime number remaining is 17, which is D's total score. Now D's score at the end of compulsory appraisals will be 13 which could have been (5, 4, 4) or (5, 5, 3).

Step-2:

The given information can be shows as in the table below:

Employee	Compulsory appraisal (Self, Peer, Mentor)	HR - Head	Other HODs	Chairman	Total
A	(4, 5, 5)	NA	NA	5	19
B	(5, 4, 5)	4	3	4	25
C	(4, 3, 2) or (3, 4, 2) or (5, 2, 2) or (2, 5, 2)	2	NA	NA	11
D	(5, 4, 4) or (4, 5, 4) or (4, 4, 5), (5, 5, 3) or (5, 3, 5) or (3, 5, 5)	NA	4	NA	17
E	(5, 5, 4)	5	5	4	28
F	(4, 3, 4) or (3, 4, 4) or (5, 2, 4) or (2, 5, 4)	2	NA	NA	13

The sum of self-ratings of A, B and E is 4 + 5 + 5 = 14.

Bookmark FeedBack

Directions for questions 5 to 10: Answer the questions on the basis of the information given below.

Six employees – A, B, C, D, E and F - completed their annual appraisals for the year 2021-22. The appraisal had two parts - compulsory and optional. The compulsory part consisted of self, peer and mentor appraisals. After the ratings were received in these three compulsory appraisals, the employees aspiring for promotions or change of profile had options to be appraised individually by the HR head, HODs of other departments and Chairman: also for each of these any employee had a choice to be appraised or not to be appraised. In case of Non-Appraisal, NA is mentioned in place of the ratings in the table of optional appraisal ratings given below. For each of these appraisals an employee could get a rating from 1 to 5, based on their performance during the year. The ratings given are as follows:

1	2	3	4	5
Unsatisfactory	Satisfactory	Good	Very Good	Excellent

Employee	HR - Head	Other HODs	Chairman
A	NA	NA	5
B	4	3	4
C	2	NA	NA
D	NA	4	NA
E	5	5	4
F	2	NA	NA

Further, it is also known that:
(i) A, B and E had the same total ratings after the compulsory appraisals were over. A had a lesser self rating than peer rating, B had a lesser peer rating than self rating and E had a lesser mentor rating than self rating.
(ii) C and F gave equal self ratings and received equal peer ratings whereas F got double the mentor rating of C.
(iii) The total ratings received by A, C, D and F were distinct prime numbers between 10 and 20 in no specific order whereas the remaining employees received ratings of 25 and 28.
(iv) None of the employees got an Unsatisfactory rating.
(v) The existing salaries of all the employees are whole numbers and the increments received by the employees after the appraisals were as follows:
No increment for ratings less than or equal to 10. Increment of 5% for ratings between 11 and 15, 10% for ratings between 16 and 20, 15% for ratings between 21 and 25; 20% for ratings between 26 and 30.

Q.6 [11831809]
What was the sum of the ratings received by D in compulsory part of the appraisal?

1 ◯ 12

2 ◯ 13

3 ◯ 14

4 ◯ Less than 12

Solution:

Correct Answer : 2

Your Answer : 2

Answer key/Solution

Step-1:

From conditions (i) and (iii), we know that B and E had equal ratings at the end of the compulsory appraisals and their total scores are 25 and 28. So B must have 25 and E must have 28 and their scores at the end of the compulsory appraisals will be 14, which is also true for A.

So the total score of A is 14 + 5 = 19.

The ratings for A, B and E in the compulsory appraisals will be (4, 5, 5), (5, 4, 5) and (5, 5, 4) respectively.

Since none of the employees got an Unsatisfactory rating, from condition (ii), we can say that the mentor ratings for C and F were 2 and 4 respectively. So other ratings being equal we can say that the total score of F is 2 more than the total score of C and both are prime numbers that can take values 11, 13 or 17 (as 19 is already A's score).

So the scores of C and F are 11 and 13 respectively. In the compulsory appraisals C and F received ratings of 9 and 11 respectively. So both C and F either got (4, 3) or (5, 2) (in no specific order) in self and peer appraisals.

The only prime number remaining is 17, which is D's total score. Now D's score at the end of compulsory appraisals will be 13 which could have been (5, 4, 4) or (5, 5, 3).

Step-2:

The given information can be shows as in the table below:

Employee	Compulsory appraisal (Self, Peer, Mentor)	HR - Head	Other HODs	Chairman	Total
A	(4, 5, 5)	NA	NA	5	19
B	(5, 4, 5)	4	3	4	25
C	(4, 3, 2) or (3, 4, 2) or (5, 2, 2) or (2, 5, 2)	2	NA	NA	11
D	(5, 4, 4) or (4, 5, 4) or (4, 4, 5), (5, 5, 3) or (5, 3, 5) or (3, 5, 5)	NA	4	NA	17
E	(5, 5, 4)	5	5	4	28
F	(4, 3, 4) or (3, 4, 4) or (5, 2, 4) or (2, 5, 4)	2	NA	NA	13

Total 13 ratings were received by D in compulsory part of the appraisal.

Bookmark FeedBack

Directions for questions 5 to 10: Answer the questions on the basis of the information given below.

Six employees – A, B, C, D, E and F - completed their annual appraisals for the year 2021-22. The appraisal had two parts - compulsory and optional. The compulsory part consisted of self, peer and mentor appraisals. After the ratings were received in these three compulsory appraisals, the employees aspiring for promotions or change of profile had options to be appraised individually by the HR head, HODs of other departments and Chairman: also for each of these any employee had a choice to be appraised or not to be appraised. In case of Non-Appraisal, NA is mentioned in place of the ratings in the table of optional appraisal ratings given below. For each of these appraisals an employee could get a rating from 1 to 5, based on their performance during the year. The ratings given are as follows:

1	2	3	4	5
Unsatisfactory	Satisfactory	Good	Very Good	Excellent

Employee	HR - Head	Other HODs	Chairman
A	NA	NA	5
B	4	3	4
C	2	NA	NA
D	NA	4	NA
E	5	5	4
F	2	NA	NA

Further, it is also known that:
(i) A, B and E had the same total ratings after the compulsory appraisals were over. A had a lesser self rating than peer rating, B had a lesser peer rating than self rating and E had a lesser mentor rating than self rating.
(ii) C and F gave equal self ratings and received equal peer ratings whereas F got double the mentor rating of C.
(iii) The total ratings received by A, C, D and F were distinct prime numbers between 10 and 20 in no specific order whereas the remaining employees received ratings of 25 and 28.
(iv) None of the employees got an Unsatisfactory rating.
(v) The existing salaries of all the employees are whole numbers and the increments received by the employees after the appraisals were as follows:
No increment for ratings less than or equal to 10. Increment of 5% for ratings between 11 and 15, 10% for ratings between 16 and 20, 15% for ratings between 21 and 25; 20% for ratings between 26 and 30.

