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Section-1

Sec 1

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

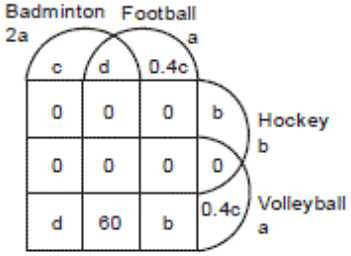
At the Sardar Patel Stadium, all of 800 athletes have to choose atleast one sport from four different sports - Badminton, Football, Hockey and Volleyball. An athlete who plays Badminton, or Football, or Volleyball does not play Hockey.
The following facts are known about the athletes:
(i) The number of athletes playing Football, Badminton and Volleyball are in the ratio 1 : 2 : 1 respectively.
(ii) The number of athletes playing Hockey is same as the number of athletes playing both Football and Volleyball but not Badminton.
(iii) The number of athletes playing all the three sports Badminton, Football and Volleyball is 60.
(iv) The number of athletes playing only Football is same as the number of athletes playing only Volleyball. This number is 40% of the number of athletes playing only Badminton.

Q.1 [11831809]
What is the minimum number of athletes who play only Badminton?

Solution:
Correct Answer : 300

Answer key/Solution

Step 1:
From condition (i), Let the number of athletes playing Football, Badminton and Volleyball be 'a', '2a' and 'a' respectively.
From condition (ii), Let the number of athletes playing Hockey be 'b'. Then, the number of athletes playing both Football and Volleyball but not Badminton will be 'b'.
From condition (iv), The number of athletes playing only Badminton be 'c'. Then, the number of athletes playing only Football and the number of athletes playing only Volleyball will be each equal to 0.4c.
Since the number of athletes playing Football is equal to the number of athletes playing Volleyball.
Hence, the number of athletes playing only Badminton and Football will be equal to the number of athletes playing only Badminton and Volleyball. Let this number be 'd'.



Step 2:
$c + 2d + 60 = 2(b + 0.4c + d + 60)$
$\Rightarrow c + 2d + 60 = 2b + 0.8c + 2d + 120$
$\Rightarrow 0.2c = 2b + 60$
$\Rightarrow c = 10b + 300$ ... (i)
and $1.8c + 2d + 2b + 60 = 800$
$\Rightarrow 1.8 (10b + 300) + 2d + 2b = 740$
$\Rightarrow 20b + 2d = 200$
$\Rightarrow 10b + d = 100$ ... (ii)

The number of athletes who can play only Badminton
= c = 10b + 300 (From (i))
At b = 0, c will be minimum.
Hence, minimum c = 300.

Bookmark FeedBack

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

At the Sardar Patel Stadium, all of 800 athletes have to choose atleast one sport from four different sports - Badminton, Football, Hockey and Volleyball. An athlete who plays Badminton, or Football, or Volleyball does not play Hockey.
The following facts are known about the athletes:
(i) The number of athletes playing Football, Badminton and Volleyball are in the ratio 1 : 2 : 1 respectively.
(ii) The number of athletes playing Hockey is same as the number of athletes playing both Football and Volleyball but not Badminton.
(iii) The number of athletes playing all the three sports Badminton, Football and Volleyball is 60.
(iv) The number of athletes playing only Football is same as the number of athletes playing only Volleyball. This number is 40% of the number of athletes playing only Badminton.

Q.2 [11831809]

What is the minimum number of athletes who play Football?

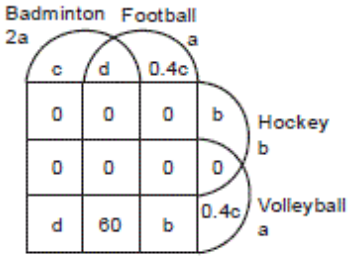
Solution:

Correct Answer : 230

Answer key/Solution

Step 1:

From condition (i), Let the number of athletes playing Football, Badminton and Volleyball be 'a', '2a' and 'a' respectively.
From condition (ii), Let the number of athletes playing Hockey be 'b'. Then, the number of athletes playing both Football and Volleyball but not Badminton will be 'b'.
From condition (iv), The number of athletes playing only Badminton be 'c'. Then, the number of athletes playing only Football and the number of athletes playing only Volleyball will be each equal to 0.4c.
Since the number of athletes playing Football is equal to the number of athletes playing Volleyball.
Hence, the number of athletes playing only Badminton and Football will be equal to the number of athletes playing only Badminton and Volleyball. Let this number be 'd'.



Step 2:

$c + 2d + 60 = 2(b + 0.4c + d + 60)$
$\Rightarrow c + 2d + 60 = 2b + 0.8c + 2d + 120$
$\Rightarrow 0.2c = 2b + 60$
$\Rightarrow c = 10b + 300$ ... (i)
and $1.8c + 2d + 2b + 60 = 800$
$\Rightarrow 1.8\,(10b + 300) + 2d + 2b = 740$
$\Rightarrow 20b + 2d = 200$
$\Rightarrow 10b + d = 100$ ... (ii)

The number of athletes who can play Football
$= b + 0.4c + d + 60$
$= b + 0.4(10b + 300) + 100 - 10b + 60$ (From (i) and (ii))
$= b + 4b + 120 + 100 - 10b + 60$
$= 280 - 5b$
From (ii), $10b + d = 100$, at $d = 0$, the maximum value of b is 10.

Hence, the minimum number of athletes who can play Football = 280 – 50 = 230.

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

At the Sardar Patel Stadium, all of 800 athletes have to choose atleast one sport from four different sports - Badminton, Football, Hockey and Volleyball. An athlete who plays Badminton, or Football, or Volleyball does not play Hockey.
The following facts are known about the athletes:
(i) The number of athletes playing Football, Badminton and Volleyball are in the ratio 1 : 2 : 1 respectively.
(ii) The number of athletes playing Hockey is same as the number of athletes playing both Football and Volleyball but not Badminton.
(iii) The number of athletes playing all the three sports Badminton, Football and Volleyball is 60.
(iv) The number of athletes playing only Football is same as the number of athletes playing only Volleyball. This number is 40% of the number of athletes playing only Badminton.

