



Prime CAT 09 2022 DILR

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Section-1

Sec 1

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

An online real estate portal also does the accreditation of the properties enlisted on its website based on four parameters: Location (L), Construction Age (C), Floor Area (F), and Amenities (A). The four parameters are used to arrive at an overall rating, which the online portal displays alongside the property advertisement on its website, so that customers can see the rating and decide for themselves whether to invest in the property or not. Each parameter has five possible ratings - 5, 4, 3, 2, and 1. The overall rating for a property is the weighted sum of the ratings in the four parameters. The weights of the parameters are 10%, 20%, 30% and 40% in some order, but the order is not disclosed.

The table given below shows the partial ratings of ten real estate properties on the online portal in the four parameters (L, C, F, and A):

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
M	5	5	5	4
N	4	3	2	2
O	4	2	2	3
P	–	2	4	3
Q	5	5	4	5
R	5	–	4	4
S	3	1	–	2
T	3	2	2	4
U	5	4	5	–
V	3	5	2	4

It is further known that in terms of overall ratings:

- (i) A high overall rating of a property represents a better investment and a low overall rating represents a poor investment.
- (ii) Investing in property N is better than investing in property O.
- (iii) Investing in property Q is better than investing in property M.
- (iv) Investing in property T is better than investing in property N.

Q.1 [11831809]

How many out of ten properties are rated 4 or more on at least three parameters?

Solution:

Correct Answer : 4

 Answer key/Solution

Step 1:

From condition (ii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
O	4	2	2	3

Ratings in L and F are identical, so we can infer that weightage for A > weightage for C
i.e., $C > A$ (1)

From condition (iii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
Q	5	5	4	5
M	5	5	5	4

Ratings in L and C are identical, so we can infer that weightage for F > weightage for A
i.e., $A > F$ (2)

From (1) and (2), we get

$C > A > F$... (3)

From condition (iv),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
T	3	2	2	4

Rating of F is identical. Property T has a lower rating in L and C but a better rating in A.

Property T is - 1 in L and C, but + 2 in A.

From (1), weightage for A > weightage for C

So, - 1 in C has a great impact, so - 1 in L should have much lower impact.

Therefore, weightage for A > weightage for L ... (4)

Step 2:

From (3) and (4), $C > A > F$ and $A > L$

So, weightages for C and A are 40% and 30% respectively.

If L is 20%, then investing in property T would not be better than investing in property N – the overall rating would be equal.

So weightage for L is 10% and weightage for F is 20%.

Hence, the final table can be shown as:

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)	Overall Rating
	10%	40%	20%	30%	
M	5	5	5	4	4.7
N	4	3	2	2	2.6
O	4	2	2	3	2.5
P	–	2	4	3	
Q	5	5	4	5	4.8
R	5	–	4	4	
S	3	1	–	2	
T	3	2	2	4	2.7
U	5	4	5	–	
V	3	5	2	4	3.9

There are 4 properties M, Q, R, and U.

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T	3	2	2	4
U	5	4	5	–
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- (i) A high overall rating of a property represents a better investment and a low overall rating represents a poor investment.
- (ii) Investing in property N is better than investing in property O.
- (iii) Investing in property Q is better than investing in property M.
- (iv) Investing in property T is better than investing in property N.

Q.2 [11831809]

The weights of Floor Area (F) parameter is

1 ☐ 10%

2 ☐ 20%

3 ○ 30%

4 ○ 40%

Solution:

Correct Answer : 2

 Answer key/Solution

Step 1:

From condition (ii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
O	4	2	2	3

Ratings in L and F are identical, so we can infer that weightage for A > weightage for C
i.e., $C > A$ (1)

From condition (iii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
Q	5	5	4	5
M	5	5	5	4

Ratings in L and C are identical, so we can infer that weightage for F > weightage for A
i.e., $A > F$ (2)

From (1) and (2), we get

$C > A > F$... (3)

From condition (iv),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
T	3	2	2	4

Rating of F is identical. Property T has a lower rating in L and C but a better rating in A.

Property T is - 1 in L and C, but + 2 in A.

From (1), weightage for A > weightage for C

So, - 1 in C has a great impact, so - 1 in L should have much lower impact.

Therefore, weightage for A > weightage for L ... (4)

Step 2:

From (3) and (4), $C > A > F$ and $A > L$

So, weightages for C and A are 40% and 30% respectively.

If L is 20%, then investing in property T would not be better than investing in property N – the overall rating would be equal.

So weightage for L is 10% and weightage for F is 20%.

Hence, the final table can be shown as:

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)	Overall Rating
	10%	40%	20%	30%	
M	5	5	5	4	4.7
N	4	3	2	2	2.6
O	4	2	2	3	2.5
P	–	2	4	3	
Q	5	5	4	5	4.8
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S	3	1	–	2	
T	3	2	2	4	2.7
U	5	4	5	–	
V	3	5	2	4	3.9

The weights of Floor Area (F) parameter is 20%.

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Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
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It is further known that in terms of overall ratings:

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- (ii) Investing in property N is better than investing in property O.
- (iii) Investing in property Q is better than investing in property M.
- (iv) Investing in property T is better than investing in property N.

Q.3 [11831809]

What is the absolute difference between the overall rating of properties N and T?

1 ☐ 0.1

2 ☐ 0.2

$3 \bigcirc 0.3$

$4 \bigcirc 0.4$

Solution:

Correct Answer : 1

 Answer key/Solution

Step 1:

From condition (ii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
O	4	2	2	3

Ratings in L and F are identical, so we can infer that weightage for A > weightage for C
i.e., $C > A$ (1)

From condition (iii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
Q	5	5	4	5
M	5	5	5	4

Ratings in L and C are identical, so we can infer that weightage for F > weightage for A
i.e., $A > F$ (2)

From (1) and (2), we get

$C > A > F$... (3)

From condition (iv),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
T	3	2	2	4

Rating of F is identical. Property T has a lower rating in L and C but a better rating in A.