Q.7 [11831809]
What was the mentor rating for the employee with the lowest total rating?

1 ◯ 4

2 ◯ 5

3 ◯ 3

4 ◯ 2

Solution:

Correct Answer : 4

Your Answer : 4

Answer key/Solution

Step-1:

From conditions (i) and (iii), we know that B and E had equal ratings at the end of the compulsory appraisals and their total scores are 25 and 28. So B must have 25 and E must have 28 and their scores at the end of the compulsory appraisals will be 14, which is also true for A.

So the total score of A is 14 + 5 = 19.

The ratings for A, B and E in the compulsory appraisals will be (4, 5, 5), (5, 4, 5) and (5, 5, 4) respectively.

Since none of the employees got an Unsatisfactory rating, from condition (ii), we can say that the mentor ratings for C and F were 2 and 4 respectively. So other ratings being equal we can say that the total score of F is 2 more than the total score of C and both are prime numbers that can take values 11, 13 or 17 (as 19 is already A's score).

So the scores of C and F are 11 and 13 respectively. In the compulsory appraisals C and F received ratings of 9 and 11 respectively. So both C and F either got (4, 3) or (5, 2) (in no specific order) in self and peer appraisals.

The only prime number remaining is 17, which is D's total score. Now D's score at the end of compulsory appraisals will be 13 which could have been (5, 4, 4) or (5, 5, 3).

Step-2:

The given information can be shows as in the table below:

Employee	Compulsory appraisal (Self, Peer, Mentor)	HR - Head	Other HODs	Chairman	Total
A	(4, 5, 5)	NA	NA	5	19
B	(5, 4, 5)	4	3	4	25
C	(4, 3, 2) or (3, 4, 2) or (5, 2, 2) or (2, 5, 2)	2	NA	NA	11
D	(5, 4, 4) or (4, 5, 4) or (4, 4, 5), (5, 5, 3) or (5, 3, 5) or (3, 5, 5)	NA	4	NA	17
E	(5, 5, 4)	5	5	4	28
F	(4, 3, 4) or (3, 4, 4) or (5, 2, 4) or (2, 5, 4)	2	NA	NA	13

The lowest total rating was for C and it was 11. His mentor rating was 2.

Bookmark FeedBack

Directions for questions 5 to 10: Answer the questions on the basis of the information given below.

Six employees – A, B, C, D, E and F - completed their annual appraisals for the year 2021-22. The appraisal had two parts - compulsory and optional. The compulsory part consisted of self, peer and mentor appraisals. After the ratings were received in these three compulsory appraisals, the employees aspiring for promotions or change of profile had options to be appraised individually by the HR head, HODs of other departments and Chairman: also for each of these any employee had a choice to be appraised or not to be appraised. In case of Non-Appraisal, NA is mentioned in place of the ratings in the table of optional appraisal ratings given below. For each of these appraisals an employee could get a rating from 1 to 5, based on their performance during the year. The ratings given are as follows:

1	2	3	4	5
Unsatisfactory	Satisfactory	Good	Very Good	Excellent

Employee	HR - Head	Other HODs	Chairman
A	NA	NA	5
B	4	3	4
C	2	NA	NA
D	NA	4	NA
E	5	5	4
F	2	NA	NA

Further, it is also known that:
(i) A, B and E had the same total ratings after the compulsory appraisals were over. A had a lesser self rating than peer rating, B had a lesser peer rating than self rating and E had a lesser mentor rating than self rating.
(ii) C and F gave equal self ratings and received equal peer ratings whereas F got double the mentor rating of C.
(iii) The total ratings received by A, C, D and F were distinct prime numbers between 10 and 20 in no specific order whereas the remaining employees received ratings of 25 and 28.
(iv) None of the employees got an Unsatisfactory rating.
(v) The existing salaries of all the employees are whole numbers and the increments received by the employees after the appraisals were as follows:
No increment for ratings less than or equal to 10. Increment of 5% for ratings between 11 and 15, 10% for ratings between 16 and 20, 15% for ratings between 21 and 25; 20% for ratings between 26 and 30.

Q.8 [11831809]

If D had the maximum rating only in his self appraisal, then which of the following statements is definitely true for D?
I. His ratings in the remaining appraisals were equal.
II. The rating in one of his appraisals was 3.
III. The ratings in 2 out of his 4 appraisals were equal.

1 ◯ Only I

2 ◯ Only III

3 ◯ Both II and III

4 ◯ Both I and II

✔

Solution:
Correct Answer : 1
Your Answer : 1

Answer key/Solution

Step-1:
From conditions (i) and (iii), we know that B and E had equal ratings at the end of the compulsory appraisals and their total scores are 25 and 28. So B must have 25 and E must have 28 and their scores at the end of the compulsory appraisals will be 14, which is also true for A.
So the total score of A is 14 + 5 = 19.
The ratings for A, B and E in the compulsory appraisals will be (4, 5, 5), (5, 4, 5) and (5, 5, 4) respectively.
Since none of the employees got an Unsatisfactory rating, from condition (ii), we can say that the mentor ratings for C and F were 2 and 4 respectively. So other ratings being equal we can say that the total score of F is 2 more than the total score of C and both are prime numbers that can take values 11, 13 or 17 (as 19 is already A's score).
So the scores of C and F are 11 and 13 respectively. In the compulsory appraisals C and F received ratings of 9 and 11 respectively. So both C and F either got (4, 3) or (5, 2) (in no specific order) in self and peer appraisals.
The only prime number remaining is 17, which is D's total score. Now D's score at the end of compulsory appraisals will be 13 which could have been (5, 4, 4) or (5, 5, 3).

Step-2:
The given information can be shows as in the table below:

Employee	Compulsory appraisal (Self, Peer, Mentor)	HR - Head	Other HODs	Chairman	Total
A	(4, 5, 5)	NA	NA	5	19
B	(5, 4, 5)	4	3	4	25
C	(4, 3, 2) or (3, 4, 2) or (5, 2, 2) or (2, 5, 2)	2	NA	NA	11
D	(5, 4, 4) or (4, 5, 4) or (4, 4, 5), (5, 5, 3) or (5, 3, 5) or (3, 5, 5)	NA	4	NA	17
E	(5, 5, 4)	5	5	4	28
F	(4, 3, 4) or (3, 4, 4) or (5, 2, 4) or (2, 5, 4)	2	NA	NA	13

The ratings of the compulsory appraisal of D could be (5, 4, 4) or (5, 5 3). According to the question the maximum rating was only for self appraisal, so (5, 5, 3) is ruled out. Hence, the ratings in the 4 appraisals (3 compulsory and 1 optional) for A were (5, 4, 4, 4). Hence, the ratings of the remaining appraisals were equal, so only I is true.