Q.3 [11831809]
If out of 800 athletes at least 6 athletes play Hockey, then which of the following statements is/are definitely true?
I. The maximum number of athletes who can play volleyball is 240.
II. The maximum number of athletes playing only Badminton and Volleyball is 40.
III. The maximum number of athletes who can play only Volleyball is 156.

1 ◯ I only

2 ◯ II only

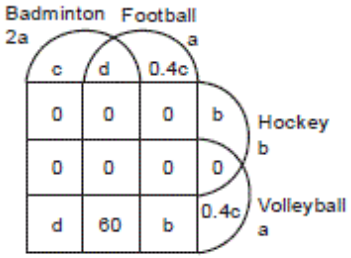
3 ◯ II & III only

4 ◯ I & II only

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
From condition (i), Let the number of athletes playing Football, Badminton and Volleyball be 'a', '2a' and 'a' respectively.
From condition (ii), Let the number of athletes playing Hockey be 'b'. Then, the number of athletes playing both Football and Volleyball but not Badminton will be 'b'.
From condition (iv), The number of athletes playing only Badminton be 'c'. Then, the number of athletes playing only Football and the number of athletes playing only Volleyball will be each equal to 0.4c.
Since the number of athletes playing Football is equal to the number of athletes playing Volleyball.
Hence, the number of athletes playing only Badminton and Football will be equal to the number of athletes playing only Badminton and Volleyball. Let this number be 'd'.



Step 2:
$c + 2d + 60 = 2(b + 0.4c + d + 60)$
$\Rightarrow c + 2d + 60 = 2b + 0.8c + 2d + 120$
$\Rightarrow 0.2c = 2b + 60$
$\Rightarrow c = 10b + 300$ ... (i)
and $1.8c + 2d + 2b + 60 = 800$
$\Rightarrow 1.8 (10b + 300) + 2d + 2b = 740$
$\Rightarrow 20b + 2d = 200$
$\Rightarrow 10b + d = 100$ ... (ii)

The number of athletes who can play Volleyball
= b + 0.4c + d + 60
= b + 0.4(10b + 300) + 100 – 10b + 60 (From (i) and (ii))
= b + 4b + 120 + 100 – 10b + 60
= 280 – 5b and b ≥ 6
I. The number of athletes who can play Volleyball is 250, 245, 240, 235 or 230.
II. From (ii), If b = 6, then d = 40 which is maximum.
III. The number of athletes who can play only Badminton is 360, 370, 380, 390 or 400.
So the number of athletes who can play only Volleyball is 144, 148, 152, 156 or 160.
Hence, only statement II is definitely true.

Bookmark FeedBack

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

At the Sardar Patel Stadium, all of 800 athletes have to choose atleast one sport from four different sports - Badminton, Football, Hockey and Volleyball. An athlete who plays Badminton, or Football, or Volleyball does not play Hockey.
The following facts are known about the athletes:
(i) The number of athletes playing Football, Badminton and Volleyball are in the ratio 1 : 2 : 1 respectively.
(ii) The number of athletes playing Hockey is same as the number of athletes playing both Football and Volleyball but not Badminton.
(iii) The number of athletes playing all the three sports Badminton, Football and Volleyball is 60.
(iv) The number of athletes playing only Football is same as the number of athletes playing only Volleyball. This number is 40% of the number of athletes playing only Badminton.

Q.4 [11831809]
Which of the following cannot be the total number of athletes who play exactly one sport?

1 ◯ 540

2 ◯ 654

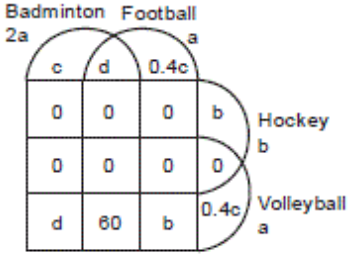
3 ◯ 694

4 ◯ 730

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From condition (i), Let the number of athletes playing Football, Badminton and Volleyball be 'a', '2a' and 'a' respectively.
From condition (ii), Let the number of athletes playing Hockey be 'b'. Then, the number of athletes playing both Football and Volleyball but not Badminton will be 'b'.
From condition (iv), The number of athletes playing only Badminton be 'c'. Then, the number of athletes playing only Football and the number of athletes playing only Volleyball will be each equal to 0.4c.
Since the number of athletes playing Football is equal to the number of athletes playing Volleyball.
Hence, the number of athletes playing only Badminton and Football will be equal to the number of athletes playing only Badminton and Volleyball. Let this number be 'd'.



Step 2:
$c + 2d + 60 = 2(b + 0.4c + d + 60)$
$\Rightarrow c + 2d + 60 = 2b + 0.8c + 2d + 120$
$\Rightarrow 0.2c = 2b + 60$
$\Rightarrow c = 10b + 300$ ... (i)
and $1.8c + 2d + 2b + 60 = 800$
$\Rightarrow 1.8 (10b + 300) + 2d + 2b = 740$
$\Rightarrow 20b + 2d = 200$
$\Rightarrow 10b + d = 100$ ... (ii)

Total number of athletes who play exactly one sport.
$= c + 0.4c + b + 0.4c = 1.8c + b$
From (ii), $10b + d = 100$, the value of b = 0, 1, 2, ..., 10 and from (i), the value of c is 300, 310, 320, ..., 400.
Hence, the total number of 694 athletes is not possible.

