Scorecard (procreview.jsp?sid=aaaN5tjtX0b7WgArBjowySun Jan 08 23:34:31 IST 2023&qsetId=lDdqUpB/mCU=&qsetName=)

Accuracy (AccSelectGraph.jsp?sid=aaaN5tjtX0b7WgArBjowySun Jan 08 23:34:31 IST 2023&qsetId=lDdqUpB/mCU=&qsetName=)

Qs Analysis (QsAnalysis.jsp?sid=aaaN5tjtX0b7WgArBjowySun Jan 08 23:34:31 IST 2023&qsetId=lDdqUpB/mCU=&qsetName=)

Video Attempt / Solution (VideoAnalysis.jsp?sid=aaaN5tjtX0b7WgArBjowySun Jan 08 23:34:31 IST 2023&qsetId=lDdqUpB/mCU=&qsetName=)

Solutions (Solution.jsp?sid=aaaN5tjtX0b7WgArBjowySun Jan 08 23:34:31 IST 2023&qsetId=lDdqUpB/mCU=&qsetName=)

Bookmarks (Bookmarks.jsp?sid=aaaN5tjtX0b7WgArBjowySun Jan 08 23:34:31 IST 2023&qsetId=lDdqUpB/mCU=&qsetName=)

Section-1

Sec 1

Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

Nine persons, A, B, C, D, E, F, G, H and I, live in the same building. Each of the nine persons has a different height, not necessarily in that order. Among the nine persons 6 are siblings and other three are the spouses of three of the siblings. None of the nine persons have any siblings other than those living in the building.
The following is the additional information known about them:
(i) The tallest person, I, who is one of the 6 siblings, is the husband of the shortest person, H among the nine persons.
(ii) C is shorter than E and C has at least one brother who is shorter than C, while B has at least 2 siblings who are taller than B. B has at least 2 sisters.
(iii) G's wife is shorter than A; but she is not the sibling of A, while A is shorter than his sibling B.
(iv) There are exactly 4 persons who are taller than D and D's brother-in-law is taller than C. Neither D nor C is married.
(v) There are exactly 5 persons who are shorter than the spouse of one of the 6 siblings.
(vi) None of the 3 spouses of the 3 siblings out of the 6 siblings have any sibling.

Q.1 [11831809]

Which of the following persons is unmarried?

1 ◯ A

2 ◯ B

3 ◯ E

4 ◯ F

Solution:
Correct Answer : 1

Answer key/Solution

Step 1:
From condition (i), I is the tallest person and part of the 6 siblings. Since I is the husband of H. So I is a male and H is a female.
From condition (ii), at least one brother of C < C < E ... (1)
And B < at least 2 siblings of B ... (2)
So B and C are part of the 6 siblings.
From condition (iii), the wife of G < A < B ... (3)

So A and G are males and the part of the 6 siblings.
Now, since out of the 6 siblings, we already know now that A, G and I are males and from condition (ii), it is given that B has at least 2 sisters. Therefore, the other two siblings must be females.
From condition (iv), Since D and C are unmarried, therefore, they are part of the 6 siblings and also, they are the two sisters of B.
Hence, 6 siblings are: I(Male), A(Male), G(Male), D(Female), C(Female), B(Female).
(From condition (iv), there is a mention of brother-in-law of D and since C is unmarried sister of D therefore, the only possibility left is B is female and married, and the person referred as brother-in-law of D is no one else but husband of B.)
Three spouses are: H(Female), E, F; one of E and F, is a wife of G and the other is the husband of B.
From conditions (iv) and (v), The following can be concluded:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I			Spouse of one of the siblings between G & B	D				H
	Male				Female				Female

Step 2:
Case I: Taking E as wife of G and F as husband of B:
From (1), (2) and (3), we get at least 1 brother of E < C < E < A < B < at least 2 siblings of B
Best possible position for B (in terms of height) can be 3rd. Then, 4th would be F and 5th is given to be D. Now, only 3 positions left i.e., 6th, 7th and 8th and we need to accommodate at least 4 persons i.e., A, E, C and at least 1 sibling of A. Hence, this case is not possible.
Case II: Taking F as wife of G and E as husband of B:
From (1), (2) and (3), we get the following:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I	G	B	E	D	C	A	F	H
	Male	Male	Female	Male	Female	Female	Male	Female	Female

Following are the 3 couples:

Husband	I	G	E
Wife	H	F	B

While A, D and C are unmarried.

A is unmarried.

Bookmark FeedBack

Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

Nine persons, A, B, C, D, E, F, G, H and I, live in the same building. Each of the nine persons has a different height, not necessarily in that order. Among the nine persons 6 are siblings and other three are the spouses of three of the siblings. None of the nine persons have any siblings other than those living in the building.
The following is the additional information known about them:
(i) The tallest person, I, who is one of the 6 siblings, is the husband of the shortest person, H among the nine persons.
(ii) C is shorter than E and C has at least one brother who is shorter than C, while B has at least 2 siblings who are taller than B. B has at least 2 sisters.
(iii) G's wife is shorter than A; but she is not the sibling of A, while A is shorter than his sibling B.
(iv) There are exactly 4 persons who are taller than D and D's brother-in-law is taller than C. Neither D nor C is married.
(v) There are exactly 5 persons who are shorter than the spouse of one of the 6 siblings.
(vi) None of the 3 spouses of the 3 siblings out of the 6 siblings have any sibling.

Q.2 [11831809]
Who is the second tallest person among the nine persons?

1 ◯ E

2 ◯ G

3 ◯ A

4 ◯ F

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
From condition (i), I is the tallest person and part of the 6 siblings. Since I is the husband of H. So I is a male and H is a female.
From condition (ii), at least one brother of C < C < E ... (1)
And B < at least 2 siblings of B ... (2)
So B and C are part of the 6 siblings.
From condition (iii), the wife of G < A < B ... (3)

So A and G are males and the part of the 6 siblings.
Now, since out of the 6 siblings, we already know now that A, G and I are males and from condition (ii), it is given that B has at least 2 sisters. Therefore, the other two siblings must be females.
From condition (iv), Since D and C are unmarried, therefore, they are part of the 6 siblings and also, they are the two sisters of B.
Hence, 6 siblings are: I(Male), A(Male), G(Male), D(Female), C(Female), B(Female).
(From condition (iv), there is a mention of brother-in-law of D and since C is unmarried sister of D therefore, the only possibility left is B is female and married, and the person referred as brother-in-law of D is no one else but husband of B.)
Three spouses are: H(Female), E, F; one of E and F, is a wife of G and the other is the husband of B.
From conditions (iv) and (v), The following can be concluded:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I			Spouse of one of the siblings between G & B	D				H
	Male				Female				Female

Step 2:
Case I: Taking E as wife of G and F as husband of B:
From (1), (2) and (3), we get at least 1 brother of E < C < E < A < B < at least 2 siblings of B
Best possible position for B (in terms of height) can be 3rd. Then, 4th would be F and 5th is given to be D. Now, only 3 positions left i.e., 6th, 7th and 8th and we need to accommodate at least 4 persons i.e., A, E, C and at least 1 sibling of A. Hence, this case is not possible.
Case II: Taking F as wife of G and E as husband of B:
From (1), (2) and (3), we get the following:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I	G	B	E	D	C	A	F	H
	Male	Male	Female	Male	Female	Female	Male	Female	Female

Following are the 3 couples:

Husband	I	G	E
Wife	H	F	B

While A, D and C are unmarried.

G is the second tallest person among the nine persons.

Bookmark FeedBack

Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

Nine persons, A, B, C, D, E, F, G, H and I, live in the same building. Each of the nine persons has a different height, not necessarily in that order. Among the nine persons 6 are siblings and other three are the spouses of three of the siblings. None of the nine persons have any siblings other than those living in the building.
The following is the additional information known about them:
(i) The tallest person, I, who is one of the 6 siblings, is the husband of the shortest person, H among the nine persons.
(ii) C is shorter than E and C has at least one brother who is shorter than C, while B has at least 2 siblings who are taller than B. B has at least 2 sisters.
(iii) G's wife is shorter than A; but she is not the sibling of A, while A is shorter than his sibling B.
(iv) There are exactly 4 persons who are taller than D and D's brother-in-law is taller than C. Neither D nor C is married.
(v) There are exactly 5 persons who are shorter than the spouse of one of the 6 siblings.
(vi) None of the 3 spouses of the 3 siblings out of the 6 siblings have any sibling.