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Directions for questions 5 to 10: Answer the questions on the basis of the information given below.

Six employees – A, B, C, D, E and F - completed their annual appraisals for the year 2021-22. The appraisal had two parts - compulsory and optional. The compulsory part consisted of self, peer and mentor appraisals. After the ratings were received in these three compulsory appraisals, the employees aspiring for promotions or change of profile had options to be appraised individually by the HR head, HODs of other departments and Chairman: also for each of these any employee had a choice to be appraised or not to be appraised. In case of Non-Appraisal, NA is mentioned in place of the ratings in the table of optional appraisal ratings given below. For each of these appraisals an employee could get a rating from 1 to 5, based on their performance during the year. The ratings given are as follows:

1	2	3	4	5
Unsatisfactory	Satisfactory	Good	Very Good	Excellent

Employee	HR - Head	Other HODs	Chairman
A	NA	NA	5
B	4	3	4
C	2	NA	NA
D	NA	4	NA
E	5	5	4
F	2	NA	NA

Further, it is also known that:
(i) A, B and E had the same total ratings after the compulsory appraisals were over. A had a lesser self rating than peer rating, B had a lesser peer rating than self rating and E had a lesser mentor rating than self rating.
(ii) C and F gave equal self ratings and received equal peer ratings whereas F got double the mentor rating of C.
(iii) The total ratings received by A, C, D and F were distinct prime numbers between 10 and 20 in no specific order whereas the remaining employees received ratings of 25 and 28.
(iv) None of the employees got an Unsatisfactory rating.
(v) The existing salaries of all the employees are whole numbers and the increments received by the employees after the appraisals were as follows:
No increment for ratings less than or equal to 10. Increment of 5% for ratings between 11 and 15, 10% for ratings between 16 and 20, 15% for ratings between 21 and 25; 20% for ratings between 26 and 30.

Q.9 [11831809]
Which of the following employees can get an increased salary of Rs.1.5 lakh in the new financial year?

1 ◯ B

2 ◯ C

3 ◯ E

4 ◯ A

Solution:
Correct Answer : 3

Answer key/Solution

Step-1:
From conditions (i) and (iii), we know that B and E had equal ratings at the end of the compulsory appraisals and their total scores are 25 and 28. So B must have 25 and E must have 28 and their scores at the end of the compulsory appraisals will be 14, which is also true for A.
So the total score of A is 14 + 5 = 19.
The ratings for A, B and E in the compulsory appraisals will be (4, 5, 5), (5, 4, 5) and (5, 5, 4) respectively.
Since none of the employees got an Unsatisfactory rating, from condition (ii), we can say that the mentor ratings for C and F were 2 and 4 respectively. So other ratings being equal we can say that the total score of F is 2 more than the total score of C and both are prime numbers that can take values 11, 13 or 17 (as 19 is already A's score).
So the scores of C and F are 11 and 13 respectively. In the compulsory appraisals C and F received ratings of 9 and 11 respectively. So both C and F either got (4, 3) or (5, 2) (in no specific order) in self and peer appraisals.
The only prime number remaining is 17, which is D's total score. Now D's score at the end of compulsory appraisals will be 13 which could have been (5, 4, 4) or (5, 5, 3).

Step-2:
The given information can be shows as in the table below:

Employee	Compulsory appraisal (Self, Peer, Mentor)	HR - Head	Other HODs	Chairman	Total
A	(4, 5, 5)	NA	NA	5	19
B	(5, 4, 5)	4	3	4	25
C	(4, 3, 2) or (3, 4, 2) or (5, 2, 2) or (2, 5, 2)	2	NA	NA	11
D	(5, 4, 4) or (4, 5, 4) or (4, 4, 5), (5, 5, 3) or (5, 3, 5) or (3, 5, 5)	NA	4	NA	17
E	(5, 5, 4)	5	5	4	28
F	(4, 3, 4) or (3, 4, 4) or (5, 2, 4) or (2, 5, 4)	2	NA	NA	13

From condition (v), it is given that the increments are 5%, 10%, 15% and 20% and their existing salaries are in whole numbers. The only possible percentage increment for a revised salary of Rs.1.5 lakh is 20%.
In this case the existing salary can be = 1.5/1.2 = 1.25 lakh = Rs.1,25,000 (whole number). In all other cases the existing salary calculated will not be whole numbers.
The only person who can get a 20% increment is E with a total rating of 28.
Hence, the correct answer is (3).

Bookmark FeedBack

Directions for questions 5 to 10: Answer the questions on the basis of the information given below.

Six employees – A, B, C, D, E and F - completed their annual appraisals for the year 2021-22. The appraisal had two parts - compulsory and optional. The compulsory part consisted of self, peer and mentor appraisals. After the ratings were received in these three compulsory appraisals, the employees aspiring for promotions or change of profile had options to be appraised individually by the HR head, HODs of other departments and Chairman: also for each of these any employee had a choice to be appraised or not to be appraised. In case of Non-Appraisal, NA is mentioned in place of the ratings in the table of optional appraisal ratings given below. For each of these appraisals an employee could get a rating from 1 to 5, based on their performance during the year. The ratings given are as follows:

1	2	3	4	5
Unsatisfactory	Satisfactory	Good	Very Good	Excellent

Employee	HR - Head	Other HODs	Chairman
A	NA	NA	5
B	4	3	4
C	2	NA	NA
D	NA	4	NA
E	5	5	4
F	2	NA	NA

Further, it is also known that:
(i) A, B and E had the same total ratings after the compulsory appraisals were over. A had a lesser self rating than peer rating, B had a lesser peer rating than self rating and E had a lesser mentor rating than self rating.
(ii) C and F gave equal self ratings and received equal peer ratings whereas F got double the mentor rating of C.
(iii) The total ratings received by A, C, D and F were distinct prime numbers between 10 and 20 in no specific order whereas the remaining employees received ratings of 25 and 28.
(iv) None of the employees got an Unsatisfactory rating.
(v) The existing salaries of all the employees are whole numbers and the increments received by the employees after the appraisals were as follows:
No increment for ratings less than or equal to 10. Increment of 5% for ratings between 11 and 15, 10% for ratings between 16 and 20, 15% for ratings between 21 and 25; 20% for ratings between 26 and 30.

Q.10 [11831809]

If the existing salaries of A and F are equal to Rs.75,000, then what is the difference (in Rs.) between their increased salaries for the new financial year?