Bookmark FeedBack

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

There are 14 participants at an International Weightlifting Competition in the 73 kg category. There are two rounds - Round 1 and Round 2. In Round 1 the participants are divided into two groups - A and B - of 7 each and those who qualify move on to Round 2. In both the rounds, the participants are required to lift weights in the Snatch and Clean & Jerk categories. In case the lift is not according to the rules laid out, the participant is disqualified. The participants are from 14 different countries. The participants from India, Pakistan, Russia, Canada, Nepal, Sri-Lanka and Brazil are in Group A whereas those from Germany, Iran, Iraq, Bhutan, Japan, China and Spain are in Group B. The table given below shows the weights lifted in the Snatch category by all the 14 participants in Round 1. Seven of them were disqualified in the Clean & Jerk category.

Group A		Group B	
Participant	**Snatch**	**Participant**	**Snatch**
P1	135 kg	P8	130 kg
P2	145 kg	P9	125 kg
P3	136 kg	P10	140 kg
P4	120 kg	P11	140 kg
P5	125 kg	P12	134 kg
P6	140 kg	P13	130 kg
P7	135 kg	P14	120 kg

Further, it is also known that:
(i) In Group A, those from Pakistan, Russia and Brazil were disqualified. One of them lifted the maximum weight in the Snatch category whereas the other two lifted less than 130 kg. In Group B, P13, P14 and those from Iran and Iraq were disqualified.
(ii) Among the qualifiers, P6, who lifted a total of 315 kg was from Nepal while the participant from Canada lifted 171 kg in Clean & Jerk and his total was 307 kg. P7 lifted a total of 300 kg which was 5 kg less than the participant from India, whose Snatch weight was the same as P7.
(iii) P8, who was from Spain, qualified for Round 2 with a total lift of 285 kg. P11, from Bhutan, lifted the same weight in the Clean & Jerk category as the participant from India. The participant from Japan lifted 168 kg in Clean & Jerk and his total was 3 kg less than P1.
(iv) In Round 2, the 7 participants were ranked from 1 to 7 where 1st rank got Gold medal, 2nd rank got Silver medal and 3rd rank was Bronze medal. The total weights lifted in Round 2 by the top four participants were 319 kg, 317 kg, 313 kg and 308 kg.
(v) The one who lifted the maximum weight in Round 1 became the runner up and the participant who increased the weights he lifted by 5 kg and 4 kg in the two categories won the Gold medal.
(vi) The participant who increased the weights he lifted by 13 kg in Round 2 compared to the total lift in Round 1 won the Bronze. The participant who lifted 10 kg more in Round 2 than in Round 1 was ranked last.
(vii) The participants from India and Canada lifted lesser weights in Round 2 than in Round 1. There was no tie in Round 2.

Q.5 [11831809]
Which of the following represents the top three qualifiers in Round 1?

1 ◯ P1, P7, P6

2 ◯ P6, P7, P3

3 ◯ P11, P7, P6

4 ◯ P6, P11, P3

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From condition (i), we can conclude that P2, P4 and P5 are disqualified from Group A.
Let S = Snatch and CJ = Clean & Jerk
From condition (ii), we can conclude the following facts about Group A - Round 1:
P6, who is from Nepal, lifted a total of 315 kg with S = 140 kg and CJ = 175 kg
P3, who is from Canada, lifted a total of 307 kg with S = 136 kg and CJ = 171 kg
P1, who is from India, lifted a total of 305 kg with S = 135 kg and CJ = 170 kg
P7, who is from Sri Lanka, lifted a total of 300 kg with S = 135 kg and CJ = 165 kg
From conditions (i) and (iii), we can conclude the following facts about Group B - Round 1:
P13, P14, P9 and P10 were disqualified.
P8, who is from Spain, lifted a total of 285 kg with S = 130 kg and CJ = 155 kg
P11, who is from Bhutan, lifted a total of 310 kg with S = 140 kg and CJ = 170 kg
P12, who is from Japan, lifted a total of 302 kg with S = 134 kg and CJ = 168 kg
Step 2:
From conditions (iv), (v), (vi) and (vii), we can conclude that:
The winner lifts a total of 319 kg, which is 9 kg more than his total of Round 1. So this can be P11 only.
The one with top rank in Round 1 is P6 from Nepal, who is the runner up.
An improvement of 13 kg for the bronze medal (313 kg) could have been made by none other than P7, who is from Sri-Lanka.
Also, P8, who is from Spain, lifted 295 kg in Round 2.
P1, who is from India lifted less than 305 kg and P3, who is from Canada lifted less than 307 kg.
Hence, the final table can be shown as:

Group	Qualified Participant	Country	Weights lifted in Round 1 (in kg) (S + CJ = Total)	Total Weight lifted in Round 2 (in kg)	Ranking after Round 2
A	P6	Nepal	140 + 175 = 315	317	2
	P3	Canada	136 + 171 = 307	< 307	5/6
	P1	India	135 + 170 = 305	< 305	6/5
	P7	Sri Lanka	135 + 165 = 300	300 + 13 = 313	3
B	P8	Spain	130 + 155 = 285	285 + 10 = 295	7
	P11	Bhutan	140 + 170 = 310	310 + 9 = 319	1
	P12	Japan	134 + 168 = 302	308	4

We can see that at the end of Round 1 the first three ranks are held by P6, P11, P3.

Bookmark FeedBack

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

There are 14 participants at an International Weightlifting Competition in the 73 kg category. There are two rounds - Round 1 and Round 2. In Round 1 the participants are divided into two groups - A and B - of 7 each and those who qualify move on to Round 2. In both the rounds, the participants are required to lift weights in the Snatch and Clean & Jerk categories. In case the lift is not according to the rules laid out, the participant is disqualified. The participants are from 14 different countries. The participants from India, Pakistan, Russia, Canada, Nepal, Sri-Lanka and Brazil are in Group A whereas those from Germany, Iran, Iraq, Bhutan, Japan, China and Spain are in Group B. The table given below shows the weights lifted in the Snatch category by all the 14 participants in Round 1. Seven of them were disqualified in the Clean & Jerk category.