Q.3 [11831809]
How many sisters does A has?

1 ◯ 1

2 ◯ 2

3 ◯ 3

4 ◯ 4

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From condition (i), I is the tallest person and part of the 6 siblings. Since I is the husband of H. So I is a male and H is a female.
From condition (ii), at least one brother of C < C < E ... (1)
And B < at least 2 siblings of B ... (2)
So B and C are part of the 6 siblings.
From condition (iii), the wife of G < A < B ... (3)

So A and G are males and the part of the 6 siblings.
Now, since out of the 6 siblings, we already know now that A, G and I are males and from condition (ii), it is given that B has at least 2 sisters. Therefore, the other two siblings must be females.
From condition (iv), Since D and C are unmarried, therefore, they are part of the 6 siblings and also, they are the two sisters of B.
Hence, 6 siblings are: I(Male), A(Male), G(Male), D(Female), C(Female), B(Female).
(From condition (iv), there is a mention of brother-in-law of D and since C is unmarried sister of D therefore, the only possibility left is B is female and married, and the person referred as brother-in-law of D is no one else but husband of B.)
Three spouses are: H(Female), E, F; one of E and F, is a wife of G and the other is the husband of B.
From conditions (iv) and (v), The following can be concluded:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I			Spouse of one of the siblings between G & B	D				H
	Male				Female				Female

Step 2:
Case I: Taking E as wife of G and F as husband of B:
From (1), (2) and (3), we get at least 1 brother of E < C < E < A < B < at least 2 siblings of B
Best possible position for B (in terms of height) can be 3rd. Then, 4th would be F and 5th is given to be D. Now, only 3 positions left i.e., 6th, 7th and 8th and we need to accommodate at least 4 persons i.e., A, E, C and at least 1 sibling of A. Hence, this case is not possible.
Case II: Taking F as wife of G and E as husband of B:
From (1), (2) and (3), we get the following:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I	G	B	E	D	C	A	F	H
	Male	Male	Female	Male	Female	Female	Male	Female	Female

Following are the 3 couples:

Husband	I	G	E
Wife	H	F	B

While A, D and C are unmarried.

A has 3 sisters.

Bookmark FeedBack

Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

Nine persons, A, B, C, D, E, F, G, H and I, live in the same building. Each of the nine persons has a different height, not necessarily in that order. Among the nine persons 6 are siblings and other three are the spouses of three of the siblings. None of the nine persons have any siblings other than those living in the building.
The following is the additional information known about them:
(i) The tallest person, I, who is one of the 6 siblings, is the husband of the shortest person, H among the nine persons.
(ii) C is shorter than E and C has at least one brother who is shorter than C, while B has at least 2 siblings who are taller than B. B has at least 2 sisters.
(iii) G's wife is shorter than A; but she is not the sibling of A, while A is shorter than his sibling B.
(iv) There are exactly 4 persons who are taller than D and D's brother-in-law is taller than C. Neither D nor C is married.
(v) There are exactly 5 persons who are shorter than the spouse of one of the 6 siblings.
(vi) None of the 3 spouses of the 3 siblings out of the 6 siblings have any sibling.

Q.4 [11831809]
How many females are shorter than B?

1 ◯ 2

2 ◯ 3

3 ◯ 4

4 ◯ 5

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From condition (i), I is the tallest person and part of the 6 siblings. Since I is the husband of H. So I is a male and H is a female.
From condition (ii), at least one brother of C < C < E ... (1)
And B < at least 2 siblings of B ... (2)
So B and C are part of the 6 siblings.
From condition (iii), the wife of G < A < B ... (3)

So A and G are males and the part of the 6 siblings.
Now, since out of the 6 siblings, we already know now that A, G and I are males and from condition (ii), it is given that B has at least 2 sisters. Therefore, the other two siblings must be females.
From condition (iv), Since D and C are unmarried, therefore, they are part of the 6 siblings and also, they are the two sisters of B.
Hence, 6 siblings are: I(Male), A(Male), G(Male), D(Female), C(Female), B(Female).
(From condition (iv), there is a mention of brother-in-law of D and since C is unmarried sister of D therefore, the only possibility left is B is female and married, and the person referred as brother-in-law of D is no one else but husband of B.)
Three spouses are: H(Female), E, F; one of E and F, is a wife of G and the other is the husband of B.
From conditions (iv) and (v), The following can be concluded:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I			Spouse of one of the siblings between G & B	D				H
	Male				Female				Female

Step 2:
Case I: Taking E as wife of G and F as husband of B:
From (1), (2) and (3), we get at least 1 brother of E < C < E < A < B < at least 2 siblings of B
Best possible position for B (in terms of height) can be 3rd. Then, 4th would be F and 5th is given to be D. Now, only 3 positions left i.e., 6th, 7th and 8th and we need to accommodate at least 4 persons i.e., A, E, C and at least 1 sibling of A. Hence, this case is not possible.
Case II: Taking F as wife of G and E as husband of B:
From (1), (2) and (3), we get the following:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I	G	B	E	D	C	A	F	H
	Male	Male	Female	Male	Female	Female	Male	Female	Female

Following are the 3 couples:

Husband	I	G	E
Wife	H	F	B

While A, D and C are unmarried.

Four females are shorter than B.

Bookmark FeedBack

Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

Nine persons, A, B, C, D, E, F, G, H and I, live in the same building. Each of the nine persons has a different height, not necessarily in that order. Among the nine persons 6 are siblings and other three are the spouses of three of the siblings. None of the nine persons have any siblings other than those living in the building.
The following is the additional information known about them:
(i) The tallest person, I, who is one of the 6 siblings, is the husband of the shortest person, H among the nine persons.
(ii) C is shorter than E and C has at least one brother who is shorter than C, while B has at least 2 siblings who are taller than B. B has at least 2 sisters.
(iii) G's wife is shorter than A; but she is not the sibling of A, while A is shorter than his sibling B.
(iv) There are exactly 4 persons who are taller than D and D's brother-in-law is taller than C. Neither D nor C is married.
(v) There are exactly 5 persons who are shorter than the spouse of one of the 6 siblings.
(vi) None of the 3 spouses of the 3 siblings out of the 6 siblings have any sibling.

Q.5 [11831809]
Which of the following statements is true?

1 ◯ C is shorter than 3 persons among the 9 persons.

2 ◯ B is taller than his/her spouse.

3 ◯ E is the wife of G.

4 ◯ F is taller than his/her spouse.

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
From condition (i), I is the tallest person and part of the 6 siblings. Since I is the husband of H. So I is a male and H is a female.
From condition (ii), at least one brother of C < C < E ... (1)
And B < at least 2 siblings of B ... (2)
So B and C are part of the 6 siblings.
From condition (iii), the wife of G < A < B ... (3)

So A and G are males and the part of the 6 siblings.
Now, since out of the 6 siblings, we already know now that A, G and I are males and from condition (ii), it is given that B has at least 2 sisters. Therefore, the other two siblings must be females.
From condition (iv), Since D and C are unmarried, therefore, they are part of the 6 siblings and also, they are the two sisters of B.
Hence, 6 siblings are: I(Male), A(Male), G(Male), D(Female), C(Female), B(Female).
(From condition (iv), there is a mention of brother-in-law of D and since C is unmarried sister of D therefore, the only possibility left is B is female and married, and the person referred as brother-in-law of D is no one else but husband of B.)
Three spouses are: H(Female), E, F; one of E and F, is a wife of G and the other is the husband of B.
From conditions (iv) and (v), The following can be concluded:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I			Spouse of one of the siblings between G & B	D				H
	Male				Female				Female

Step 2:
Case I: Taking E as wife of G and F as husband of B:
From (1), (2) and (3), we get at least 1 brother of E < C < E < A < B < at least 2 siblings of B
Best possible position for B (in terms of height) can be 3rd. Then, 4th would be F and 5th is given to be D. Now, only 3 positions left i.e., 6th, 7th and 8th and we need to accommodate at least 4 persons i.e., A, E, C and at least 1 sibling of A. Hence, this case is not possible.
Case II: Taking F as wife of G and E as husband of B:
From (1), (2) and (3), we get the following:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I	G	B	E	D	C	A	F	H
	Male	Male	Female	Male	Female	Female	Male	Female	Female

Following are the 3 couples:

Husband	I	G	E
Wife	H	F	B

While A, D and C are unmarried.