Solution:
Correct Answer : 3750

Answer key/Solution

Step-1:
From conditions (i) and (iii), we know that B and E had equal ratings at the end of the compulsory appraisals and their total scores are 25 and 28. So B must have 25 and E must have 28 and their scores at the end of the compulsory appraisals will be 14, which is also true for A.
So the total score of A is 14 + 5 = 19.
The ratings for A, B and E in the compulsory appraisals will be (4, 5, 5), (5, 4, 5) and (5, 5, 4) respectively.
Since none of the employees got an Unsatisfactory rating, from condition (ii), we can say that the mentor ratings for C and F were 2 and 4 respectively. So other ratings being equal we can say that the total score of F is 2 more than the total score of C and both are prime numbers that can take values 11, 13 or 17 (as 19 is already A's score).
So the scores of C and F are 11 and 13 respectively. In the compulsory appraisals C and F received ratings of 9 and 11 respectively. So both C and F either got (4, 3) or (5, 2) (in no specific order) in self and peer appraisals.
The only prime number remaining is 17, which is D's total score. Now D's score at the end of compulsory appraisals will be 13 which could have been (5, 4, 4) or (5, 5, 3).

Step-2:
The given information can be shows as in the table below:

Employee	Compulsory appraisal (Self, Peer, Mentor)	HR - Head	Other HODs	Chairman	Total
A	(4, 5, 5)	NA	NA	5	19
B	(5, 4, 5)	4	3	4	25
C	(4, 3, 2) or (3, 4, 2) or (5, 2, 2) or (2, 5, 2)	2	NA	NA	11
D	(5, 4, 4) or (4, 5, 4) or (4, 4, 5), (5, 5, 3) or (5, 3, 5) or (3, 5, 5)	NA	4	NA	17
E	(5, 5, 4)	5	5	4	28
F	(4, 3, 4) or (3, 4, 4) or (5, 2, 4) or (2, 5, 4)	2	NA	NA	13

From condition (v), A got a total rating of 19, so he gets an increment of 10% whereas F got a rating of 13, so he gets an increment of 5%.
Hence, required difference in their salaries = 75000 × (0.1 – 0.05) = Rs.3,750.

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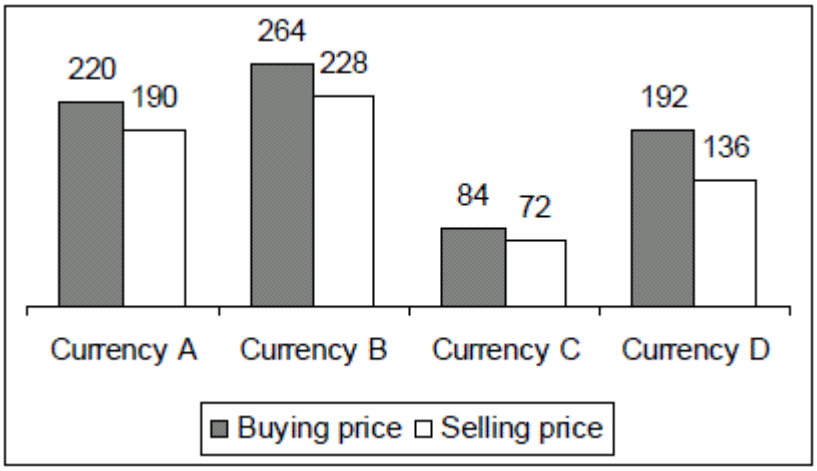
Directions for questions 11 to 14: Answer the questions on the basis of the information given below.

Aamir is travelling to four countries – P, Q, R and S which have four different currencies – A, B, C and D in any order. He visits a currency exchange outlet and uses the local currency Rupees (Rs.) to sell and buy the international currencies. The bar graph below gives the exchange rate of currencies for different countries Aamir is visiting provided by the currency exchange outlet. For Aamir, the buying price of a unit of any currency is certain percentage more than the base price and selling price is certain percentage less than the base price of that currency. These percentages may differ from country to country.



For example, Aamir can buy 1 unit of currency A with Rs. 220 and sell 1 unit of currency and get back Rs. 190.
The following facts are known about the exchange made by the Aamir for his pre and post trip:
(i) The units of currencies A, B, C and D bought by Aamir are in the ratio 3 : 2 : 5 : 4 and the units of currencies sold by Aamir post trip are in the ratio 2 : 1 : 2 : 4. Aamir doesn't keep any currency post trip.
(ii) The difference between the money spent by Aamir on buying currency B and selling currency D was Rs. 1,02,400.
(iii) If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more.
(iv) The currencies for countries P and Q were bought 10% above the corresponding base exchange rates, and their selling exchange rates are 5% below their corresponding base exchange rates. For country R, the currency was bought 12% above the corresponding base exchange rates which is less than the selling exchange rate of the currency of country S. All base prices of every currency were integers.

Q.11 [11831809]
The currency for country R were sold by Aamir at the exchange rate _____% below their corresponding base exchange rates.

1 ◯ 3

2 ◯ 4

3 ◯ 5

4 ◯ 8

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
From condition (i), let the units of currencies A, B, C and D bought by Aamir are 3x, 2x, 5x, and 4x respectively and the unit of currencies sold by Aamir post trip are in the ratio 2y, y, 2y and 4y respectively.

Units bought	Buying price	Currency	Selling price	Units sold
3x	220	A	190	2y
2x	264	B	228	y
5x	84	C	72	2y
4x	192	D	136	4y

From condition (ii), the difference between the money spent by Aamir on buying currency B and selling currency D was 102400, which gives the equation,
$264 \times 2x - 136 \times 4y = 102400$
$\Rightarrow 33x - 34y = 6400$ ... (1)
From condition (iii), If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more. Let the base price of currency C be Rs. C. Then,
$C(2y) - 72(2y) = 1200$
$\Rightarrow (C - 72)y = 600$ ... (2)
From condition (iv), the currencies for countries P and Q must be A and B in any order. And their base exchange values must be 200 and 240 respectively.
For country R, the currency was bought 12% above the corresponding base exchange rates:

Let currency of country R be C, then $x = \frac{84}{1.12} = 75.$

Let currency of country R be D, then $x = \frac{192}{1.12} = 171.73$ which is not an integer value, therefore, not valid.

Currency of country R is C and for country S is D.