Group A		Group B	
Participant	**Snatch**	**Participant**	**Snatch**
P1	135 kg	P8	130 kg
P2	145 kg	P9	125 kg
P3	136 kg	P10	140 kg
P4	120 kg	P11	140 kg
P5	125 kg	P12	134 kg
P6	140 kg	P13	130 kg
P7	135 kg	P14	120 kg

Further, it is also known that:
(i) In Group A, those from Pakistan, Russia and Brazil were disqualified. One of them lifted the maximum weight in the Snatch category whereas the other two lifted less than 130 kg. In Group B, P13, P14 and those from Iran and Iraq were disqualified.
(ii) Among the qualifiers, P6, who lifted a total of 315 kg was from Nepal while the participant from Canada lifted 171 kg in Clean & Jerk and his total was 307 kg. P7 lifted a total of 300 kg which was 5 kg less than the participant from India, whose Snatch weight was the same as P7.
(iii) P8, who was from Spain, qualified for Round 2 with a total lift of 285 kg. P11, from Bhutan, lifted the same weight in the Clean & Jerk category as the participant from India. The participant from Japan lifted 168 kg in Clean & Jerk and his total was 3 kg less than P1.
(iv) In Round 2, the 7 participants were ranked from 1 to 7 where 1st rank got Gold medal, 2nd rank got Silver medal and 3rd rank was Bronze medal. The total weights lifted in Round 2 by the top four participants were 319 kg, 317 kg, 313 kg and 308 kg.
(v) The one who lifted the maximum weight in Round 1 became the runner up and the participant who increased the weights he lifted by 5 kg and 4 kg in the two categories won the Gold medal.
(vi) The participant who increased the weights he lifted by 13 kg in Round 2 compared to the total lift in Round 1 won the Bronze. The participant who lifted 10 kg more in Round 2 than in Round 1 was ranked last.
(vii) The participants from India and Canada lifted lesser weights in Round 2 than in Round 1. There was no tie in Round 2.

Q.6 [11831809]
Which of the following is not a weight (in kg) lifted by any of the qualifiers in either Snatch or Clean & Jerk categories of Round 1?

1 ◯ 135

2 ◯ 155

3 ◯ 145

4 ◯ 165

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From condition (i), we can conclude that P2, P4 and P5 are disqualified from Group A.
Let S = Snatch and CJ = Clean & Jerk
From condition (ii), we can conclude the following facts about Group A - Round 1:
P6, who is from Nepal, lifted a total of 315 kg with S = 140 kg and CJ = 175 kg
P3, who is from Canada, lifted a total of 307 kg with S = 136 kg and CJ = 171 kg
P1, who is from India, lifted a total of 305 kg with S = 135 kg and CJ = 170 kg
P7, who is from Sri Lanka, lifted a total of 300 kg with S = 135 kg and CJ = 165 kg
From conditions (i) and (iii), we can conclude the following facts about Group B - Round 1:
P13, P14, P9 and P10 were disqualified.
P8, who is from Spain, lifted a total of 285 kg with S = 130 kg and CJ = 155 kg
P11, who is from Bhutan, lifted a total of 310 kg with S = 140 kg and CJ = 170 kg
P12, who is from Japan, lifted a total of 302 kg with S = 134 kg and CJ = 168 kg
Step 2:
From conditions (iv), (v), (vi) and (vii), we can conclude that:
The winner lifts a total of 319 kg, which is 9 kg more than his total of Round 1. So this can be P11 only.
The one with top rank in Round 1 is P6 from Nepal, who is the runner up.
An improvement of 13 kg for the bronze medal (313 kg) could have been made by none other than P7, who is from Sri-Lanka.
Also, P8, who is from Spain, lifted 295 kg in Round 2.
P1, who is from India lifted less than 305 kg and P3, who is from Canada lifted less than 307 kg.
Hence, the final table can be shown as:

Group	Qualified Participant	Country	Weights lifted in Round 1 (in kg) (S + CJ = Total)	Total Weight lifted in Round 2 (in kg)	Ranking after Round 2
A	P6	Nepal	140 + 175 = 315	317	2
	P3	Canada	136 + 171 = 307	< 307	5/6
	P1	India	135 + 170 = 305	< 305	6/5
	P7	Sri Lanka	135 + 165 = 300	300 + 13 = 313	3
B	P8	Spain	130 + 155 = 285	285 + 10 = 295	7
	P11	Bhutan	140 + 170 = 310	310 + 9 = 319	1
	P12	Japan	134 + 168 = 302	308	4

We can see that 145 kg was not lifted by any of the qualifiers.

Bookmark FeedBack

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

There are 14 participants at an International Weightlifting Competition in the 73 kg category. There are two rounds - Round 1 and Round 2. In Round 1 the participants are divided into two groups - A and B - of 7 each and those who qualify move on to Round 2. In both the rounds, the participants are required to lift weights in the Snatch and Clean & Jerk categories. In case the lift is not according to the rules laid out, the participant is disqualified. The participants are from 14 different countries. The participants from India, Pakistan, Russia, Canada, Nepal, Sri-Lanka and Brazil are in Group A whereas those from Germany, Iran, Iraq, Bhutan, Japan, China and Spain are in Group B. The table given below shows the weights lifted in the Snatch category by all the 14 participants in Round 1. Seven of them were disqualified in the Clean & Jerk category.