The statement given in option (2) is true.

Bookmark FeedBack

Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

Nine persons, A, B, C, D, E, F, G, H and I, live in the same building. Each of the nine persons has a different height, not necessarily in that order. Among the nine persons 6 are siblings and other three are the spouses of three of the siblings. None of the nine persons have any siblings other than those living in the building.
The following is the additional information known about them:
(i) The tallest person, I, who is one of the 6 siblings, is the husband of the shortest person, H among the nine persons.
(ii) C is shorter than E and C has at least one brother who is shorter than C, while B has at least 2 siblings who are taller than B. B has at least 2 sisters.
(iii) G's wife is shorter than A; but she is not the sibling of A, while A is shorter than his sibling B.
(iv) There are exactly 4 persons who are taller than D and D's brother-in-law is taller than C. Neither D nor C is married.
(v) There are exactly 5 persons who are shorter than the spouse of one of the 6 siblings.
(vi) None of the 3 spouses of the 3 siblings out of the 6 siblings have any sibling.

Q.6 [11831809]
Which of the following statements is/are correct?
I. F is one of the 6 siblings.
II. If the heights of 9 persons are in integer cm, then the difference between the height of A and B can be 3 cm.

1 ◯ I only

2 ◯ II only

3 ◯ Both I & II

4 ◯ Neither I nor II

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From condition (i), I is the tallest person and part of the 6 siblings. Since I is the husband of H. So I is a male and H is a female.
From condition (ii), at least one brother of C < C < E ... (1)
And B < at least 2 siblings of B ... (2)
So B and C are part of the 6 siblings.
From condition (iii), the wife of G < A < B ... (3)

So A and G are males and the part of the 6 siblings.
Now, since out of the 6 siblings, we already know now that A, G and I are males and from condition (ii), it is given that B has at least 2 sisters. Therefore, the other two siblings must be females.
From condition (iv), Since D and C are unmarried, therefore, they are part of the 6 siblings and also, they are the two sisters of B.
Hence, 6 siblings are: I(Male), A(Male), G(Male), D(Female), C(Female), B(Female).
(From condition (iv), there is a mention of brother-in-law of D and since C is unmarried sister of D therefore, the only possibility left is B is female and married, and the person referred as brother-in-law of D is no one else but husband of B.)
Three spouses are: H(Female), E, F; one of E and F, is a wife of G and the other is the husband of B.
From conditions (iv) and (v), The following can be concluded:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I			Spouse of one of the siblings between G & B	D				H
	Male				Female				Female

Step 2:
Case I: Taking E as wife of G and F as husband of B:
From (1), (2) and (3), we get at least 1 brother of E < C < E < A < B < at least 2 siblings of B
Best possible position for B (in terms of height) can be 3rd. Then, 4th would be F and 5th is given to be D. Now, only 3 positions left i.e., 6th, 7th and 8th and we need to accommodate at least 4 persons i.e., A, E, C and at least 1 sibling of A. Hence, this case is not possible.
Case II: Taking F as wife of G and E as husband of B:
From (1), (2) and (3), we get the following:

Height (in decreasing order from left to right)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Person	I	G	B	E	D	C	A	F	H
	Male	Male	Female	Male	Female	Female	Male	Female	Female

Following are the 3 couples:

Husband	I	G	E
Wife	H	F	B

While A, D and C are unmarried.

Neither statement I nor II is true.

Bookmark FeedBack

Directions for questions 7 to 10: Answer the questions on the basis of the information given below.

Each student of a class took an examination of 100 marks. 70 marks were for Written Examination (WE) and 30 marks were for Internal Assessment (IA). Each student obtained marks in whole numbers in both WE and IA. A student is passed in the examination if he/she has obtained more than 40 marks out of 100 such that he/she must have obtained more than 25 marks in WE.

• There is a system of awarding some grace marks to marginal failing students. i.e., if a student has scored more than 20 marks but less than or equal to 25 in WE and more than 40 marks in aggregate, then teachers award 1 to 5 grace marks to pass the student.

• If a student has scored more than 25 marks in WE and more than 35 marks but less than or equal to 40 marks in aggregate, then teachers award 1 to 5 grace marks to the student to pass.

Software has been developed to determine the marginal failed students and assign them the required grace marks.

For example: Nisha gets 22 marks in WE and 20 marks in IA, then the software will identify Nisha as a marginal failure student and award her 4 grace marks.

Note: If a student fails to score more than 25 marks in WE and also fails to score more than 40 marks in aggregate, then the student has definitely failed in the exam.

Q.7 [11831809]

If Reena got 3 grace marks, then how many combinations of marks she got in (WE, IA) are possible?

Answer key/Solution

Solution:

Correct Answer : 26

If Reena has got 3 grace marks, she should be identified by the software as a marginal failing student.

Case 1: She got 23 marks in WE.

In IA, she should have scored more than 17 marks i.e., 18 to 30 marks. Therefore, 13 combinations are possible here.

Case 2: She scored 26 or more in WE but scored equal to 38 overall. WE + IA = 38

If WE = 26, then IA = 12,

If WE = 27, then IA = 11

So, (26, 12), (27, 11), (28, 10), (29, 9), ..., (38, 0)

Therefore, 13 combinations are possible here.

Hence, a total of 26 such possible combinations are possible.

Bookmark FeedBack

Directions for questions 7 to 10: Answer the questions on the basis of the information given below.

Each student of a class took an examination of 100 marks. 70 marks were for Written Examination (WE) and 30 marks were for Internal Assessment (IA). Each student obtained marks in whole numbers in both WE and IA. A student is passed in the examination if he/she has obtained more than 40 marks out of 100 such that he/she must have obtained more than 25 marks in WE.

• There is a system of awarding some grace marks to marginal failing students. i.e., if a student has scored more than 20 marks but less than or equal to 25 in WE and more than 40 marks in aggregate, then teachers award 1 to 5 grace marks to pass the student.

• If a student has scored more than 25 marks in WE and more than 35 marks but less than or equal to 40 marks in aggregate, then teachers award 1 to 5 grace marks to the student to pass.

Software has been developed to determine the marginal failed students and assign them the required grace marks.

For example: Nisha gets 22 marks in WE and 20 marks in IA, then the software will identify Nisha as a marginal failure student and award her 4 grace marks.

Note: If a student fails to score more than 25 marks in WE and also fails to score more than 40 marks in aggregate, then the student has definitely failed in the exam.

Q.8 [11831809]

Aman, and Beena got 1 and 5 grace marks respectively, then what is the maximum possible absolute difference between the marks obtained by Aman and Beena in IA without grace marks?

1 ◯ 14

2 ◯ 29

3 ◯ 30

4 ◯ 19

Solution:

Answer key/Solution

Correct Answer : 3

Case 1: Aman got 25 marks in WE, then Aman can get 16 to 30 marks in IA.

Case 2: Aman got a total of 40 marks out of 100 such that Aman got more than 25 marks in WE.

So, Aman can score 26 to 40 marks in WE and the corresponding marks in IA can be 14 to 0.

Since the difference has to be maximized, consider (WE, IA) = (40, 0) for Aman and (21, 30) for Beena, then the difference will be 30.