Property T is - 1 in L and C, but + 2 in A.

From (1), weightage for A > weightage for C

So, - 1 in C has a great impact, so - 1 in L should have much lower impact.

Therefore, weightage for A > weightage for L ... (4)

Step 2:

From (3) and (4), $C > A > F$ and $A > L$

So, weightages for C and A are 40% and 30% respectively.

If L is 20%, then investing in property T would not be better than investing in property N – the overall rating would be equal.

So weightage for L is 10% and weightage for F is 20%.

Hence, the final table can be shown as:

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O	4	2	2	3	2.5
P	–	2	4	3	
Q	5	5	4	5	4.8
R	5	–	4	4	
S	3	1	–	2	
T	3	2	2	4	2.7
U	5	4	5	–	
V	3	5	2	4	3.9

Required difference = $2.7 - 2.6 = 0.1$.

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

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- (iii) Investing in property Q is better than investing in property M.
- (iv) Investing in property T is better than investing in property N.

Q.4 [11831809]

Which of the given ten properties can be the best investment for the property?

1 ☐ M

2 ☐ V

3 ○ Q

4 ○ U

Solution:

Correct Answer : 3

 Answer key/Solution

Step 1:

From condition (ii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
O	4	2	2	3

Ratings in L and F are identical, so we can infer that weightage for A > weightage for C
i.e., $C > A$ (1)

From condition (iii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
Q	5	5	4	5
M	5	5	5	4

Ratings in L and C are identical, so we can infer that weightage for F > weightage for A
i.e., $A > F$ (2)

From (1) and (2), we get

$C > A > F$... (3)

From condition (iv),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
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Rating of F is identical. Property T has a lower rating in L and C but a better rating in A.

Property T is - 1 in L and C, but + 2 in A.

From (1), weightage for A > weightage for C

So, - 1 in C has a great impact, so - 1 in L should have much lower impact.

Therefore, weightage for A > weightage for L ... (4)

Step 2:

From (3) and (4), $C > A > F$ and $A > L$

So, weightages for C and A are 40% and 30% respectively.

If L is 20%, then investing in property T would not be better than investing in property N – the overall rating would be equal.

So weightage for L is 10% and weightage for F is 20%.

Hence, the final table can be shown as:

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Q	5	5	4	5	4.8
R	5	–	4	4	
S	3	1	–	2	
T	3	2	2	4	2.7
U	5	4	5	–	
V	3	5	2	4	3.9

The maximum possible overall ratings for property:

$P = 5 \times 0.1 + 0.8 + 0.8 + 0.9 = 3$; $R = 0.5 + 5 \times 0.4 + 0.8 + 1.2 = 4.5$;
 $S = 0.3 + 0.4 + 5 \times 0.2 + 0.6 = 2.3$ and $U = 0.5 + 1.6 + 1 + 5 \times 0.3 = 3.6$
Hence, the best investment can be for Property Q with a 4.8 overall rating.

Bookmark

FeedBack

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

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- (iv) Investing in property T is better than investing in property N.

Q.5 [11831809]

How many properties can have an overall rating between 3 and 4 both inclusive?

Solution:

Correct Answer : 4

 Answer key/Solution

Step 1:

From condition (ii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
O	4	2	2	3

Ratings in L and F are identical, so we can infer that weightage for A > weightage for C
i.e., $C > A$ (1)

From condition (iii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
Q	5	5	4	5
M	5	5	5	4

Ratings in L and C are identical, so we can infer that weightage for F > weightage for A
i.e., $A > F$ (2)

From (1) and (2), we get

$C > A > F$... (3)

From condition (iv),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
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So, - 1 in C has a great impact, so - 1 in L should have much lower impact.

Therefore, weightage for A > weightage for L ... (4)

Step 2:

From (3) and (4), $C > A > F$ and $A > L$

So, weightages for C and A are 40% and 30% respectively.

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S	3	1	–	2	
T	3	2	2	4	2.7
U	5	4	5	–	
V	3	5	2	4	3.9

Four properties P, R, U, and V can have an overall rating between 3 and 4 both inclusive.

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

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It is further known that in terms of overall ratings:

- (i) A high overall rating of a property represents a better investment and a low overall rating represents a poor investment.
- (ii) Investing in property N is better than investing in property O.
- (iii) Investing in property Q is better than investing in property M.
- (iv) Investing in property T is better than investing in property N.

Q.6 [11831809]

If the sum of rating for property R on parameter C and the rating for property U on parameter A is 7, then which of the following cannot be the overall rating for property R?

1 ☐ 3.3

2 ☐ 3.7

3 ○ 4.4

4 ○ 4.1

Solution:

Correct Answer : 3

 Answer key/Solution

Step 1:

From condition (ii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
O	4	2	2	3

Ratings in L and F are identical, so we can infer that weightage for A > weightage for C
i.e., $C > A$ (1)

From condition (iii),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
Q	5	5	4	5
M	5	5	5	4

Ratings in L and C are identical, so we can infer that weightage for F > weightage for A
i.e., $A > F$ (2)

From (1) and (2), we get

$C > A > F$... (3)

From condition (iv),

Property	Location (L)	Construction Age (C)	Floor Area (F)	Amenities (A)
N	4	3	2	2
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Rating of F is identical. Property T has a lower rating in L and C but a better rating in A.

Property T is - 1 in L and C, but + 2 in A.

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So, - 1 in C has a great impact, so - 1 in L should have much lower impact.