Group A		Group B	
Participant	**Snatch**	**Participant**	**Snatch**
P1	135 kg	P8	130 kg
P2	145 kg	P9	125 kg
P3	136 kg	P10	140 kg
P4	120 kg	P11	140 kg
P5	125 kg	P12	134 kg
P6	140 kg	P13	130 kg
P7	135 kg	P14	120 kg

Further, it is also known that:
(i) In Group A, those from Pakistan, Russia and Brazil were disqualified. One of them lifted the maximum weight in the Snatch category whereas the other two lifted less than 130 kg. In Group B, P13, P14 and those from Iran and Iraq were disqualified.
(ii) Among the qualifiers, P6, who lifted a total of 315 kg was from Nepal while the participant from Canada lifted 171 kg in Clean & Jerk and his total was 307 kg. P7 lifted a total of 300 kg which was 5 kg less than the participant from India, whose Snatch weight was the same as P7.
(iii) P8, who was from Spain, qualified for Round 2 with a total lift of 285 kg. P11, from Bhutan, lifted the same weight in the Clean & Jerk category as the participant from India. The participant from Japan lifted 168 kg in Clean & Jerk and his total was 3 kg less than P1.
(iv) In Round 2, the 7 participants were ranked from 1 to 7 where 1st rank got Gold medal, 2nd rank got Silver medal and 3rd rank was Bronze medal. The total weights lifted in Round 2 by the top four participants were 319 kg, 317 kg, 313 kg and 308 kg.
(v) The one who lifted the maximum weight in Round 1 became the runner up and the participant who increased the weights he lifted by 5 kg and 4 kg in the two categories won the Gold medal.
(vi) The participant who increased the weights he lifted by 13 kg in Round 2 compared to the total lift in Round 1 won the Bronze. The participant who lifted 10 kg more in Round 2 than in Round 1 was ranked last.
(vii) The participants from India and Canada lifted lesser weights in Round 2 than in Round 1. There was no tie in Round 2.

Q.7 [11831809]
Which 4th ranked participant in Round 2 belonged to

1 ◯ Canada

2 ◯ Sri-Lanka

3 ◯ Japan

4 ◯ Nepal

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From condition (i), we can conclude that P2, P4 and P5 are disqualified from Group A.
Let S = Snatch and CJ = Clean & Jerk
From condition (ii), we can conclude the following facts about Group A - Round 1:
P6, who is from Nepal, lifted a total of 315 kg with S = 140 kg and CJ = 175 kg
P3, who is from Canada, lifted a total of 307 kg with S = 136 kg and CJ = 171 kg
P1, who is from India, lifted a total of 305 kg with S = 135 kg and CJ = 170 kg
P7, who is from Sri Lanka, lifted a total of 300 kg with S = 135 kg and CJ = 165 kg
From conditions (i) and (iii), we can conclude the following facts about Group B - Round 1:
P13, P14, P9 and P10 were disqualified.
P8, who is from Spain, lifted a total of 285 kg with S = 130 kg and CJ = 155 kg
P11, who is from Bhutan, lifted a total of 310 kg with S = 140 kg and CJ = 170 kg
P12, who is from Japan, lifted a total of 302 kg with S = 134 kg and CJ = 168 kg
Step 2:
From conditions (iv), (v), (vi) and (vii), we can conclude that:
The winner lifts a total of 319 kg, which is 9 kg more than his total of Round 1. So this can be P11 only.
The one with top rank in Round 1 is P6 from Nepal, who is the runner up.
An improvement of 13 kg for the bronze medal (313 kg) could have been made by none other than P7, who is from Sri-Lanka.
Also, P8, who is from Spain, lifted 295 kg in Round 2.
P1, who is from India lifted less than 305 kg and P3, who is from Canada lifted less than 307 kg.
Hence, the final table can be shown as:

Group	Qualified Participant	Country	Weights lifted in Round 1 (in kg) (S + CJ = Total)	Total Weight lifted in Round 2 (in kg)	Ranking after Round 2
A	P6	Nepal	140 + 175 = 315	317	2
	P3	Canada	136 + 171 = 307	< 307	5/6
	P1	India	135 + 170 = 305	< 305	6/5
	P7	Sri Lanka	135 + 165 = 300	300 + 13 = 313	3
B	P8	Spain	130 + 155 = 285	285 + 10 = 295	7
	P11	Bhutan	140 + 170 = 310	310 + 9 = 319	1
	P12	Japan	134 + 168 = 302	308	4

Since participants from India and Canada made no improvement in Round 2 we know that the participant with rank 4 who lifted 308 kg can be none other than P12 who is from Japan.

Bookmark FeedBack

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

There are 14 participants at an International Weightlifting Competition in the 73 kg category. There are two rounds - Round 1 and Round 2. In Round 1 the participants are divided into two groups - A and B - of 7 each and those who qualify move on to Round 2. In both the rounds, the participants are required to lift weights in the Snatch and Clean & Jerk categories. In case the lift is not according to the rules laid out, the participant is disqualified. The participants are from 14 different countries. The participants from India, Pakistan, Russia, Canada, Nepal, Sri-Lanka and Brazil are in Group A whereas those from Germany, Iran, Iraq, Bhutan, Japan, China and Spain are in Group B. The table given below shows the weights lifted in the Snatch category by all the 14 participants in Round 1. Seven of them were disqualified in the Clean & Jerk category.

Group A		Group B	
Participant	**Snatch**	**Participant**	**Snatch**
P1	135 kg	P8	130 kg
P2	145 kg	P9	125 kg
P3	136 kg	P10	140 kg
P4	120 kg	P11	140 kg
P5	125 kg	P12	134 kg
P6	140 kg	P13	130 kg
P7	135 kg	P14	120 kg

Further, it is also known that:
(i) In Group A, those from Pakistan, Russia and Brazil were disqualified. One of them lifted the maximum weight in the Snatch category whereas the other two lifted less than 130 kg. In Group B, P13, P14 and those from Iran and Iraq were disqualified.
(ii) Among the qualifiers, P6, who lifted a total of 315 kg was from Nepal while the participant from Canada lifted 171 kg in Clean & Jerk and his total was 307 kg. P7 lifted a total of 300 kg which was 5 kg less than the participant from India, whose Snatch weight was the same as P7.
(iii) P8, who was from Spain, qualified for Round 2 with a total lift of 285 kg. P11, from Bhutan, lifted the same weight in the Clean & Jerk category as the participant from India. The participant from Japan lifted 168 kg in Clean & Jerk and his total was 3 kg less than P1.
(iv) In Round 2, the 7 participants were ranked from 1 to 7 where 1st rank got Gold medal, 2nd rank got Silver medal and 3rd rank was Bronze medal. The total weights lifted in Round 2 by the top four participants were 319 kg, 317 kg, 313 kg and 308 kg.
(v) The one who lifted the maximum weight in Round 1 became the runner up and the participant who increased the weights he lifted by 5 kg and 4 kg in the two categories won the Gold medal.
(vi) The participant who increased the weights he lifted by 13 kg in Round 2 compared to the total lift in Round 1 won the Bronze. The participant who lifted 10 kg more in Round 2 than in Round 1 was ranked last.
(vii) The participants from India and Canada lifted lesser weights in Round 2 than in Round 1. There was no tie in Round 2.