Bookmark FeedBack

Directions for questions 7 to 10: Answer the questions on the basis of the information given below.

Each student of a class took an examination of 100 marks. 70 marks were for Written Examination (WE) and 30 marks were for Internal Assessment (IA). Each student obtained marks in whole numbers in both WE and IA. A student is passed in the examination if he/she has obtained more than 40 marks out of 100 such that he/she must have obtained more than 25 marks in WE.

• There is a system of awarding some grace marks to marginal failing students. i.e., if a student has scored more than 20 marks but less than or equal to 25 in WE and more than 40 marks in aggregate, then teachers award 1 to 5 grace marks to pass the student.

• If a student has scored more than 25 marks in WE and more than 35 marks but less than or equal to 40 marks in aggregate, then teachers award 1 to 5 grace marks to the student to pass.

Software has been developed to determine the marginal failed students and assign them the required grace marks.

For example: Nisha gets 22 marks in WE and 20 marks in IA, then the software will identify Nisha as a marginal failure student and award her 4 grace marks.

Note: If a student fails to score more than 25 marks in WE and also fails to score more than 40 marks in aggregate, then the student has definitely failed in the exam.

Q.9 [11831809]

Five students – P, Q, R, S and T have scored marks in increasing order in WE in the given order only and distinct scores in IA such that only Q and T got grace marks but P, R and S failed. What could be the interval where maximum possible total marks scored by all of them lies in?

1 ◯ from 200 to 250

2 ◯ from 250 to 300

3 ◯ from 300 to 350

4 ◯ from 275 to 325

Solution:

Correct Answer : 1

Answer key/Solution

	WE	IA	Total
P	21	19	40
Q	22	29	51
R	23	17	40
S	24	16	40
T	25	30	55

So, total marks = 40 + 51 + 40 + 40 + 55 = 226.
Hence, the option (1) is the correct answer.

Bookmark FeedBack

Directions for questions 7 to 10: Answer the questions on the basis of the information given below.

Each student of a class took an examination of 100 marks. 70 marks were for Written Examination (WE) and 30 marks were for Internal Assessment (IA). Each student obtained marks in whole numbers in both WE and IA. A student is passed in the examination if he/she has obtained more than 40 marks out of 100 such that he/she must have obtained more than 25 marks in WE.

• There is a system of awarding some grace marks to marginal failing students. i.e., if a student has scored more than 20 marks but less than or equal to 25 in WE and more than 40 marks in aggregate, then teachers award 1 to 5 grace marks to pass the student.

• If a student has scored more than 25 marks in WE and more than 35 marks but less than or equal to 40 marks in aggregate, then teachers award 1 to 5 grace marks to the student to pass.

Software has been developed to determine the marginal failed students and assign them the required grace marks.

For example: Nisha gets 22 marks in WE and 20 marks in IA, then the software will identify Nisha as a marginal failure student and award her 4 grace marks.

Note: If a student fails to score more than 25 marks in WE and also fails to score more than 40 marks in aggregate, then the student has definitely failed in the exam.

Q.10 [11831809]

If 5 students obtained an average of 70% marks in the examination, then what is the maximum number of students who could have failed marginally but passed by obtaining distinct grace marks in the examination?

Answer key/Solution

Solution:

Correct Answer : 3

70% of 500 marks = 350

Maximum marks a student can obtain = 25 + 30 = 55 in order to get 1 grace mark.

Since they got distinct grace marks, therefore, 2nd student can obtain = 24 + 30 = 54 in order to get 2 grace marks.

Similarly, 3rd student can obtain = 23 + 30 = 53 in order to get 3 grace marks.

Total marks of three students = 55 + 54 + 53 = 162.

So 350 – 162 = 188

Hence, maximum 3 students could have been marginally failing.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Dev joined an Ed-tech company. After 6-month probation period, 4 of his senior employee's - Aman, Babita, Chitra and Dhruv - rate Dev on each of four determining factors – **Communication, Knowledge, Productivity, and Co-ordination,** on a scale from 1 to 9 (in integers). Total raise in salary of Dev is determined by the total rating points he receives from each of the senior employees. The table given below shows the partial information about the rating points and increment percentage obtained by Dev.

Total rating points of a senior employee	≥ 25	< 25
Salary Raise percentage	9%	3% or 5%

	Aman	Babita	Chitra	Dhruv	Total
Communication					
Knowledge					29
Productivity					26
Co-ordination					21
Salary raise percentage					26%

The following additional facts are also known.
(i) In Co-ordination, three of the senior employees gave Dev the same rating points. Aman gave higher rating points than Babita and Chitra in this factor.
(ii) Dev received distinct rating points in Knowledge from the four senior employees. Similarly, Dev received distinct rating points in Productivity from the four senior employees.
(iii) Chitra gave the same rating points for Knowledge and Productivity.
(iv) Among the four senior employees, Babita gave the highest rating points in Knowledge, and Chitra gave the highest rating points in Productivity.
(v) Everyone rated Dev from 5 to 7 in Communication. Unique maximum and minimum ratings in this factor were given by Aman and Dhruv respectively.
(vi) If the senior employees are ranked based on ratings given by them in individual factors, then Aman's rank based on Knowledge is the same as that based on Productivity. This is also true for Dhruv.

Q.11 [11831809]
What was the maximum total rating points that Dev received from any senior employee?

Solution:
Correct Answer : 27

Answer key/Solution

Step 1:
Dev received a total of 26% raise, therefore, two of his senior employees must have given a total rating of 25 or more. Thus giving 9% of raise each and two other senior employees must have given a total rating points of less than 25%, thus approving a raise of 3% and 5% respectively.
From condition (i), in Co-ordination, three of the senior employees gave him the same rating points in this factor. Let the same ratings be 'a' and one different rating be 'b'. Given: $b > a$ and $3a + b = 21$. Possible combinations are: (4, 9) and (5, 6).
From condition (v), since everyone rated Dev from 5 to 7 in Communication such that unique maximum and minimum rating points in this factor were given by Aman and Dhruv respectively which implies that Aman must have rated 7 and Dhruv must have rated 5 and other two must have rated 6.

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge					29
Productivity					26
Co-ordination	9/6	4/5	4/5	4/5	21
Salary raise percentage					26%

Step 2:
From condition (ii), "Dev received distinct rating points in Knowledge from the four senior employees adding up to 29 points." So the only possible combination is (5, 7, 8, 9) in any order.
Also, "Dev received distinct rating points in Productivity from the four senior employees adding up to 26 points." So the only possible combinations are (2, 7, 8, 9), (3, 6, 8, 9), (4, 5, 8, 9), (4, 6, 7, 9), and (5, 6, 7, 8).
But from condition (iv), among the four senior employees, Babita gave the highest rating points in Knowledge, so that must be 9, and Chitra gave the highest rating points in Productivity, so that must be 8.
Table thus obtained from the information concluded is:

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge	5	9	8	7	29
Productivity	5	7	8	6	26
Co-ordination	6	5	5	5	21
Salary raise percentage	3% / 5%	9%	9%	5%/3%	26%

The maximum total rating points that Dev received from any senior employee is 27.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Dev joined an Ed-tech company. After 6-month probation period, 4 of his senior employee's - Aman, Babita, Chitra and Dhruv - rate Dev on each of four determining factors – **Communication, Knowledge, Productivity, and Co-ordination,** on a scale from 1 to 9 (in integers). Total raise in salary of Dev is determined by the total rating points he receives from each of the senior employees. The table given below shows the partial information about the rating points and increment percentage obtained by Dev.