Therefore, weightage for A > weightage for L ... (4)

Step 2:

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So, weightages for C and A are 40% and 30% respectively.

If L is 20%, then investing in property T would not be better than investing in property N – the overall rating would be equal.

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Hence, the final table can be shown as:

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Q	5	5	4	5	4.8
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S	3	1	–	2	
T	3	2	2	4	2.7
U	5	4	5	–	
V	3	5	2	4	3.9

The sum 7 can be 2 + 5 or 3 + 4.

The rating for property R on parameter C can be 2, 3, 4 or 5.

The overall rating for property R can be 3.3, 3.7, 4.1 or 4.5.

Hence, the overall rating cannot be 4.4.

Bookmark

FeedBack

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

The given chart shows the timelines for four projects and the grades obtained by four teams, namely A, B, C and D, which have a total of 12, 11, 14 and 13 members respectively from a class of 50 students. These teams work on four different projects assigned to them on four subjects, namely Science, Math, Geography and History. Each project has been graded out of a total of 10 marks. The scores obtained by the teams have been shown in the colored boxes representing the timelines. The total project duration means the total time taken for completing all four projects. The individual score of each team member is equal to the team score.

Project	Science Project				Math Project				Geography Project				History Project			
Month	A	B	C	D	D	B	C	A	C	D	A	B	A	D	B	C
Jan	9.5													8		
Feb		8.5		7												
Mar			8										9			
Apr							8.5									
May																
Jun					7.5	8		9.5								
Jul																
Aug																
Sept									9		8.5				6.5	
Oct																
Nov										8		7.5				
Dec																8

Q.7 [11831809]

Which of the following statements is/are true?

- I. The total project duration was different for all the four teams.
- II. Only one of the teams worked upon two projects simultaneously.
- III. Exactly 3 teams complete all their projects in at most 10 months.

1 ☐ Only I is true.

2 ☐ Both I and II are true.

3 ☐ Only III is true.

4 ☐ Both II and III are true.

Solution:

Correct Answer : 3

[Answer key/Solution](#)

It is clear from the chart that Team A and Team C took a total of 10 months to complete the four projects. So statement I is not true.

It is clear from the chart that Team C worked on the Science and Math projects simultaneously whereas Team D worked on Science and History projects simultaneously. Hence, statement II is not true.

Teams A, B, C and D complete all their projects in 10, 9, 10 and 13 months respectively.

Hence, the statement III is true.

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FeedBack

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

The given chart shows the timelines for four projects and the grades obtained by four teams, namely A, B, C and D, which have a total of 12, 11, 14 and 13 members respectively from a class of 50 students. These teams work on four different projects assigned to them on four subjects, namely Science, Math, Geography and History. Each project has been graded out of a total of 10 marks. The scores obtained by the teams have been shown in the colored boxes representing the timelines. The total project duration means the total time taken for completing all four projects. The individual score of each team member is equal to the team score.

Project	Science Project				Math Project				Geography Project				History Project			
Month	A	B	C	D	D	B	C	A	C	D	A	B	A	D	B	C
Jan	9.5													8		
Feb		8.5														
Mar			8													
Apr				7									9			
May							8.5									
Jun					7.5	8										
Jul								9.5								
Aug																
Sept									9		8.5				6.5	
Oct										8						
Nov												7.5				
Dec																8

Q.8 [11831809]

If we write the projects in ascending order of the average time taken by a team to complete them, then which of the following order of projects is correct?

1 ☐ Geography, Science, History, Math

2 ☐ History, Geography, Science, Math

Q.9 [11831809]

How many members were there in the team that had the second highest total score in all the projects put together?

1 ☐ 11

2 ☐ 12

3 ☐ 13

4 ☐ 14

Solution:

Correct Answer : 4

 Answer key/Solution

Let us find the total scores of each team:

Team	Total score	Members
A	36.5	12
B	30.5	11
C	33.5	14
D	30.5	13

Hence, the team with the second highest score has 14 members.

Bookmark

FeedBack

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

The given chart shows the timelines for four projects and the grades obtained by four teams, namely A, B, C and D, which have a total of 12, 11, 14 and 13 members respectively from a class of 50 students. These teams work on four different projects assigned to them on four subjects, namely Science, Math, Geography and History. Each project has been graded out of a total of 10 marks. The scores obtained by the teams have been shown in the colored boxes representing the timelines. The total project duration means the total time taken for completing all four projects. The individual score of each team member is equal to the team score.

Project	Science Project				Math Project				Geography Project				History Project			
Month	A	B	C	D	D	B	C	A	C	D	A	B	A	D	B	C
Jan	9.5													8		
Feb		8.5		7												
Mar			8													
Apr													9			
May							8.5									
Jun					7.5	8										
Jul								9.5								
Aug																
Sept									9		8.5				6.5	
Oct																
Nov										8		7.5				
Dec																8

Q.10 [11831809]

If the productivity of a team for a project is calculated as: $\text{Total score obtained by a team in all the projects} / \text{Number of members in the team} \times \text{Total time spent (in months) by the team}$, then which of the following statements is true?

- 1 ☐ The team with the maximum number of members has the maximum productivity.
- 2 ☐ The teams that worked for an equal amount of time had almost the same productivity.
- 3 ☐ The teams with equal total scores had the same productivity.
- 4 ☐ The team with the minimum number of members had the maximum productivity.

Solution:

Correct Answer : 4

 Answer key/Solution

Let us calculate the productivity of each team:

Team	Total score	Members	Time (in Months)	Productivity
A	36.5	12	10	0.304
B	30.5	11	9	0.308
C	33.5	14	10	0.239
D	30.5	13	13	0.18

From the above table we can say that the team with the maximum number of members does not have the maximum productivity. So option (1) is not true.