Q.8 [11831809]
Which of these can be the weights (in kg) lifted by the participant from Canada in the Snatch and Clean & Jerk categories of Round 2?

1 ◯ 135, 172

2 ◯ 130, 165

3 ◯ 135, 155

4 ◯ 140, 163

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From condition (i), we can conclude that P2, P4 and P5 are disqualified from Group A.
Let S = Snatch and CJ = Clean & Jerk
From condition (ii), we can conclude the following facts about Group A - Round 1:
P6, who is from Nepal, lifted a total of 315 kg with S = 140 kg and CJ = 175 kg
P3, who is from Canada, lifted a total of 307 kg with S = 136 kg and CJ = 171 kg
P1, who is from India, lifted a total of 305 kg with S = 135 kg and CJ = 170 kg
P7, who is from Sri Lanka, lifted a total of 300 kg with S = 135 kg and CJ = 165 kg
From conditions (i) and (iii), we can conclude the following facts about Group B - Round 1:
P13, P14, P9 and P10 were disqualified.
P8, who is from Spain, lifted a total of 285 kg with S = 130 kg and CJ = 155 kg
P11, who is from Bhutan, lifted a total of 310 kg with S = 140 kg and CJ = 170 kg
P12, who is from Japan, lifted a total of 302 kg with S = 134 kg and CJ = 168 kg
Step 2:
From conditions (iv), (v), (vi) and (vii), we can conclude that:
The winner lifts a total of 319 kg, which is 9 kg more than his total of Round 1. So this can be P11 only.
The one with top rank in Round 1 is P6 from Nepal, who is the runner up.
An improvement of 13 kg for the bronze medal (313 kg) could have been made by none other than P7, who is from Sri-Lanka.
Also, P8, who is from Spain, lifted 295 kg in Round 2.
P1, who is from India lifted less than 305 kg and P3, who is from Canada lifted less than 307 kg.
Hence, the final table can be shown as:

Group	Qualified Participant	Country	Weights lifted in Round 1 (in kg) (S + CJ = Total)	Total Weight lifted in Round 2 (in kg)	Ranking after Round 2
A	P6	Nepal	140 + 175 = 315	317	2
	P3	Canada	136 + 171 = 307	< 307	5/6
	P1	India	135 + 170 = 305	< 305	6/5
	P7	Sri Lanka	135 + 165 = 300	300 + 13 = 313	3
B	P8	Spain	130 + 155 = 285	285 + 10 = 295	7
	P11	Bhutan	140 + 170 = 310	310 + 9 = 319	1
	P12	Japan	134 + 168 = 302	308	4

Let us go by the options:
1. (135, 172): The total weight is 307 kg which is more than 305 kg. This cannot be true as the participant from Canada does not show improvement in Round 2.
2. (130, 165): The total weight is 295 kg which is the total for P8 from Spain.
3. (135, 155): The total is lesser than 290 kg which cannot happen as P8 is last.
4. (140, 163): This may be the total weight (303 kg) for the participant from Canada.
Hence, option (4) is the correct answer.

Bookmark FeedBack

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

There are 14 participants at an International Weightlifting Competition in the 73 kg category. There are two rounds - Round 1 and Round 2. In Round 1 the participants are divided into two groups - A and B - of 7 each and those who qualify move on to Round 2. In both the rounds, the participants are required to lift weights in the Snatch and Clean & Jerk categories. In case the lift is not according to the rules laid out, the participant is disqualified. The participants are from 14 different countries. The participants from India, Pakistan, Russia, Canada, Nepal, Sri-Lanka and Brazil are in Group A whereas those from Germany, Iran, Iraq, Bhutan, Japan, China and Spain are in Group B. The table given below shows the weights lifted in the Snatch category by all the 14 participants in Round 1. Seven of them were disqualified in the Clean & Jerk category.

Group A		Group B	
Participant	**Snatch**	**Participant**	**Snatch**
P1	135 kg	P8	130 kg
P2	145 kg	P9	125 kg
P3	136 kg	P10	140 kg
P4	120 kg	P11	140 kg
P5	125 kg	P12	134 kg
P6	140 kg	P13	130 kg
P7	135 kg	P14	120 kg

Further, it is also known that:
(i) In Group A, those from Pakistan, Russia and Brazil were disqualified. One of them lifted the maximum weight in the Snatch category whereas the other two lifted less than 130 kg. In Group B, P13, P14 and those from Iran and Iraq were disqualified.
(ii) Among the qualifiers, P6, who lifted a total of 315 kg was from Nepal while the participant from Canada lifted 171 kg in Clean & Jerk and his total was 307 kg. P7 lifted a total of 300 kg which was 5 kg less than the participant from India, whose Snatch weight was the same as P7.
(iii) P8, who was from Spain, qualified for Round 2 with a total lift of 285 kg. P11, from Bhutan, lifted the same weight in the Clean & Jerk category as the participant from India. The participant from Japan lifted 168 kg in Clean & Jerk and his total was 3 kg less than P1.
(iv) In Round 2, the 7 participants were ranked from 1 to 7 where 1st rank got Gold medal, 2nd rank got Silver medal and 3rd rank was Bronze medal. The total weights lifted in Round 2 by the top four participants were 319 kg, 317 kg, 313 kg and 308 kg.
(v) The one who lifted the maximum weight in Round 1 became the runner up and the participant who increased the weights he lifted by 5 kg and 4 kg in the two categories won the Gold medal.
(vi) The participant who increased the weights he lifted by 13 kg in Round 2 compared to the total lift in Round 1 won the Bronze. The participant who lifted 10 kg more in Round 2 than in Round 1 was ranked last.
(vii) The participants from India and Canada lifted lesser weights in Round 2 than in Round 1. There was no tie in Round 2.