Step 2:
From here, C = 75, therefore,

$(75 - 72)y = 600$

$\Rightarrow y = 200$

And, $33x - 34(200) = 6400$
$\Rightarrow 33x = 13200$
$\Rightarrow x = 400$
The given information can be shown in the table below:

Units bought	Buying price	Currency	Country	Selling price	Units sold
3x = 1200	220	A – 200	Q	190	2y = 400
2x = 800	264	B – 240	P	228	y = 200
5x = 2000	84	C – 75	R	72	2y = 400
4x = 1600	192	D	S	136	4y = 800

The currency for country R were sold by Aamir at the exchange rate $\frac{75 - 72}{75} \times 100 = 4\%$ below their corresponding base exchange rates.

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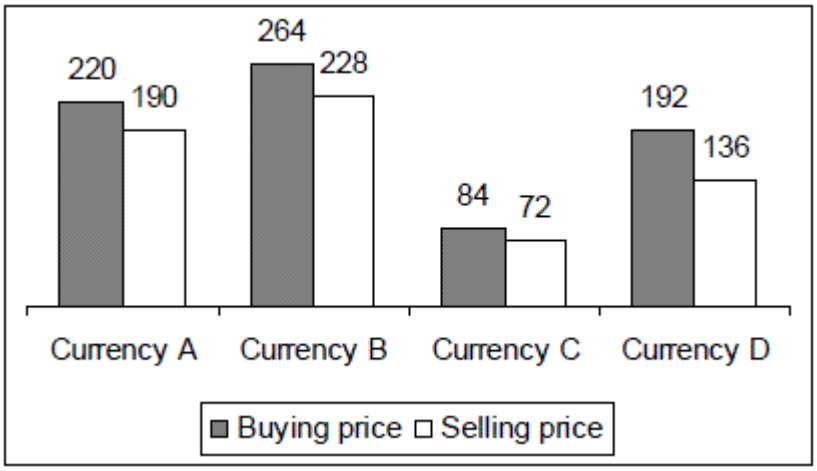
Directions for questions 11 to 14: Answer the questions on the basis of the information given below.

Aamir is travelling to four countries – P, Q, R and S which have four different currencies – A, B, C and D in any order. He visits a currency exchange outlet and uses the local currency Rupees (Rs.) to sell and buy the international currencies. The bar graph below gives the exchange rate of currencies for different countries Aamir is visiting provided by the currency exchange outlet. For Aamir, the buying price of a unit of any currency is certain percentage more than the base price and selling price is certain percentage less than the base price of that currency. These percentages may differ from country to country.



For example, Aamir can buy 1 unit of currency A with Rs. 220 and sell 1 unit of currency and get back Rs. 190.
The following facts are known about the exchange made by the Aamir for his pre and post trip:
(i) The units of currencies A, B, C and D bought by Aamir are in the ratio 3 : 2 : 5 : 4 and the units of currencies sold by Aamir post trip are in the ratio 2 : 1 : 2 : 4. Aamir doesn't keep any currency post trip.
(ii) The difference between the money spent by Aamir on buying currency B and selling currency D was Rs. 1,02,400.
(iii) If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more.
(iv) The currencies for countries P and Q were bought 10% above the corresponding base exchange rates, and their selling exchange rates are 5% below their corresponding base exchange rates. For country R, the currency was bought 12% above the corresponding base exchange rates which is less than the selling exchange rate of the currency of country S. All base prices of every currency were integers.

Q.12 [11831809]
How many units of currency S did Aamir spent on the trip?

Solution:
Correct Answer : 800

Answer key/Solution

Step 1:
From condition (i), let the units of currencies A, B, C and D bought by Aamir are 3x, 2x, 5x, and 4x respectively and the unit of currencies sold by Aamir post trip are in the ratio 2y, y, 2y and 4y respectively.

Units bought	Buying price	Currency	Selling price	Units sold
3x	220	A	190	2y
2x	264	B	228	y
5x	84	C	72	2y
4x	192	D	136	4y

From condition (ii), the difference between the money spent by Aamir on buying currency B and selling currency D was 102400, which gives the equation,
$264 \times 2x - 136 \times 4y = 102400$
$\Rightarrow 33x - 34y = 6400$ ... (1)
From condition (iii), If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more. Let the base price of currency C be Rs. C. Then,
$C(2y) - 72(2y) = 1200$
$\Rightarrow (C - 72)y = 600$ ... (2)
From condition (iv), the currencies for countries P and Q must be A and B in any order. And their base exchange values must be 200 and 240 respectively.
For country R, the currency was bought 12% above the corresponding base exchange rates:

Let currency of country R be C, then $x = \frac{84}{1.12} = 75.$

Let currency of country R be D, then $x = \frac{192}{1.12} = 171.73$ which is not an integer value, therefore, not valid.

Currency of country R is C and for country S is D.

Step 2:
From here, C = 75, therefore,

$(75 - 72)y = 600$

$\Rightarrow y = 200$

And, $33x - 34(200) = 6400$
$\Rightarrow 33x = 13200$
$\Rightarrow x = 400$
The given information can be shown in the table below:

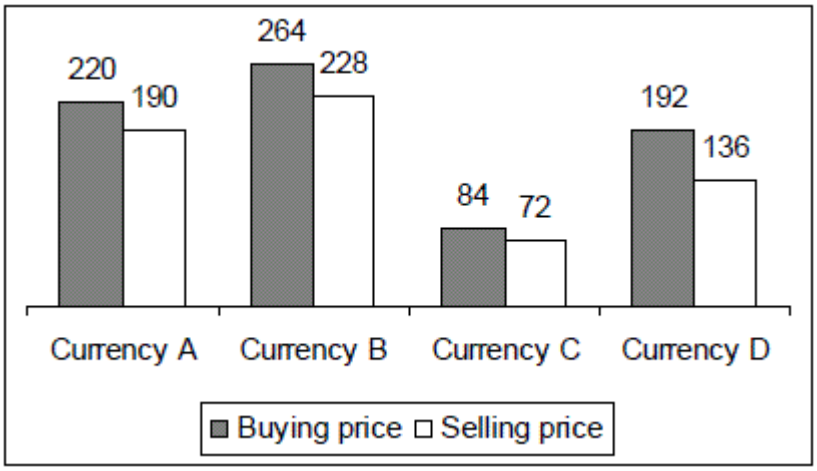
Units bought	Buying price	Currency	Country	Selling price	Units sold
3x = 1200	220	A – 200	Q	190	2y = 400
2x = 800	264	B – 240	P	228	y = 200
5x = 2000	84	C – 75	R	72	2y = 400
4x = 1600	192	D	S	136	4y = 800

Units of currency of country S Aamir spent on the trip = 1600 – 800 = 800.

Bookmark FeedBack

Directions for questions 11 to 14: Answer the questions on the basis of the information given below.