Total rating points of a senior employee	≥ 25	< 25
Salary Raise percentage	9%	3% or 5%

	Aman	Babita	Chitra	Dhruv	Total
Communication					
Knowledge					29
Productivity					26
Co-ordination					21
Salary raise percentage					26%

The following additional facts are also known.
(i) In Co-ordination, three of the senior employees gave Dev the same rating points. Aman gave higher rating points than Babita and Chitra in this factor.
(ii) Dev received distinct rating points in Knowledge from the four senior employees. Similarly, Dev received distinct rating points in Productivity from the four senior employees.
(iii) Chitra gave the same rating points for Knowledge and Productivity.
(iv) Among the four senior employees, Babita gave the highest rating points in Knowledge, and Chitra gave the highest rating points in Productivity.
(v) Everyone rated Dev from 5 to 7 in Communication. Unique maximum and minimum ratings in this factor were given by Aman and Dhruv respectively.
(vi) If the senior employees are ranked based on ratings given by them in individual factors, then Aman's rank based on Knowledge is the same as that based on Productivity. This is also true for Dhruv.

Q.12 [11831809]
The COMPLETE list of senior employees who gave the minimum total rating points to Dev is

1 ◯ Dhruv & Chitra

2 ◯ Aman & Dhruv

3 ◯ Babita

4 ◯ Aman

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
Dev received a total of 26% raise, therefore, two of his senior employees must have given a total rating of 25 or more. Thus giving 9% of raise each and two other senior employees must have given a total rating points of less than 25%, thus approving a raise of 3% and 5% respectively.
From condition (i), in Co-ordination, three of the senior employees gave him the same rating points in this factor. Let the same ratings be 'a' and one different rating be 'b'. Given: b > a and 3a + b = 21. Possible combinations are: (4, 9) and (5, 6).
From condition (v), since everyone rated Dev from 5 to 7 in Communication such that unique maximum and minimum rating points in this factor were given by Aman and Dhruv respectively which implies that Aman must have rated 7 and Dhruv must have rated 5 and other two must have rated 6.

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge					29
Productivity					26
Co-ordination	9/6	4/5	4/5	4/5	21
Salary raise percentage					26%

Step 2:
From condition (ii), "Dev received distinct rating points in Knowledge from the four senior employees adding up to 29 points." So the only possible combination is (5, 7, 8, 9) in any order.
Also, "Dev received distinct rating points in Productivity from the four senior employees adding up to 26 points." So the only possible combinations are (2, 7, 8, 9), (3, 6, 8, 9), (4, 5, 8, 9), (4, 6, 7, 9), and (5, 6, 7, 8).
But from condition (iv), among the four senior employees, Babita gave the highest rating points in Knowledge, so that must be 9, and Chitra gave the highest rating points in Productivity, so that must be 8.
Table thus obtained from the information concluded is:

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge	5	9	8	7	29
Productivity	5	7	8	6	26
Co-ordination	6	5	5	5	21
Salary raise percentage	3% / 5%	9%	9%	5%/3%	26%

The COMPLETE list of senior employees who gave the minimum total rating points to Dev is Aman and Dhruv.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Dev joined an Ed-tech company. After 6-month probation period, 4 of his senior employee's - Aman, Babita, Chitra and Dhruv - rate Dev on each of four determining factors – **Communication, Knowledge, Productivity, and Co-ordination,** on a scale from 1 to 9 (in integers). Total raise in salary of Dev is determined by the total rating points he receives from each of the senior employees. The table given below shows the partial information about the rating points and increment percentage obtained by Dev.

Total rating points of a senior employee	≥ 25	< 25
Salary Raise percentage	9%	3% or 5%

	Aman	Babita	Chitra	Dhruv	Total
Communication					
Knowledge					29
Productivity					26
Co-ordination					21
Salary raise percentage					26%

The following additional facts are also known.
(i) In Co-ordination, three of the senior employees gave Dev the same rating points. Aman gave higher rating points than Babita and Chitra in this factor.
(ii) Dev received distinct rating points in Knowledge from the four senior employees. Similarly, Dev received distinct rating points in Productivity from the four senior employees.
(iii) Chitra gave the same rating points for Knowledge and Productivity.
(iv) Among the four senior employees, Babita gave the highest rating points in Knowledge, and Chitra gave the highest rating points in Productivity.
(v) Everyone rated Dev from 5 to 7 in Communication. Unique maximum and minimum ratings in this factor were given by Aman and Dhruv respectively.
(vi) If the senior employees are ranked based on ratings given by them in individual factors, then Aman's rank based on Knowledge is the same as that based on Productivity. This is also true for Dhruv.

Q.13 [11831809]
What rating points did Chitra give on Productivity to Dev?

Solution:
Correct Answer : 8

Answer key/Solution

Step 1:
Dev received a total of 26% raise, therefore, two of his senior employees must have given a total rating of 25 or more. Thus giving 9% of raise each and two other senior employees must have given a total rating points of less than 25%, thus approving a raise of 3% and 5% respectively.
From condition (i), in Co-ordination, three of the senior employees gave him the same rating points in this factor. Let the same ratings be 'a' and one different rating be 'b'. Given: b > a and 3a + b = 21. Possible combinations are: (4, 9) and (5, 6).
From condition (v), since everyone rated Dev from 5 to 7 in Communication such that unique maximum and minimum rating points in this factor were given by Aman and Dhruv respectively which implies that Aman must have rated 7 and Dhruv must have rated 5 and other two must have rated 6.

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge					29
Productivity					26
Co-ordination	9/6	4/5	4/5	4/5	21
Salary raise percentage					26%

Step 2:
From condition (ii), "Dev received distinct rating points in Knowledge from the four senior employees adding up to 29 points." So the only possible combination is (5, 7, 8, 9) in any order.
Also, "Dev received distinct rating points in Productivity from the four senior employees adding up to 26 points." So the only possible combinations are (2, 7, 8, 9), (3, 6, 8, 9), (4, 5, 8, 9), (4, 6, 7, 9), and (5, 6, 7, 8).
But from condition (iv), among the four senior employees, Babita gave the highest rating points in Knowledge, so that must be 9, and Chitra gave the highest rating points in Productivity, so that must be 8.
Table thus obtained from the information concluded is:

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge	5	9	8	7	29
Productivity	5	7	8	6	26
Co-ordination	6	5	5	5	21
Salary raise percentage	3% / 5%	9%	9%	5%/3%	26%

Rating points that Chitra give on Productivity is 8.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Dev joined an Ed-tech company. After 6-month probation period, 4 of his senior employee's - Aman, Babita, Chitra and Dhruv - rate Dev on each of four determining factors – **Communication, Knowledge, Productivity, and Co-ordination,** on a scale from 1 to 9 (in integers). Total raise in salary of Dev is determined by the total rating points he receives from each of the senior employees. The table given below shows the partial information about the rating points and increment percentage obtained by Dev.

Total rating points of a senior employee	≥ 25	< 25
Salary Raise percentage	9%	3% or 5%

	Aman	Babita	Chitra	Dhruv	Total
Communication					
Knowledge					29
Productivity					26
Co-ordination					21
Salary raise percentage					26%

The following additional facts are also known.
(i) In Co-ordination, three of the senior employees gave Dev the same rating points. Aman gave higher rating points than Babita and Chitra in this factor.
(ii) Dev received distinct rating points in Knowledge from the four senior employees. Similarly, Dev received distinct rating points in Productivity from the four senior employees.
(iii) Chitra gave the same rating points for Knowledge and Productivity.
(iv) Among the four senior employees, Babita gave the highest rating points in Knowledge, and Chitra gave the highest rating points in Productivity.
(v) Everyone rated Dev from 5 to 7 in Communication. Unique maximum and minimum ratings in this factor were given by Aman and Dhruv respectively.
(vi) If the senior employees are ranked based on ratings given by them in individual factors, then Aman's rank based on Knowledge is the same as that based on Productivity. This is also true for Dhruv.

Q.14 [11831809]
What BEST can be concluded about the raise percentage approved by the Aman for Dev?