Q.9 [11831809]

If in Round 2, P1 lifted the same weight in the Snatch category as he did in Round 1, then which of the following could represent the range of weights (in kg) that could have been lifted by him in the Clean & Jerk category of Round 2? (Weights have integral values.)

1 ◯ 161 to 169

2 ◯ 165 to 170

3 ◯ 155 to 170

4 ◯ 160 to 169

Solution:
Correct Answer : 1

Answer key/Solution

Step 1:
From condition (i), we can conclude that P2, P4 and P5 are disqualified from Group A.
Let S = Snatch and CJ = Clean & Jerk
From condition (ii), we can conclude the following facts about Group A - Round 1:
P6, who is from Nepal, lifted a total of 315 kg with S = 140 kg and CJ = 175 kg
P3, who is from Canada, lifted a total of 307 kg with S = 136 kg and CJ = 171 kg
P1, who is from India, lifted a total of 305 kg with S = 135 kg and CJ = 170 kg
P7, who is from Sri Lanka, lifted a total of 300 kg with S = 135 kg and CJ = 165 kg
From conditions (i) and (iii), we can conclude the following facts about Group B - Round 1:
P13, P14, P9 and P10 were disqualified.
P8, who is from Spain, lifted a total of 285 kg with S = 130 kg and CJ = 155 kg
P11, who is from Bhutan, lifted a total of 310 kg with S = 140 kg and CJ = 170 kg
P12, who is from Japan, lifted a total of 302 kg with S = 134 kg and CJ = 168 kg
Step 2:
From conditions (iv), (v), (vi) and (vii), we can conclude that:
The winner lifts a total of 319 kg, which is 9 kg more than his total of Round 1. So this can be P11 only.
The one with top rank in Round 1 is P6 from Nepal, who is the runner up.
An improvement of 13 kg for the bronze medal (313 kg) could have been made by none other than P7, who is from Sri-Lanka.
Also, P8, who is from Spain, lifted 295 kg in Round 2.
P1, who is from India lifted less than 305 kg and P3, who is from Canada lifted less than 307 kg.
Hence, the final table can be shown as:

Group	Qualified Participant	Country	Weights lifted in Round 1 (in kg) (S + CJ = Total)	Total Weight lifted in Round 2 (in kg)	Ranking after Round 2
A	P6	Nepal	140 + 175 = 315	317	2
	P3	Canada	136 + 171 = 307	< 307	5/6
	P1	India	135 + 170 = 305	< 305	6/5
	P7	Sri Lanka	135 + 165 = 300	300 + 13 = 313	3
B	P8	Spain	130 + 155 = 285	285 + 10 = 295	7
	P11	Bhutan	140 + 170 = 310	310 + 9 = 319	1
	P12	Japan	134 + 168 = 302	308	4

According to the question P1 lifted 135 kg in the Snatch category of Round 2. Since he showed no improvement his total weight in Round 2 has to be less than 305 kg. Also, P1 could not have lifted equal to or less than 295 kg as that was the weight lifted by P8, who is last. Hence, the weight lifted by P1 in the Clean & Jerk category of Round 2 has to be from 161 kg to 169 kg.

Bookmark FeedBack

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

There are 14 participants at an International Weightlifting Competition in the 73 kg category. There are two rounds - Round 1 and Round 2. In Round 1 the participants are divided into two groups - A and B - of 7 each and those who qualify move on to Round 2. In both the rounds, the participants are required to lift weights in the Snatch and Clean & Jerk categories. In case the lift is not according to the rules laid out, the participant is disqualified. The participants are from 14 different countries. The participants from India, Pakistan, Russia, Canada, Nepal, Sri-Lanka and Brazil are in Group A whereas those from Germany, Iran, Iraq, Bhutan, Japan, China and Spain are in Group B. The table given below shows the weights lifted in the Snatch category by all the 14 participants in Round 1. Seven of them were disqualified in the Clean & Jerk category.

Group A		Group B	
Participant	**Snatch**	**Participant**	**Snatch**
P1	135 kg	P8	130 kg
P2	145 kg	P9	125 kg
P3	136 kg	P10	140 kg
P4	120 kg	P11	140 kg
P5	125 kg	P12	134 kg
P6	140 kg	P13	130 kg
P7	135 kg	P14	120 kg

Further, it is also known that:
(i) In Group A, those from Pakistan, Russia and Brazil were disqualified. One of them lifted the maximum weight in the Snatch category whereas the other two lifted less than 130 kg. In Group B, P13, P14 and those from Iran and Iraq were disqualified.
(ii) Among the qualifiers, P6, who lifted a total of 315 kg was from Nepal while the participant from Canada lifted 171 kg in Clean & Jerk and his total was 307 kg. P7 lifted a total of 300 kg which was 5 kg less than the participant from India, whose Snatch weight was the same as P7.
(iii) P8, who was from Spain, qualified for Round 2 with a total lift of 285 kg. P11, from Bhutan, lifted the same weight in the Clean & Jerk category as the participant from India. The participant from Japan lifted 168 kg in Clean & Jerk and his total was 3 kg less than P1.
(iv) In Round 2, the 7 participants were ranked from 1 to 7 where 1st rank got Gold medal, 2nd rank got Silver medal and 3rd rank was Bronze medal. The total weights lifted in Round 2 by the top four participants were 319 kg, 317 kg, 313 kg and 308 kg.
(v) The one who lifted the maximum weight in Round 1 became the runner up and the participant who increased the weights he lifted by 5 kg and 4 kg in the two categories won the Gold medal.
(vi) The participant who increased the weights he lifted by 13 kg in Round 2 compared to the total lift in Round 1 won the Bronze. The participant who lifted 10 kg more in Round 2 than in Round 1 was ranked last.
(vii) The participants from India and Canada lifted lesser weights in Round 2 than in Round 1. There was no tie in Round 2.