Aamir is travelling to four countries – P, Q, R and S which have four different currencies – A, B, C and D in any order. He visits a currency exchange outlet and uses the local currency Rupees (Rs.) to sell and buy the international currencies. The bar graph below gives the exchange rate of currencies for different countries Aamir is visiting provided by the currency exchange outlet. For Aamir, the buying price of a unit of any currency is certain percentage more than the base price and selling price is certain percentage less than the base price of that currency. These percentages may differ from country to country.



For example, Aamir can buy 1 unit of currency A with Rs. 220 and sell 1 unit of currency and get back Rs. 190.
The following facts are known about the exchange made by the Aamir for his pre and post trip:
(i) The units of currencies A, B, C and D bought by Aamir are in the ratio 3 : 2 : 5 : 4 and the units of currencies sold by Aamir post trip are in the ratio 2 : 1 : 2 : 4. Aamir doesn't keep any currency post trip.
(ii) The difference between the money spent by Aamir on buying currency B and selling currency D was Rs. 1,02,400.
(iii) If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more.
(iv) The currencies for countries P and Q were bought 10% above the corresponding base exchange rates, and their selling exchange rates are 5% below their corresponding base exchange rates. For country R, the currency was bought 12% above the corresponding base exchange rates which is less than the selling exchange rate of the currency of country S. All base prices of every currency were integers.

Q.13 [11831809]
Maximum how much money (in Rs.) Aamir could have received more if he sold the currency of country P at the base exchange rate?

1 ◯ 2400

2 ◯ 3600

3 ◯ 4000

4 ◯ 4200

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From condition (i), let the units of currencies A, B, C and D bought by Aamir are 3x, 2x, 5x, and 4x respectively and the unit of currencies sold by Aamir post trip are in the ratio 2y, y, 2y and 4y respectively.

Units bought	Buying price	Currency	Selling price	Units sold
3x	220	A	190	2y
2x	264	B	228	y
5x	84	C	72	2y
4x	192	D	136	4y

From condition (ii), the difference between the money spent by Aamir on buying currency B and selling currency D was 102400, which gives the equation,
$264 \times 2x - 136 \times 4y = 102400$
$\Rightarrow 33x - 34y = 6400$ ... (1)
From condition (iii), If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more. Let the base price of currency C be Rs. C. Then,
$C(2y) - 72(2y) = 1200$
$\Rightarrow (C - 72)y = 600$ ... (2)
From condition (iv), the currencies for countries P and Q must be A and B in any order. And their base exchange values must be 200 and 240 respectively.
For country R, the currency was bought 12% above the corresponding base exchange rates:

Let currency of country R be C, then $x = \frac{84}{1.12} = 75.$

Let currency of country R be D, then $x = \frac{192}{1.12} = 171.73$ which is not an integer value, therefore, not valid.

Currency of country R is C and for country S is D.

Step 2:
From here, C = 75, therefore,

$(75 - 72)y = 600$

$\Rightarrow y = 200$

And, $33x - 34(200) = 6400$
$\Rightarrow 33x = 13200$
$\Rightarrow x = 400$
The given information can be shown in the table below:

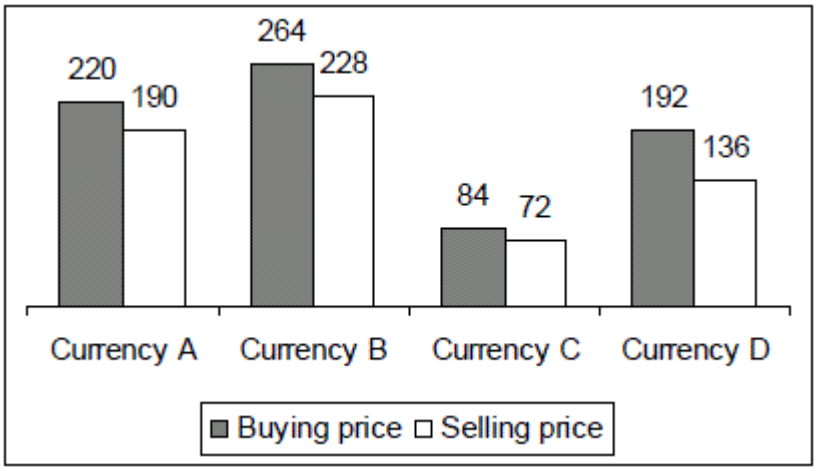
Units bought	Buying price	Currency	Country	Selling price	Units sold
3x = 1200	220	A – 200	Q	190	2y = 400
2x = 800	264	B – 240	P	228	y = 200
5x = 2000	84	C – 75	R	72	2y = 400
4x = 1600	192	D	S	136	4y = 800

Maximum 400 × 10 = Rs. 4,000 Amir could have received more if he sold the currency of country P at the base exchange rate.

Bookmark FeedBack

Directions for questions 11 to 14: Answer the questions on the basis of the information given below.

Aamir is travelling to four countries – P, Q, R and S which have four different currencies – A, B, C and D in any order. He visits a currency exchange outlet and uses the local currency Rupees (Rs.) to sell and buy the international currencies. The bar graph below gives the exchange rate of currencies for different countries Aamir is visiting provided by the currency exchange outlet. For Aamir, the buying price of a unit of any currency is certain percentage more than the base price and selling price is certain percentage less than the base price of that currency. These percentages may differ from country to country.



For example, Aamir can buy 1 unit of currency A with Rs. 220 and sell 1 unit of currency and get back Rs. 190.
The following facts are known about the exchange made by the Aamir for his pre and post trip:
(i) The units of currencies A, B, C and D bought by Aamir are in the ratio 3 : 2 : 5 : 4 and the units of currencies sold by Aamir post trip are in the ratio 2 : 1 : 2 : 4. Aamir doesn't keep any currency post trip.
(ii) The difference between the money spent by Aamir on buying currency B and selling currency D was Rs. 1,02,400.
(iii) If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more.
(iv) The currencies for countries P and Q were bought 10% above the corresponding base exchange rates, and their selling exchange rates are 5% below their corresponding base exchange rates. For country R, the currency was bought 12% above the corresponding base exchange rates which is less than the selling exchange rate of the currency of country S. All base prices of every currency were integers.

Q.14 [11831809]

If Aamir bought currency D at p% above the corresponding base exchange rate and sold currency D at (p – 5)% below the corresponding base exchange rate, then what is the value of p?

1 ◯ 10

2 ◯ 15

3 ◯ 25

4 ◯ 20

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From condition (i), let the units of currencies A, B, C and D bought by Aamir are 3x, 2x, 5x, and 4x respectively and the unit of currencies sold by Aamir post trip are in the ratio 2y, y, 2y and 4y respectively.