A and C teams worked for equal amounts of time but their productivity was not the same. So option (2) is not true.

B and D teams had equal total scores but their productivity was not the same. So option (3) is not true.

Team B had the minimum number of members (11) and had the maximum productivity. So option (4) is true.

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FeedBack

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

Aadi, Bali, Chan, Deep and Ehan - are five men and Pakhi, Quin, Ryan, Sara and Tara - are five women.

Each of them is living in one of the four housing societies – A, B, C and D. One of the languages of Hindi, Sanskrit, Punjabi and Telugu is the first language of each person, and one different language among of these four languages is the second language. The following facts are known about the ten persons:

- (i) Three persons are from A, three are from B, two men are from C, and the remaining two women are from D.
- (ii) Punjabi is the second language of both the men of B, while Sanskrit is the first language of the woman of B.
- (iii) Bali is from B and his first language is Sanskrit. Chan is from A and his first language is Punjabi.
- (iv) Sanskrit is the first language of one man, while Hindi is the second language of three women.
- (v) Sara and Aadi are from the same society. Sara's second language is Hindi.
- (vi) Pakhi and Tara belong to the same society. Hindi and Sanskrit are the first and second languages of these two women only.
- (vii) Telugu is Ehan and Quin's first language.
- (viii) Punjabi is the first language of one woman and two men. All three are from different societies.

Q.11 [11831809]

The first language of Aadi is

1 ☐ Hindi

2 ☐ Sanskrit

3 ☐ Punjabi

4 ☐ Telugu

Solution:

Correct Answer : 4

[Answer key/Solution](#)

Step 1:

From conditions (i) and (ii), 1 man and 2 women from A, 2 men and 1 woman from B, 2 men from C and 2 women from D. From conditions (ii) and (iii), Sanskrit and Punjabi are the first and second languages of Bali respectively. From condition (v), Sara and Aadi are from B. Hindi is the second language of Sara.

From condition (ii), Sanskrit is the first language of Sara.

From conditions (ii) and (v), Punjabi is the second language of Aadi.

So, the second language of Chan will be either Hindi or Telugu.

The information can be shown in table below.

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C							Ehan (M)	
						(M)			
2 (Women)	D					(W)			
		Only 2 W	3 W		Only 2 W			Quin	

Step 2:

From conditions (vi), (vii) and (viii), Pakhi and Tara are from society A. Quin and Ryan are from society D. So, Deep and Ehan are from society C.

So, the second language of Ehan will be either Hindi or Punjabi. And the second language of Deep will be either Hindi or Telugu.

Hence, the final table can be shown as:

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
		Pakhi (W)			Pakhi (W)				
		Tara (W)			Tara (W)				
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C				X			Ehan (M)	
					X	Deep (M)			
2 (Women)	D		Quin (W)					Quin (W)	
			Ryan (W)			Ryan (W)			

The first language of Aadi is Telugu.

Bookmark

FeedBack

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

Aadi, Bali, Chan, Deep and Ehan - are five men and Pakhi, Quin, Ryan, Sara and Tara - are five women. Each of them is living in one of the four housing societies – A, B, C and D. One of the languages of Hindi, Sanskrit, Punjabi and Telugu is the first language of each person, and one different language among of these four languages is the second language. The following facts are known about the ten persons:

- (i) Three persons are from A, three are from B, two men are from C, and the remaining two women are from D.
- (ii) Punjabi is the second language of both the men of B, while Sanskrit is the first language of the woman of B.
- (iii) Bali is from B and his first language is Sanskrit. Chan is from A and his first language is Punjabi.
- (iv) Sanskrit is the first language of one man, while Hindi is the second language of three women.
- (v) Sara and Aadi are from the same society. Sara's second language is Hindi.
- (vi) Pakhi and Tara belong to the same society. Hindi and Sanskrit are the first and second languages of these two women only.
- (vii) Telugu is Ehan and Quin's first language.
- (viii) Punjabi is the first language of one woman and two men. All three are from different societies.

Q.12 [11831809]

The persons living in housing society D are

1 ☐ Pakhi and Tara

2 ☐ Ryan and Quin

3 ☐ Sara and Ryan

4 ☐ Quin and Sara

Solution:

Correct Answer : 2

[Answer key/Solution](#)

Step 1:

From conditions (i) and (ii), 1 man and 2 women from A, 2 men and 1 woman from B, 2 men from C and 2 women from D. From conditions (ii) and (iii), Sanskrit and Punjabi are the first and second languages of Bali respectively. From condition (v), Sara and Aadi are from B. Hindi is the second language of Sara.

From condition (ii), Sanskrit is the first language of Sara.

From conditions (ii) and (v), Punjabi is the second language of Aadi.

So, the second language of Chan will be either Hindi or Telugu.

The information can be shown in table below.

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C							Ehan (M)	
						(M)			
2 (Women)	D					(W)			
		Only 2 W	3 W		Only 2 W			Quin	

Step 2:

From conditions (vi), (vii) and (viii), Pakhi and Tara are from society A. Quin and Ryan are from society D. So, Deep and Ehan are from society C.

So, the second language of Ehan will be either Hindi or Punjabi. And the second language of Deep will be either Hindi or Telugu.

Hence, the final table can be shown as:

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
		Pakhi (W)			Pakhi (W)				
		Tara (W)			Tara (W)				
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C				X			Ehan (M)	
					X	Deep (M)			
2 (Women)	D		Quin (W)					Quin (W)	
			Ryan (W)			Ryan (W)			

Ryan and Quin are the women of Housing Society D.

Bookmark

FeedBack

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

Aadi, Bali, Chan, Deep and Ehan - are five men and Pakhi, Quin, Ryan, Sara and Tara - are five women.