1 ◯ Either 3% or 5%

2 ◯ 3%

3 ◯ 5%

4 ◯ 9%

Solution:
Correct Answer : 1

Answer key/Solution

Step 1:
Dev received a total of 26% raise, therefore, two of his senior employees must have given a total rating of 25 or more. Thus giving 9% of raise each and two other senior employees must have given a total rating points of less than 25%, thus approving a raise of 3% and 5% respectively.
From condition (i), in Co-ordination, three of the senior employees gave him the same rating points in this factor. Let the same ratings be 'a' and one different rating be 'b'. Given: b > a and 3a + b = 21. Possible combinations are: (4, 9) and (5, 6).
From condition (v), since everyone rated Dev from 5 to 7 in Communication such that unique maximum and minimum rating points in this factor were given by Aman and Dhruv respectively which implies that Aman must have rated 7 and Dhruv must have rated 5 and other two must have rated 6.

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge					29
Productivity					26
Co-ordination	9/6	4/5	4/5	4/5	21
Salary raise percentage					26%

Step 2:
From condition (ii), "Dev received distinct rating points in Knowledge from the four senior employees adding up to 29 points." So the only possible combination is (5, 7, 8, 9) in any order.
Also, "Dev received distinct rating points in Productivity from the four senior employees adding up to 26 points." So the only possible combinations are (2, 7, 8, 9), (3, 6, 8, 9), (4, 5, 8, 9), (4, 6, 7, 9), and (5, 6, 7, 8).
But from condition (iv), among the four senior employees, Babita gave the highest rating points in Knowledge, so that must be 9, and Chitra gave the highest rating points in Productivity, so that must be 8.
Table thus obtained from the information concluded is:

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge	5	9	8	7	29
Productivity	5	7	8	6	26
Co-ordination	6	5	5	5	21
Salary raise percentage	3% / 5%	9%	9%	5%/3%	26%

The raise percentage approved by the Aman for Dev is either 3% or 5%.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Dev joined an Ed-tech company. After 6-month probation period, 4 of his senior employee's - Aman, Babita, Chitra and Dhruv - rate Dev on each of four determining factors – **Communication, Knowledge, Productivity, and Co-ordination,** on a scale from 1 to 9 (in integers). Total raise in salary of Dev is determined by the total rating points he receives from each of the senior employees. The table given below shows the partial information about the rating points and increment percentage obtained by Dev.

Total rating points of a senior employee	≥ 25	< 25
Salary Raise percentage	9%	3% or 5%

	Aman	Babita	Chitra	Dhruv	Total
Communication					
Knowledge					29
Productivity					26
Co-ordination					21
Salary raise percentage					26%

The following additional facts are also known.
(i) In Co-ordination, three of the senior employees gave Dev the same rating points. Aman gave higher rating points than Babita and Chitra in this factor.
(ii) Dev received distinct rating points in Knowledge from the four senior employees. Similarly, Dev received distinct rating points in Productivity from the four senior employees.
(iii) Chitra gave the same rating points for Knowledge and Productivity.
(iv) Among the four senior employees, Babita gave the highest rating points in Knowledge, and Chitra gave the highest rating points in Productivity.
(v) Everyone rated Dev from 5 to 7 in Communication. Unique maximum and minimum ratings in this factor were given by Aman and Dhruv respectively.
(vi) If the senior employees are ranked based on ratings given by them in individual factors, then Aman's rank based on Knowledge is the same as that based on Productivity. This is also true for Dhruv.

Q.15 [11831809]
In which factor did Dhruv give the maximum rating points to Dev?

1 ◯ Communication

2 ◯ Knowledge

3 ◯ Productivity

4 ◯ Co-ordination

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
Dev received a total of 26% raise, therefore, two of his senior employees must have given a total rating of 25 or more. Thus giving 9% of raise each and two other senior employees must have given a total rating points of less than 25%, thus approving a raise of 3% and 5% respectively.
From condition (i), in Co-ordination, three of the senior employees gave him the same rating points in this factor. Let the same ratings be 'a' and one different rating be 'b'. Given: b > a and 3a + b = 21. Possible combinations are: (4, 9) and (5, 6).
From condition (v), since everyone rated Dev from 5 to 7 in Communication such that unique maximum and minimum rating points in this factor were given by Aman and Dhruv respectively which implies that Aman must have rated 7 and Dhruv must have rated 5 and other two must have rated 6.

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge					29
Productivity					26
Co-ordination	9/6	4/5	4/5	4/5	21
Salary raise percentage					26%

Step 2:
From condition (ii), "Dev received distinct rating points in Knowledge from the four senior employees adding up to 29 points." So the only possible combination is (5, 7, 8, 9) in any order.
Also, "Dev received distinct rating points in Productivity from the four senior employees adding up to 26 points." So the only possible combinations are (2, 7, 8, 9), (3, 6, 8, 9), (4, 5, 8, 9), (4, 6, 7, 9), and (5, 6, 7, 8).
But from condition (iv), among the four senior employees, Babita gave the highest rating points in Knowledge, so that must be 9, and Chitra gave the highest rating points in Productivity, so that must be 8.
Table thus obtained from the information concluded is:

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge	5	9	8	7	29
Productivity	5	7	8	6	26
Co-ordination	6	5	5	5	21
Salary raise percentage	3% / 5%	9%	9%	5%/3%	26%

Dhruv give the maximum rating points to Dev in Knowledge factor.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Dev joined an Ed-tech company. After 6-month probation period, 4 of his senior employee's - Aman, Babita, Chitra and Dhruv - rate Dev on each of four determining factors – **Communication, Knowledge, Productivity, and Co-ordination,** on a scale from 1 to 9 (in integers). Total raise in salary of Dev is determined by the total rating points he receives from each of the senior employees. The table given below shows the partial information about the rating points and increment percentage obtained by Dev.

Total rating points of a senior employee	≥ 25	< 25
Salary Raise percentage	9%	3% or 5%

	Aman	Babita	Chitra	Dhruv	Total
Communication					
Knowledge					29
Productivity					26
Co-ordination					21
Salary raise percentage					26%

The following additional facts are also known.
(i) In Co-ordination, three of the senior employees gave Dev the same rating points. Aman gave higher rating points than Babita and Chitra in this factor.
(ii) Dev received distinct rating points in Knowledge from the four senior employees. Similarly, Dev received distinct rating points in Productivity from the four senior employees.
(iii) Chitra gave the same rating points for Knowledge and Productivity.
(iv) Among the four senior employees, Babita gave the highest rating points in Knowledge, and Chitra gave the highest rating points in Productivity.
(v) Everyone rated Dev from 5 to 7 in Communication. Unique maximum and minimum ratings in this factor were given by Aman and Dhruv respectively.
(vi) If the senior employees are ranked based on ratings given by them in individual factors, then Aman's rank based on Knowledge is the same as that based on Productivity. This is also true for Dhruv.

Q.16 [11831809]
What rating points did Babita give on Co-ordination to Dev?

1 ◯ 8

2 ◯ 5

3 ◯ 6

4 ◯ 7

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
Dev received a total of 26% raise, therefore, two of his senior employees must have given a total rating of 25 or more. Thus giving 9% of raise each and two other senior employees must have given a total rating points of less than 25%, thus approving a raise of 3% and 5% respectively.
From condition (i), in Co-ordination, three of the senior employees gave him the same rating points in this factor. Let the same ratings be 'a' and one different rating be 'b'. Given: $b > a$ and $3a + b = 21$. Possible combinations are: (4, 9) and (5, 6).
From condition (v), since everyone rated Dev from 5 to 7 in Communication such that unique maximum and minimum rating points in this factor were given by Aman and Dhruv respectively which implies that Aman must have rated 7 and Dhruv must have rated 5 and other two must have rated 6.