Units bought	Buying price	Currency	Selling price	Units sold
3x	220	A	190	2y
2x	264	B	228	y
5x	84	C	72	2y
4x	192	D	136	4y

From condition (ii), the difference between the money spent by Aamir on buying currency B and selling currency D was 102400, which gives the equation,
$264 \times 2x - 136 \times 4y = 102400$
$\Rightarrow 33x - 34y = 6400$ ... (1)
From condition (iii), If Aamir would have received the base price as selling price for currency C, then he would have received Rs. 1,200 more. Let the base price of currency C be Rs. C. Then,
$C(2y) - 72(2y) = 1200$
$\Rightarrow (C - 72)y = 600$ ... (2)
From condition (iv), the currencies for countries P and Q must be A and B in any order. And their base exchange values must be 200 and 240 respectively.
For country R, the currency was bought 12% above the corresponding base exchange rates:

Let currency of country R be C, then $x = \frac{84}{1.12} = 75.$

Let currency of country R be D, then $x = \frac{192}{1.12} = 171.73$ which is not an integer value, therefore, not valid.

Currency of country R is C and for country S is D.

Step 2:
From here, C = 75, therefore,

$(75 - 72)y = 600$

$\Rightarrow y = 200$

And, $33x - 34(200) = 6400$
$\Rightarrow 33x = 13200$
$\Rightarrow x = 400$
The given information can be shown in the table below:

Units bought	Buying price	Currency	Country	Selling price	Units sold
3x = 1200	220	A – 200	Q	190	2y = 400
2x = 800	264	B – 240	P	228	y = 200
5x = 2000	84	C – 75	R	72	2y = 400
4x = 1600	192	D	S	136	4y = 800

From the given options, the value of p is 20.

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Directions for questions 15 to 20: Answer the questions on the basis of the information given below.

A certain number of cyclists participated in the 'Road Cycle Race' held at Greater Noida. They all started the race at the same time and each of them finished in different positions. Out of these, eight cyclists were from eight different cities - A, B, C, D, E, F, G and H. These eight cyclists were assigned unique numbers from 1 to 8, not necessarily in the same order. These eight cyclists finished the race in unique positions from 1 to 12.
Some other information about the above mentioned eight cyclists is given below.
(i) Cyclist 8 was from city G.
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(iii) Among the eight participants, Cyclist 4 finished first, which was an even numbered position.
(iv) Cyclist 5's position number was twice that of Cyclist 3.
(v) The cyclist from city C finished the race last among the eight cyclists.
(vi) Cyclist 7 finished the race in an even numbered position.
(vii) Cyclist 1 from city D finished the race before Cyclist 3.
(viii) Cyclist 6 finished the race before Cyclist 8 but after Cyclist 2.

Q.15 [11831809]
The number assigned to the cyclist from city C was _____.

✔

Solution:

Correct Answer : 7

Your Answer : 7

Answer key/Solution

Step 1:

From condition (i), Cyclist 8 was from city G.

From condition (ii), Only three cyclists finished the race in the even numbered positions and the rest five finished the race in the odd numbered positions.

From condition (iii), Cyclist 4 finished the race in position 2. The five odd position numbers will be 3, 5, 7, 9 and 11.

From condition (iv), Let the position number of Cyclist 5 be x. Then, the position number of Cyclist 3 will be 2x and this number will be an even.

From condition (vi), Cyclist 7 finished the race in the even numbered position.

The information can be shown in the table:

Cyclist No.	Position No.	City	
1		D	
2			
3	X		
4	2		Even
5	2x		Even
6			
7			Even
8		G	

Step 2:

From condition (vii), Cyclist 1 finished the race before Cyclist 3. So x cannot be 3, 4 or 6. So x will be 5. Therefore, the position numbers of Cyclist 3 and Cyclist 5 will be 5 and 10 respectively. Hence, the position number of Cyclist 1 will be 3.

From condition (viii), Cyclist 6 finished the race before the Cyclist 8 but after the Cyclist 2. The remaining odd positions are 7, 9 and 11. Hence, the position numbers of Cyclist 2, Cyclist 6 and Cyclist 8 will be 7, 9 and 11 respectively.

From conditions (v) and (vi), Cyclist 7 from city C finished the race in the position number 12.

Hence, the table can be shown as:

Cyclist No.	Position No.	City	
1	3	D	
2	7		
3	5		
4	2		Even
5	10		Even
6	9		
7	12	C	Even
8	11	G	

The number assigned to the cyclist from city C was 7.

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(vi) Cyclist 7 finished the race in an even numbered position.
(vii) Cyclist 1 from city D finished the race before Cyclist 3.
(viii) Cyclist 6 finished the race before Cyclist 8 but after Cyclist 2.

Q.16 [11831809]
What was the 3rd last position number among the eight cyclists?

✖

Solution:

Correct Answer : 10

Your Answer : 5

Answer key/Solution

Step 1:

From condition (i), Cyclist 8 was from city G.

From condition (ii), Only three cyclists finished the race in the even numbered positions and the rest five finished the race in the odd numbered positions.

From condition (iii), Cyclist 4 finished the race in position 2. The five odd position numbers will be 3, 5, 7, 9 and 11.

From condition (iv), Let the position number of Cyclist 5 be x. Then, the position number of Cyclist 3 will be 2x and this number will be an even.

From condition (vi), Cyclist 7 finished the race in the even numbered position.

The information can be shown in the table:

Cyclist No.	Position No.	City	
1		D	
2			
3	X		
4	2		Even
5	2x		Even
6			
7			Even
8		G	

Step 2:

From condition (vii), Cyclist 1 finished the race before Cyclist 3. So x cannot be 3, 4 or 6. So x will be 5. Therefore, the position numbers of Cyclist 3 and Cyclist 5 will be 5 and 10 respectively. Hence, the position number of Cyclist 1 will be 3.

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From conditions (v) and (vi), Cyclist 7 from city C finished the race in the position number 12.

Hence, the table can be shown as:

Cyclist No.	Position No.	City	
1	3	D	
2	7		
3	5		
4	2		Even
5	10		Even
6	9		
7	12	C	Even
8	11	G	

The 3rd last position number among the eight cyclists was 10.

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A certain number of cyclists participated in the 'Road Cycle Race' held at Greater Noida. They all started the race at the same time and each of them finished in different positions. Out of these, eight cyclists were from eight different cities - A, B, C, D, E, F, G and H. These eight cyclists were assigned unique numbers from 1 to 8, not necessarily in the same order. These eight cyclists finished the race in unique positions from 1 to 12.
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(v) The cyclist from city C finished the race last among the eight cyclists.
(vi) Cyclist 7 finished the race in an even numbered position.
(vii) Cyclist 1 from city D finished the race before Cyclist 3.
(viii) Cyclist 6 finished the race before Cyclist 8 but after Cyclist 2.