Each of them is living in one of the four housing societies – A, B, C and D. One of the languages of Hindi, Sanskrit, Punjabi and Telugu is the first language of each person, and one different language among of these four languages is the second language. The following facts are known about the ten persons:

- (i) Three persons are from A, three are from B, two men are from C, and the remaining two women are from D.
- (ii) Punjabi is the second language of both the men of B, while Sanskrit is the first language of the woman of B.
- (iii) Bali is from B and his first language is Sanskrit. Chan is from A and his first language is Punjabi.
- (iv) Sanskrit is the first language of one man, while Hindi is the second language of three women.
- (v) Sara and Aadi are from the same society. Sara's second language is Hindi.
- (vi) Pakhi and Tara belong to the same society. Hindi and Sanskrit are the first and second languages of these two women only.
- (vii) Telugu is Ehan and Quin's first language.
- (viii) Punjabi is the first language of one woman and two men. All three are from different societies.

Q.13 [11831809]

Which language can be the second language of the largest number of people?

1 ☐ Hindi

2 ☐ Sanskrit

3 ☐ Punjabi

4 ☐ Telugu

Solution:

Correct Answer : 1

[Answer key/Solution](#)

Step 1:

From conditions (i) and (ii), 1 man and 2 women from A, 2 men and 1 woman from B, 2 men from C and 2 women from D.
From conditions (ii) and (iii), Sanskrit and Punjabi are the first and second languages of Bali respectively. From condition (v), Sara and Aadi are from B. Hindi is the second language of Sara.
From condition (ii), Sanskrit is the first language of Sara.
From conditions (ii) and (v), Punjabi is the second language of Aadi.
So, the second language of Chan will be either Hindi or Telugu.
The information can be shown in table below.

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C							Ehan (M)	
						(M)			
2 (Women)	D					(W)			
		Only 2 W	3 W		Only 2 W			Quin	

Step 2:

From conditions (vi), (vii) and (viii), Pakhi and Tara are from society A. Quin and Ryan are from society D. So, Deep and Ehan are from society C.
So, the second language of Ehan will be either Hindi or Punjabi. And the second language of Deep will be either Hindi or Telugu.
Hence, the final table can be shown as:

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
		Pakhi (W)			Pakhi (W)				
		Tara (W)			Tara (W)				
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C				X			Ehan (M)	
					X	Deep (M)			
2 (Women)	D		Quin (W)					Quin (W)	
			Ryan (W)			Ryan (W)			

Hindi can be the second language of the largest number of people.

Bookmark

FeedBack

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

Aadi, Bali, Chan, Deep and Ehan - are five men and Pakhi, Quin, Ryan, Sara and Tara - are five women.

Each of them is living in one of the four housing societies – A, B, C and D. One of the languages of Hindi, Sanskrit, Punjabi and Telugu is the first language of each person, and one different language among of these four languages is the second language. The following facts are known about the ten persons:

- (i) Three persons are from A, three are from B, two men are from C, and the remaining two women are from D.
- (ii) Punjabi is the second language of both the men of B, while Sanskrit is the first language of the woman of B.
- (iii) Bali is from B and his first language is Sanskrit. Chan is from A and his first language is Punjabi.
- (iv) Sanskrit is the first language of one man, while Hindi is the second language of three women.
- (v) Sara and Aadi are from the same society. Sara's second language is Hindi.
- (vi) Pakhi and Tara belong to the same society. Hindi and Sanskrit are the first and second languages of these two women only.
- (vii) Telugu is Ehan and Quin's first language.
- (viii) Punjabi is the first language of one woman and two men. All three are from different societies.

Q.14 [11831809]

Which of the following statements is/are CORRECT?

- I. The first language of Sara and Ehan is the same.
- II. The first language of Ryan and Deep is the same.
- III. No language (first or second) of Chan and Ehan can be the same.

1 ☐ III only

2 ☐ I only

3 ☐ II only

4 ☐ Both II and III

Solution:

Correct Answer : 3

[Answer key/Solution](#)

Step 1:

From conditions (i) and (ii), 1 man and 2 women from A, 2 men and 1 woman from B, 2 men from C and 2 women from D. From conditions (ii) and (iii), Sanskrit and Punjabi are the first and second languages of Bali respectively. From condition (v), Sara and Aadi are from B. Hindi is the second language of Sara.

From condition (ii), Sanskrit is the first language of Sara.

From conditions (ii) and (v), Punjabi is the second language of Aadi.

So, the second language of Chan will be either Hindi or Telugu.

The information can be shown in table below.

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C							Ehan (M)	
						(M)			
2 (Women)	D					(W)			
		Only 2 W	3 W		Only 2 W			Quin	

Step 2:

From conditions (vi), (vii) and (viii), Pakhi and Tara are from society A. Quin and Ryan are from society D. So, Deep and Ehan are from society C.

So, the second language of Ehan will be either Hindi or Punjabi. And the second language of Deep will be either Hindi or Telugu.

Hence, the final table can be shown as:

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
		Pakhi (W)			Pakhi (W)				
		Tara (W)			Tara (W)				
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C				X			Ehan (M)	
					X	Deep (M)			
2 (Women)	D		Quin (W)					Quin (W)	
			Ryan (W)			Ryan (W)			

Only statement II is CORRECT.