	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge					29
Productivity					26
Co-ordination	9/6	4/5	4/5	4/5	21
Salary raise percentage					26%

Step 2:
From condition (ii), "Dev received distinct rating points in Knowledge from the four senior employees adding up to 29 points." So the only possible combination is (5, 7, 8, 9) in any order.
Also, "Dev received distinct rating points in Productivity from the four senior employees adding up to 26 points." So the only possible combinations are (2, 7, 8, 9), (3, 6, 8, 9), (4, 5, 8, 9), (4, 6, 7, 9), and (5, 6, 7, 8).
But from condition (iv), among the four senior employees, Babita gave the highest rating points in Knowledge, so that must be 9, and Chitra gave the highest rating points in Productivity, so that must be 8.
Table thus obtained from the information concluded is:

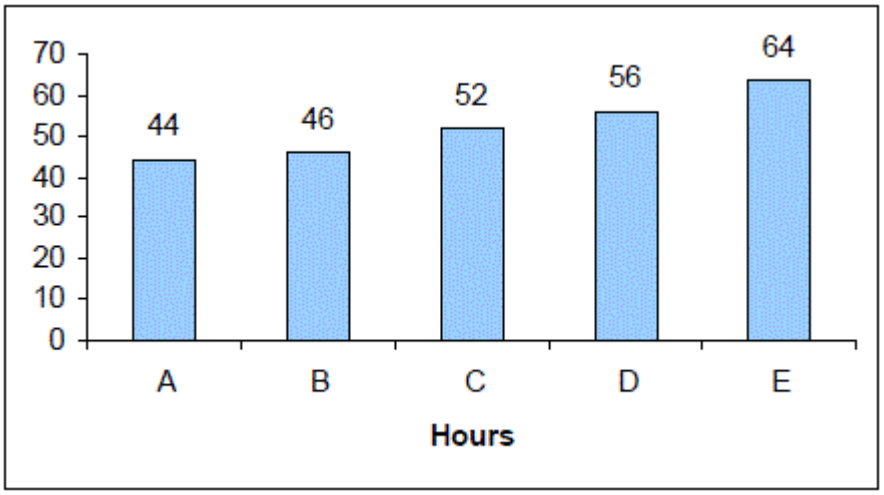
	Aman	Babita	Chitra	Dhruv	Total
Communication	7	6	6	5	24
Knowledge	5	9	8	7	29
Productivity	5	7	8	6	26
Co-ordination	6	5	5	5	21
Salary raise percentage	3% / 5%	9%	9%	5%/3%	26%

Rating points that Babita give on Co-ordination is 5.

Bookmark FeedBack

Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Jitender, a freelance consultant, worked on five different projects - A, B, C, D and E - such that the wages per hour for each project was different, from among (Rs. 100 x) 25, 30, 40, 45 and 50, in no particular order. For each project, the amount that he was paid was calculated by multiplying the wages per hour of that project and the number of hours that he worked on that project. The total amount paid for no two projects was the same. The bar graph given below shows the number of hours that he worked on these five projects.



Further, it is known that:
(i) The total amount that he was paid for B was more than the amount that was paid for exactly two other projects.
(ii) The rate per hour that he was paid for A was more than that paid for B while the total amount that he was paid for E was not the highest.
(iii) The difference between the amounts that he was paid for projects C and D was Rs.40,000.

Q.17 [11831809]
What is the number of hours that Jitender worked on the project, with the 2nd highest per hour rate?

1 ◯ 44

2 ◯ 46

3 ◯ 52

4 ◯ 64

Solution:
Correct Answer : 2

Answer key/Solution

From condition (iii), the difference between the amounts paid for C and D is Rs.40,000.
If x and y were the rates per hour for these two projects, then we can write,
$52x - 56y = 400 \Rightarrow 13x - 14y = 100$
From the available numbers, only 40 and 30 satisfy the equation, (Hint: $13 \times 4 = 52$ and $14 \times 3 = 42$)
So the total amounts for C and D are Rs.2,08,000 and Rs.1,68,000 respectively.
Remaining rates are Rs.25 × 100, Rs.45 × 100 and Rs.50 × 100.
From condition (i), we know that the payment received for project B was the 3rd highest.
Also, from condition (ii) rate per hour for A was more than that for B.
At Rs.25 × 100 per hour for B we would get a total of 44 × 25 = Rs.1,150 × 100, which will not be the third highest.
So the rate per hour for B is Rs.45 × 100.
For project A Jitender was paid 44 × 50 × 100 = Rs.2,200 × 100
Total amount for project B is 46 × 45 × 100 = Rs.2,070 × 100
Hence, for E the rate will be 64 × 25 × 100 = Rs. 1,600 × 100
The table below shows the final payments received for each of the projects.

A (44 hours)	C (52 hours)	B (46 hours)	D (56 hours)	E (64 hours)
Rs.2,20,000	Rs.2,08,000	Rs.2,07,000	Rs.1,68,000	Rs.1,60,000

It is clear from the table that Jitender worked for 46 hours for project B for which he received Rs.4,500 per hour, which was the second highest wage per hour.

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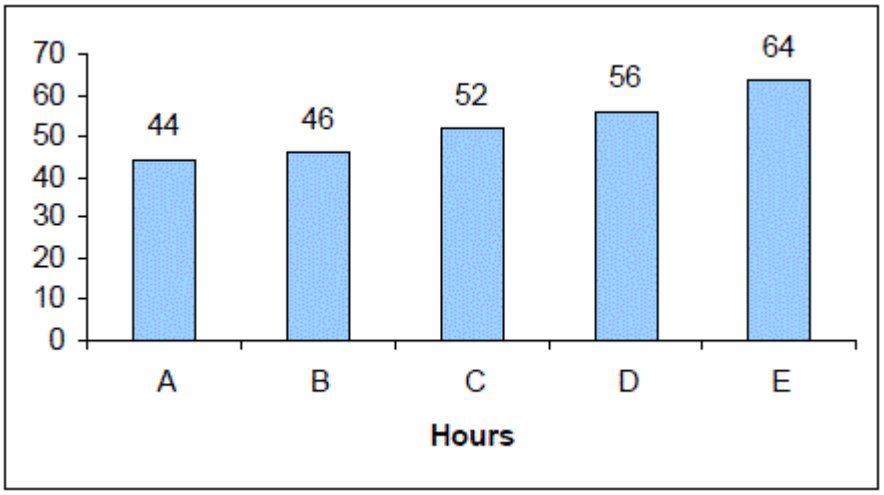
Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Jitender, a freelance consultant, worked on five different projects - A, B, C, D and E - such that the wages per hour for each project was different, from among (Rs. 100 x) 25, 30, 40, 45 and 50, in no particular order. For each project, the amount that he was paid was calculated by multiplying the wages per hour of that project and the number of hours that he worked on that project. The total amount paid for no two projects was the same. The bar graph given below shows the number of hours that he worked on these five projects.



Further, it is known that:
(i) The total amount that he was paid for B was more than the amount that was paid for exactly two other projects.
(ii) The rate per hour that he was paid for A was more than that paid for B while the total amount that he was paid for E was not the highest.
(iii) The difference between the amounts that he was paid for projects C and D was Rs.40,000.

Q.18 [11831809]
What was the average amount (in Rs.) paid to Jitender per project in all five projects combined?

Solution:

Correct Answer : 192600

Answer key/Solution

From condition (iii), the difference between the amounts paid for C and D is Rs.40,000.
If x and y were the rates per hour for these two projects, then we can write,
$52x - 56y = 400 \Rightarrow 13x - 14y = 100$
From the available numbers, only 40 and 30 satisfy the equation, (Hint: $13 \times 4 = 52$ and $14 \times 3 = 42$)
So the total amounts for C and D are Rs.2,08,000 and Rs.1,68,000 respectively.
Remaining rates are Rs.25 × 100, Rs.45 × 100 and Rs.50 × 100.
From condition (i), we know that the payment received for project B was the 3rd highest.
Also, from condition (ii) rate per hour for A was more than that for B.
At Rs.25 × 100 per hour for B we would get a total of 44 × 25 = Rs.1,150 × 100, which will not be the third highest.
So the rate per hour for B is Rs.45 × 100.
For project A Jitender was paid 44 × 50 × 100 = Rs.2,200 × 100
Total amount for project B is 46 × 45 × 100 = Rs.2,070 × 100
Hence, for E the rate will be 64 × 25 × 100 = Rs. 1,600 × 100
The table below shows the final payments received for each of the projects.