Q.17 [11831809]
How many cyclists had both their assigned number and the position number either even or odd?

1 ◯ 2

2 ◯ 3

3 ◯ 4

4 ◯ 5

✔

Solution:

Correct Answer : 2

Your Answer : 2

Answer key/Solution

Step 1:

From condition (i), Cyclist 8 was from city G.

From condition (ii), Only three cyclists finished the race in the even numbered positions and the rest five finished the race in the odd numbered positions.

From condition (iii), Cyclist 4 finished the race in position 2. The five odd position numbers will be 3, 5, 7, 9 and 11.

From condition (iv), Let the position number of Cyclist 5 be x. Then, the position number of Cyclist 3 will be 2x and this number will be an even.

From condition (vi), Cyclist 7 finished the race in the even numbered position.

The information can be shown in the table:

Cyclist No.	Position No.	City	
1		D	
2			
3	X		
4	2		Even
5	2x		Even
6			
7			Even
8		G	

Step 2:

From condition (vii), Cyclist 1 finished the race before Cyclist 3. So x cannot be 3, 4 or 6. So x will be 5. Therefore, the position numbers of Cyclist 3 and Cyclist 5 will be 5 and 10 respectively. Hence, the position number of Cyclist 1 will be 3.

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From conditions (v) and (vi), Cyclist 7 from city C finished the race in the position number 12.

Hence, the table can be shown as:

Cyclist No.	Position No.	City	
1	3	D	
2	7		
3	5		
4	2		Even
5	10		Even
6	9		
7	12	C	Even
8	11	G	

There were three cyclists i.e., cyclist 1, cyclist 3 and cyclist 4.

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(v) The cyclist from city C finished the race last among the eight cyclists.
(vi) Cyclist 7 finished the race in an even numbered position.
(vii) Cyclist 1 from city D finished the race before Cyclist 3.
(viii) Cyclist 6 finished the race before Cyclist 8 but after Cyclist 2.

Q.18 [11831809]
From which city was the cyclist who finished his race in 2nd last position?

1 ○ C

2 ○ D

3 ○ G

4 ○ H

✔

Solution:

Correct Answer : 3

Your Answer : 3

Answer key/Solution

Step 1:

From condition (i), Cyclist 8 was from city G.

From condition (ii), Only three cyclists finished the race in the even numbered positions and the rest five finished the race in the odd numbered positions.

From condition (iii), Cyclist 4 finished the race in position 2. The five odd position numbers will be 3, 5, 7, 9 and 11.

From condition (iv), Let the position number of Cyclist 5 be x. Then, the position number of Cyclist 3 will be 2x and this number will be an even.

From condition (vi), Cyclist 7 finished the race in the even numbered position.

The information can be shown in the table:

Cyclist No.	Position No.	City	
1		D	
2			
3	X		
4	2		Even
5	2x		Even
6			
7			Even
8		G	

Step 2:

From condition (vii), Cyclist 1 finished the race before Cyclist 3. So x cannot be 3, 4 or 6. So x will be 5. Therefore, the position numbers of Cyclist 3 and Cyclist 5 will be 5 and 10 respectively. Hence, the position number of Cyclist 1 will be 3.

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Hence, the table can be shown as:

Cyclist No.	Position No.	City	
1	3	D	
2	7		
3	5		
4	2		Even
5	10		Even
6	9		
7	12	C	Even
8	11	G	

The cyclist who finished his race in 2nd last position was from city G.

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A certain number of cyclists participated in the 'Road Cycle Race' held at Greater Noida. They all started the race at the same time and each of them finished in different positions. Out of these, eight cyclists were from eight different cities - A, B, C, D, E, F, G and H. These eight cyclists were assigned unique numbers from 1 to 8, not necessarily in the same order. These eight cyclists finished the race in unique positions from 1 to 12.
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(vii) Cyclist 1 from city D finished the race before Cyclist 3.
(viii) Cyclist 6 finished the race before Cyclist 8 but after Cyclist 2.

Q.19 [11831809]
If the cyclists from cities E and H had consecutive numbers and the cyclist from city B finished the race before the cyclist from city A but after the cyclist from city F, then at which of the following position numbers the cyclist from city F could not finish the race?

1 ○ 2

2 ○ 5

3 ○ 7

4 ○ 9

✔

Solution:

Correct Answer : 4

Your Answer : 4

Answer key/Solution

Step 1:

From condition (i), Cyclist 8 was from city G.

From condition (ii), Only three cyclists finished the race in the even numbered positions and the rest five finished the race in the odd numbered positions.

From condition (iii), Cyclist 4 finished the race in position 2. The five odd position numbers will be 3, 5, 7, 9 and 11.

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The information can be shown in the table:

Cyclist No.	Position No.	City	
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Step 2:

From condition (vii), Cyclist 1 finished the race before Cyclist 3. So x cannot be 3, 4 or 6. So x will be 5. Therefore, the position numbers of Cyclist 3 and Cyclist 5 will be 5 and 10 respectively. Hence, the position number of Cyclist 1 will be 3.

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Cyclist No.	Position No.	City	
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2	7		
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From the given condition and table, F can finish the race in positions 2, 5 and 7. Hence, F could not finish the race in positions 9 or 10.

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(vi) Cyclist 7 finished the race in an even numbered position.
(vii) Cyclist 1 from city D finished the race before Cyclist 3.
(viii) Cyclist 6 finished the race before Cyclist 8 but after Cyclist 2.

Q.20 [11831809]
If the cyclists from cities A and B did not finish the race at odd numbered positions and H finished the race before both E and F, then which of the following statements is definitely TRUE?

1 ◯ The cyclist from city F finished the race in position 7.

2 ◯ The cyclist from city H finished the race in position 5.

3 ◯ The cyclist 4 was from city B.

4 ◯ The cyclist 6 was from city E.

✔

Solution:
Correct Answer : 2
Your Answer : 2

Answer key/Solution

Step 1:

From condition (i), Cyclist 8 was from city G.

From condition (ii), Only three cyclists finished the race in the even numbered positions and the rest five finished the race in the odd numbered positions.

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6			
7			Even
8		G	

Step 2:

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2	7		
3	5		
4	2		Even
5	10		Even
6	9		
7	12	C	Even
8	11	G	

Cyclist No.	Position No.	City	
1	3	D	
2	7	E/F	
3	5	H	
4	2	A/B	Even
5	10	B/A	Even
6	9	F/E	
7	12	C	Even
8	11	G	

The statement given in option (2) is definitely TRUE.

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