Bookmark

FeedBack

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

Aadi, Bali, Chan, Deep and Ehan - are five men and Pakhi, Quin, Ryan, Sara and Tara - are five women. Each of them is living in one of the four housing societies – A, B, C and D. One of the languages of Hindi, Sanskrit, Punjabi and Telugu is the first language of each person, and one different language among of these four languages is the second language. The following facts are known about the ten persons:

- (i) Three persons are from A, three are from B, two men are from C, and the remaining two women are from D.
- (ii) Punjabi is the second language of both the men of B, while Sanskrit is the first language of the woman of B.
- (iii) Bali is from B and his first language is Sanskrit. Chan is from A and his first language is Punjabi.
- (iv) Sanskrit is the first language of one man, while Hindi is the second language of three women.
- (v) Sara and Aadi are from the same society. Sara's second language is Hindi.
- (vi) Pakhi and Tara belong to the same society. Hindi and Sanskrit are the first and second languages of these two women only.
- (vii) Telugu is Ehan and Quin's first language.
- (viii) Punjabi is the first language of one woman and two men. All three are from different societies.

Q.15 [11831809]

Which of the following statements is FALSE?

1 ☐ Tara is from society A.

2 ☐ Deep is from society C.

3 ☐ Ehan's second language cannot be Punjabi.

4 ☐ Chan's second language can be Telugu.

Solution:

Correct Answer : 3

[Answer key/Solution](#)

Step 1:

From conditions (i) and (ii), 1 man and 2 women from A, 2 men and 1 woman from B, 2 men from C and 2 women from D. From conditions (ii) and (iii), Sanskrit and Punjabi are the first and second languages of Bali respectively. From condition (v), Sara and Aadi are from B. Hindi is the second language of Sara.

From condition (ii), Sanskrit is the first language of Sara.

From conditions (ii) and (v), Punjabi is the second language of Aadi.

So, the second language of Chan will be either Hindi or Telugu.

The information can be shown in table below.

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C							Ehan (M)	
						(M)			
2 (Women)	D					(W)			
		Only 2 W	3 W		Only 2 W			Quin	

Step 2:

From conditions (vi), (vii) and (viii), Pakhi and Tara are from society A. Quin and Ryan are from society D. So, Deep and Ehan are from society C.

So, the second language of Ehan will be either Hindi or Punjabi. And the second language of Deep will be either Hindi or Telugu.

Hence, the final table can be shown as:

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
		Pakhi (W)			Pakhi (W)				
		Tara (W)			Tara (W)				
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C				X			Ehan (M)	
					X	Deep (M)			
2 (Women)	D		Quin (W)					Quin (W)	
			Ryan (W)			Ryan (W)			

Ehan's second language can be either Hindi or Punjabi.

Hence, the statement given in option (3) is FALSE.

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

Aadi, Bali, Chan, Deep and Ehan - are five men and Pakhi, Quin, Ryan, Sara and Tara - are five women. Each of them is living in one of the four housing societies – A, B, C and D. One of the languages of Hindi, Sanskrit, Punjabi and Telugu is the first language of each person, and one different language among of these four languages is the second language. The following facts are known about the ten persons:

- (i) Three persons are from A, three are from B, two men are from C, and the remaining two women are from D.
- (ii) Punjabi is the second language of both the men of B, while Sanskrit is the first language of the woman of B.
- (iii) Bali is from B and his first language is Sanskrit. Chan is from A and his first language is Punjabi.
- (iv) Sanskrit is the first language of one man, while Hindi is the second language of three women.
- (v) Sara and Aadi are from the same society. Sara's second language is Hindi.
- (vi) Pakhi and Tara belong to the same society. Hindi and Sanskrit are the first and second languages of these two women only.
- (vii) Telugu is Ehan and Quin's first language.
- (viii) Punjabi is the first language of one woman and two men. All three are from different societies.

Q.16 [11831809]

If Hindi is the second language of women only, then Telugu will be the second language of which of the following persons?

1 ☐ Chan and Ehan

2 ☐ Chan and Deep

3 ☐ Deep and Ryan

4 ☐ Bali and Ryan

Solution:

Correct Answer : 2

[Answer key/Solution](#)

Step 1:

From conditions (i) and (ii), 1 man and 2 women from A, 2 men and 1 woman from B, 2 men from C and 2 women from D.
 From conditions (ii) and (iii), Sanskrit and Punjabi are the first and second languages of Bali respectively. From condition (v), Sara and Aadi are from B. Hindi is the second language of Sara.
 From condition (ii), Sanskrit is the first language of Sara.
 From conditions (ii) and (v), Punjabi is the second language of Aadi.
 So, the second language of Chan will be either Hindi or Telugu.
 The information can be shown in table below.

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C							Ehan (M)	
						(M)			
2 (Women)	D					(W)			
		Only 2 W	3 W		Only 2 W			Quin	

Step 2:

From conditions (vi), (vii) and (viii), Pakhi and Tara are from society A. Quin and Ryan are from society D. So, Deep and Ehan are from society C.
 So, the second language of Ehan will be either Hindi or Punjabi. And the second language of Deep will be either Hindi or Telugu.
 Hence, the final table can be shown as:

No. of persons	Society	Hindi		Sanskrit		Punjabi		Telugu	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd
3 (1 Man, 2 Women)	A				X	Chan (M)			
		Pakhi (W)			Pakhi (W)				
		Tara (W)			Tara (W)				
3 (2 Men, 1 Woman)	B			Bali (M)			Bali (M)		
		X		X		X	Aadi (M)	Aadi (M)	
			Sara (W)	Sara (W)					
2 (Men)	C				X			Ehan (M)	
					X	Deep (M)			
2 (Women)	D		Quin (W)					Quin (W)	
			Ryan (W)			Ryan (W)			

If Hindi is the second language of women only, then Telugu will be the second language of Chan and Deep.

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FeedBack

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

Four friends - Aditi, Binu, Chitra and Dev – have to attend the wedding of their childhood friend Priya. Due to their busy work schedule they decide to buy gifts individually. Later, at the wedding they reveal the gift items they have bought for Priya and observed that they have bought some similar items.