A (44 hours)	C (52 hours)	B (46 hours)	D (56 hours)	E (64 hours)
Rs.2,20,000	Rs.2,08,000	Rs.2,07,000	Rs.1,68,000	Rs.1,60,000

Required average = 1/5 × (220000 + 208000 + 207000 + 168000 + 160000) = Rs.1,92,600.

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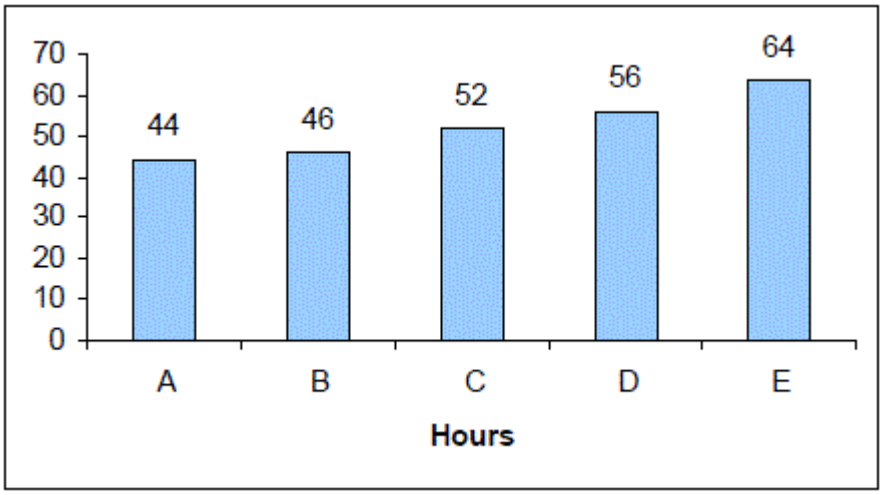
Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Jitender, a freelance consultant, worked on five different projects - A, B, C, D and E - such that the wages per hour for each project was different, from among (Rs. 100 x) 25, 30, 40, 45 and 50, in no particular order. For each project, the amount that he was paid was calculated by multiplying the wages per hour of that project and the number of hours that he worked on that project. The total amount paid for no two projects was the same. The bar graph given below shows the number of hours that he worked on these five projects.



Further, it is known that:
(i) The total amount that he was paid for B was more than the amount that was paid for exactly two other projects.
(ii) The rate per hour that he was paid for A was more than that paid for B while the total amount that he was paid for E was not the highest.
(iii) The difference between the amounts that he was paid for projects C and D was Rs.40,000.

Q.19 [11831809]
Which of the following statements is/are definitely true?
I. Jitender received the maximum amount for the project that involved the minimum time.
II. Jitender received the minimum amount for the project that involved the maximum time.
III. The difference between the maximum and minimum amounts received by Jitender was Rs.80,000.

1 ◯ I only

2 ◯ II & III only

3 ◯ I & II only

4 ◯ All I, II & III

Solution:
Correct Answer : 3

Answer key/Solution

From condition (iii), the difference between the amounts paid for C and D is Rs.40,000.
If x and y were the rates per hour for these two projects, then we can write,
$52x - 56y = 400 \Rightarrow 13x - 14y = 100$
From the available numbers, only 40 and 30 satisfy the equation, (Hint: $13 \times 4 = 52$ and $14 \times 3 = 42$)
So the total amounts for C and D are Rs.2,08,000 and Rs.1,68,000 respectively.
Remaining rates are Rs.25 × 100, Rs.45 × 100 and Rs.50 × 100.
From condition (i), we know that the payment received for project B was the 3rd highest.
Also, from condition (ii) rate per hour for A was more than that for B.
At Rs.25 × 100 per hour for B we would get a total of 44 × 25 = Rs.1,150 × 100, which will not be the third highest.
So the rate per hour for B is Rs.45 × 100.
For project A Jitender was paid 44 × 50 × 100 = Rs.2,200 × 100
Total amount for project B is 46 × 45 × 100 = Rs.2,070 × 100
Hence, for E the rate will be 64 × 25 × 100 = Rs. 1,600 × 100
The table below shows the final payments received for each of the projects.

A (44 hours)	C (52 hours)	B (46 hours)	D (56 hours)	E (64 hours)
Rs.2,20,000	Rs.2,08,000	Rs.2,07,000	Rs.1,68,000	Rs.1,60,000

We can see that for project E Jitendra worked for the maximum time,64 hours and the amount received was Rs.1.6 lakh which was the lowest among the five projects whereas for project A he worked for 44 hours, which was the minimum and he received Rs.2.2 lakh, which was the maximum. So statements I and II are true. The difference between the maximum and minimum amounts received is Rs.60,000. So statement III is not true. Hence, option (3) is the correct answer.

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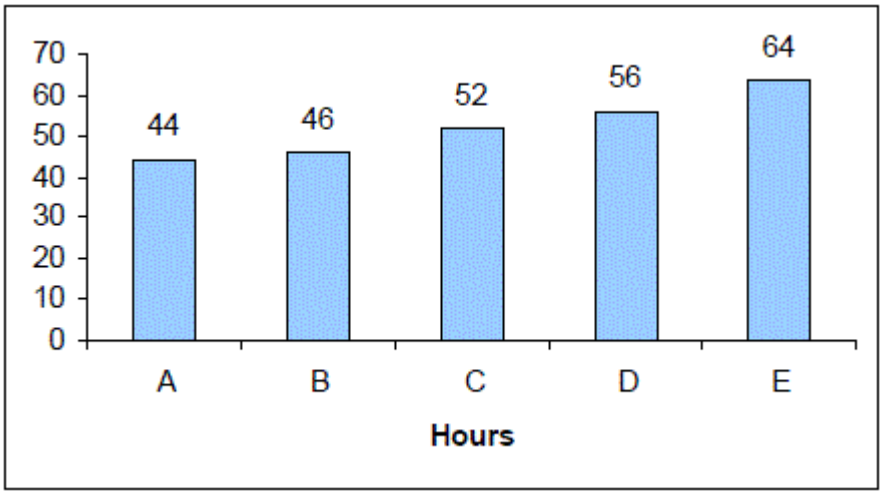
Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Jitender, a freelance consultant, worked on five different projects - A, B, C, D and E - such that the wages per hour for each project was different, from among (Rs. 100 x) 25, 30, 40, 45 and 50, in no particular order. For each project, the amount that he was paid was calculated by multiplying the wages per hour of that project and the number of hours that he worked on that project. The total amount paid for no two projects was the same. The bar graph given below shows the number of hours that he worked on these five projects.



Further, it is known that:
(i) The total amount that he was paid for B was more than the amount that was paid for exactly two other projects.
(ii) The rate per hour that he was paid for A was more than that paid for B while the total amount that he was paid for E was not the highest.
(iii) The difference between the amounts that he was paid for projects C and D was Rs.40,000.

Q.20 [11831809]
For how many projects did Jitender receive more than Rs.2 lakh?

1 ○ None

2 ○ One

3 ○ Two

4 ○ Three

Solution:
Correct Answer : 4

Answer key/Solution

From condition (iii), the difference between the amounts paid for C and D is Rs.40,000.
If x and y were the rates per hour for these two projects, then we can write,
$52x - 56y = 400 \Rightarrow 13x - 14y = 100$
From the available numbers, only 40 and 30 satisfy the equation, (Hint: $13 \times 4 = 52$ and $14 \times 3 = 42$)
So the total amounts for C and D are Rs.2,08,000 and Rs.1,68,000 respectively.
Remaining rates are Rs.25 × 100, Rs.45 × 100 and Rs.50 × 100.
From condition (i), we know that the payment received for project B was the 3rd highest.
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The table below shows the final payments received for each of the projects.

A (44 hours)	C (52 hours)	B (46 hours)	D (56 hours)	E (64 hours)
Rs.2,20,000	Rs.2,08,000	Rs.2,07,000	Rs.1,68,000	Rs.1,60,000

We can clearly observe that Jitender received more than Rs.2 lakh for three projects, namely A, C and B.

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