Item	Quantity	Price (in Rs.)
Cash	–	20,000
Jewellery sets	3	4000/set
Digital Appliances	4	5000/appliance
Silver coins	x	1000/coin

Further, it is also know that:

- (i) Aditi, Binu, Chitra and Dev spent the money in the ratio of 2 : 3 : 2 : 4. None of them spent more than Rs. 25,000.
- (ii) The number of silver coins bought by Binu, Chitra and Dev is in the ratio of 1 : 1 : 2.
- (iii) Aditi bought 2 jewellery sets and atmost 4 silver coins.
- (iv) One friend who bought maximum number of silver coins bought exactly 2 digital appliances and gave the maximum amount in cash.
- (v) Each friend gave some amount of cash in the integral multiples of 1000.

Q.17 [11831809]

What is the value of x?

Solution:

Correct Answer : 14

 Answer key/Solution

Step 1:

Total amount spent by all the four friends = $52000 + x \times 1000$

From condition (i), Aditi, Binu, Chitra and dev spent money in the ratio of 2 : 3 : 2 : 4.

So, Aditi spent $\frac{2}{11} \times (52000 + x \times 1000)$ money.

Here, $52000 + x \times 1000$ must be divisible by 11, for that lets look at possible values of x.

$x = 3$ (Not possible since as per condition (ii), Binu, Chitra and Dev bought coins in the ratio of 1 : 1 : 2, which is minimum of 4 coins)

So $x = 14$ (Possible)

For $x = 14$, Aditi spent = Rs. 12,000.

Hence, Binu, Chitra and Dev spent Rs. 18,000, Rs. 12,000 and Rs. 24,000 respectively.

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	15000		3000
Chitra	12000	9000		3000
Dev	24000	18000		6000

Step 2:

From condition (iv), Dev bought the maximum number of silver coins, therefore, Dev must have bought 2 digital appliances.

Case 1:

Binu – Bought 2 digital appliances

Chitra – Bought 1 Jewellery set

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	2 digital app = 10000	5000	3000
Chitra	12000	1 jew ellery set = 4000	5000	3000
Dev	24000	2 digital app = 10000	8000	6000

Case 2:

Binu – Bought 1 digital appliance and 1 jewellery set

Chitra – Bought 1 digital appliances

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	1 digital app + 1 jew ellery set = 9000	6000	3000
Chitra	12000	1 digital app = 5000	4000	3000
Dev	24000	2 digital app = 10000	8000	6000

The value of x is 14.

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FeedBack

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

Four friends - Aditi, Binu, Chitra and Dev – have to attend the wedding of their childhood friend Priya. Due to their busy work schedule they decide to buy gifts individually. Later, at the wedding they reveal the gift items they have bought for Priya and observed that they have bought some similar items.

Item	Quantity	Price (in Rs.)
Cash	–	20,000
Jewellery sets	3	4000/set
Digital Appliances	4	5000/appliance
Silver coins	x	1000/coin

Further, it is also known that:

- (i) Aditi, Binu, Chitra and Dev spent the money in the ratio of 2 : 3 : 2 : 4. None of them spent more than Rs. 25,000.
- (ii) The number of silver coins bought by Binu, Chitra and Dev is in the ratio of 1 : 1 : 2.
- (iii) Aditi bought 2 jewellery sets and at most 4 silver coins.
- (iv) One friend who bought maximum number of silver coins bought exactly 2 digital appliances and gave the maximum amount in cash.
- (v) Each friend gave some amount of cash in the integral multiples of 1000.

Q.18 [11831809]

What amount (in Rs.) did Dev give in cash?

Solution:

Correct Answer : 8000

 Answer key/Solution

Step 1:

Total amount spent by all the four friends = $52000 + x \times 1000$

From condition (i), Aditi, Binu, Chitra and dev spent money in the ratio of 2 : 3 : 2 : 4.

So, Aditi spent $\frac{2}{11} \times (52000 + x \times 1000)$ money.

Here, $52000 + x \times 1000$ must be divisible by 11, for that lets look at possible values of x.

$x = 3$ (Not possible since as per condition (ii), Binu, Chitra and Dev bought coins in the ratio of 1 : 1 : 2, which is minimum of 4 coins)

So $x = 14$ (Possible)

For $x = 14$, Aditi spent = Rs. 12,000.

Hence, Binu, Chitra and Dev spent Rs. 18,000, Rs. 12,000 and Rs. 24,000 respectively.

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	15000		3000
Chitra	12000	9000		3000
Dev	24000	18000		6000

Step 2:

From condition (iv), Dev bought the maximum number of silver coins, therefore, Dev must have bought 2 digital appliances.

Case 1:

Binu – Bought 2 digital appliances

Chitra – Bought 1 Jewellery set

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	2 digital app = 10000	5000	3000
Chitra	12000	1 jew ellery set = 4000	5000	3000
Dev	24000	2 digital app = 10000	8000	6000

Case 2:

Binu – Bought 1 digital appliance and 1 jewellery set

Chitra – Bought 1 digital appliances

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	1 digital app + 1 jew ellery set = 9000	6000	3000
Chitra	12000	1 digital app = 5000	4000	3000
Dev	24000	2 digital app = 10000	8000	6000

Dev paid Rs. 8,000 in cash

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FeedBack

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

Four friends - Aditi, Binu, Chitra and Dev – have to attend the wedding of their childhood friend Priya. Due to their busy work schedule they decide to buy gifts individually. Later, at the wedding they reveal the gift items they have bought for Priya and observed that they have bought some similar items.

Item	Quantity	Price (in Rs.)
Cash	–	20,000
Jewellery sets	3	4000/set
Digital Appliances	4	5000/appliance
Silver coins	x	1000/coin

Further, it is also known that:

- (i) Aditi, Binu, Chitra and Dev spent the money in the ratio of 2 : 3 : 2 : 4. None of them spent more than Rs. 25,000.
- (ii) The number of silver coins bought by Binu, Chitra and Dev is in the ratio of 1 : 1 : 2.
- (iii) Aditi bought 2 jewellery sets and at most 4 silver coins.
- (iv) One friend who bought maximum number of silver coins bought exactly 2 digital appliances and gave the maximum amount in cash.
- (v) Each friend gave some amount of cash in the integral multiples of 1000.

Q.19 [11831809]

If the amount gifted in cash by Aditi, Binu, Chitra and Dev is in the ratio of 1 : 3 : 2 : 4 respectively, then which of the following pair of friends bought digital appliances?

1 ☐ Binu, Dev

2 ☐ Binu, Chitra, Dev

3 ☐ Binu, Chitra

4 ☐ Chitra, Dev

Solution:

Correct Answer : 2

 Answer key/Solution

Step 1:

Total amount spent by all the four friends = $52000 + x \times 1000$

From condition (i), Aditi, Binu, Chitra and dev spent money in the ratio of 2 : 3 : 2 : 4.

So, Aditi spent $\frac{2}{11} \times (52000 + x \times 1000)$ money.

Here, $52000 + x \times 1000$ must be divisible by 11, for that lets look at possible values of x.

$x = 3$ (Not possible since as per condition (ii), Binu, Chitra and Dev bought coins in the ratio of 1 : 1 : 2, which is minimum of 4 coins)

So $x = 14$ (Possible)

For $x = 14$, Aditi spent = Rs. 12,000.

Hence, Binu, Chitra and Dev spent Rs. 18,000, Rs. 12,000 and Rs. 24,000 respectively.

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	15000		3000
Chitra	12000	9000		3000
Dev	24000	18000		6000

Step 2:

From condition (iv), Dev bought the maximum number of silver coins, therefore, Dev must have bought 2 digital appliances.

Case 1:

Binu – Bought 2 digital appliances

Chitra – Bought 1 Jewellery set

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	2 digital app = 10000	5000	3000
Chitra	12000	1 jew ellery set = 4000	5000	3000
Dev	24000	2 digital app = 10000	8000	6000

Case 2:

Binu – Bought 1 digital appliance and 1 jewellery set

Chitra – Bought 1 digital appliances

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	1 digital app + 1 jew ellery set = 9000	6000	3000
Chitra	12000	1 digital app = 5000	4000	3000
Dev	24000	2 digital app = 10000	8000	6000

Binu, Chitra and Dev bought digital appliances.

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FeedBack

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

Four friends - Aditi, Binu, Chitra and Dev – have to attend the wedding of their childhood friend Priya. Due to their busy work schedule they decide to buy gifts individually. Later, at the wedding they reveal the gift items they have bought for Priya and observed that they have bought some similar items.

Item	Quantity	Price (in Rs.)
Cash	–	20,000
Jewellery sets	3	4000/set
Digital Appliances	4	5000/appliance
Silver coins	x	1000/coin

Further, it is also known that:

- (i) Aditi, Binu, Chitra and Dev spent the money in the ratio of 2 : 3 : 2 : 4. None of them spent more than Rs. 25,000.
- (ii) The number of silver coins bought by Binu, Chitra and Dev is in the ratio of 1 : 1 : 2.
- (iii) Aditi bought 2 jewellery sets and at most 4 silver coins.
- (iv) One friend who bought maximum number of silver coins bought exactly 2 digital appliances and gave the maximum amount in cash.
- (v) Each friend gave some amount of cash in the integral multiples of 1000.

Q.20 [11831809]

If Binu and Chitra paid equal amounts in cash, then what is the sum of the money spent (in Rs.) by Binu and Dev in buying gifts and coins other than cash?

Solution:

Correct Answer : 29000

[Answer key/Solution](#)

Step 1:

Total amount spent by all the four friends = $52000 + x \times 1000$

From condition (i), Aditi, Binu, Chitra and dev spent money in the ratio of 2 : 3 : 2 : 4.

So, Aditi spent $\frac{2}{11} \times (52000 + x \times 1000)$ money.

Here, $52000 + x \times 1000$ must be divisible by 11, for that lets look at possible values of x.

$x = 3$ (Not possible since as per condition (ii), Binu, Chitra and Dev bought coins in the ratio of 1 : 1 : 2, which is minimum of 4 coins)

So $x = 14$ (Possible)

For $x = 14$, Aditi spent = Rs. 12,000.

Hence, Binu, Chitra and Dev spent Rs. 18,000, Rs. 12,000 and Rs. 24,000 respectively.

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	15000		3000
Chitra	12000	9000		3000
Dev	24000	18000		6000

Step 2:

From condition (iv), Dev bought the maximum number of silver coins, therefore, Dev must have bought 2 digital appliances.

Case 1:

Binu – Bought 2 digital appliances

Chitra – Bought 1 Jewellery set

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	2 digital app = 10000	5000	3000
Chitra	12000	1 jew ellery set = 4000	5000	3000
Dev	24000	2 digital app = 10000	8000	6000

Case 2:

Binu – Bought 1 digital appliance and 1 jewellery set

Chitra – Bought 1 digital appliances

Friend	Total money (in Rs.)	Gift Amount (in Rs.)	Cash amount (in Rs.)	Coin amount (in Rs.)
Aditi	12000	2 jew ellery sets = 8000	2000	2000
Binu	18000	1 digital app + 1 jew ellery set = 9000	6000	3000
Chitra	12000	1 digital app = 5000	4000	3000
Dev	24000	2 digital app = 10000	8000	6000

If Binu and Chitra paid equal amounts in cash, then the sum of the money spent by Binu and Dev in buying gifts and coins other than cash is Rs. 29,000.

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