Q.10 [11831809]
What was Spain's rank in Round 2?

Solution:
Correct Answer : 7

Answer key/Solution

Step 1:
From condition (i), we can conclude that P2, P4 and P5 are disqualified from Group A.
Let S = Snatch and CJ = Clean & Jerk
From condition (ii), we can conclude the following facts about Group A - Round 1:
P6, who is from Nepal, lifted a total of 315 kg with S = 140 kg and CJ = 175 kg
P3, who is from Canada, lifted a total of 307 kg with S = 136 kg and CJ = 171 kg
P1, who is from India, lifted a total of 305 kg with S = 135 kg and CJ = 170 kg
P7, who is from Sri Lanka, lifted a total of 300 kg with S = 135 kg and CJ = 165 kg
From conditions (i) and (iii), we can conclude the following facts about Group B - Round 1:
P13, P14, P9 and P10 were disqualified.
P8, who is from Spain, lifted a total of 285 kg with S = 130 kg and CJ = 155 kg
P11, who is from Bhutan, lifted a total of 310 kg with S = 140 kg and CJ = 170 kg
P12, who is from Japan, lifted a total of 302 kg with S = 134 kg and CJ = 168 kg
Step 2:
From conditions (iv), (v), (vi) and (vii), we can conclude that:
The winner lifts a total of 319 kg, which is 9 kg more than his total of Round 1. So this can be P11 only.
The one with top rank in Round 1 is P6 from Nepal, who is the runner up.
An improvement of 13 kg for the bronze medal (313 kg) could have been made by none other than P7, who is from Sri-Lanka.
Also, P8, who is from Spain, lifted 295 kg in Round 2.
P1, who is from India lifted less than 305 kg and P3, who is from Canada lifted less than 307 kg.
Hence, the final table can be shown as:

Group	Qualified Participant	Country	Weights lifted in Round 1 (in kg) (S + CJ = Total)	Total Weight lifted in Round 2 (in kg)	Ranking after Round 2
A	P6	Nepal	140 + 175 = 315	317	2
	P3	Canada	136 + 171 = 307	< 307	5/6
	P1	India	135 + 170 = 305	< 305	6/5
	P7	Sri Lanka	135 + 165 = 300	300 + 13 = 313	3
B	P8	Spain	130 + 155 = 285	285 + 10 = 295	7
	P11	Bhutan	140 + 170 = 310	310 + 9 = 319	1
	P12	Japan	134 + 168 = 302	308	4

Span's rank in Round 2 was 7.

Bookmark FeedBack

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

The table given below shows data about Chips and Electric Vehicle Batteries (EVBs) manufactured by ABC Company Limited in 8 months from January to August. Some of the Chips and EVBs manufactured in a particular month were consumed domestically and the remaining was exported in the same month. The 2nd column of the table provides the total number of Chips and EVBs manufactured by the company in each of the given 8 months. Similarly, the 3rd column shows the number of Chips consumed domestically; and the 4th column shows number of EVBs exported as a percentage of number of EBVs consumed domestically.

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	No. of EVBs exported as a % of No. of EVBs Consumed Domestically
January	360	50	12.5%
February	420	60	25%
March	400	100	20%
April	500	125	40%
May	450	80	50%
June	400	150	40%
July	600	250	10%
August	800	300	25%

Q.11 [11831809]

If the number of EVBs manufactured in January, March, and August each are equal to N, then how many values of N are possible?

Solution:
Correct Answer : 3

Answer key/Solution

From the given information, the table can be shown as:

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	Export of EVBs	EVBs Manufactured	Domestic Consumption of EVBs
January	360	50	k1	9k1	8k1
February	420	60	k2	5k2	4k2
March	400	100	k3	6k3	5k3
April	500	125	2k4	7k4	5k4
May	450	80	k5	3k5	2k5
June	400	150	2k6	7k6	5k6
July	600	250	k7	11k7	10k7
August	800	300	k8	5k8	4k8

If the number of EVBs manufactured in January, March and August each is equal to N, then N must be the LCM of
(9, 6, 5) = 90 or any multiple of 90 (i.e., 180, 270).
Hence, 3 values of N are possible.

Bookmark FeedBack

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

The table given below shows data about Chips and Electric Vehicle Batteries (EVBs) manufactured by ABC Company Limited in 8 months from January to August. Some of the Chips and EVBs manufactured in a particular month were consumed domestically and the remaining was exported in the same month. The 2nd column of the table provides the total number of Chips and EVBs manufactured by the company in each of the given 8 months. Similarly, the 3rd column shows the number of Chips consumed domestically; and the 4th column shows number of EVBs exported as a percentage of number of EBVs consumed domestically.

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	No. of EVBs exported as a % of No. of EVBs Consumed Domestically
January	360	50	12.5%
February	420	60	25%
March	400	100	20%
April	500	125	40%
May	450	80	50%
June	400	150	40%
July	600	250	10%
August	800	300	25%

Q.12 [11831809]

The ratio of number of EVBs exported to that of number of Chips exported in July cannot be

1 ◯ 1 : 3

2 ◯ 4 : 5

3 ◯ 3 : 2

4 ◯ 2 : 3

Solution:
Correct Answer : 2

Answer key/Solution

From the given information, the table can be shown as:

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	Export of EVBs	EVBs Manufactured	Domestic Consumption of EVBs
January	360	50	k1	9k1	8k1
February	420	60	k2	5k2	4k2
March	400	100	k3	6k3	5k3
April	500	125	2k4	7k4	5k4
May	450	80	k5	3k5	2k5
June	400	150	2k6	7k6	5k6
July	600	250	k7	11k7	10k7
August	800	300	k8	5k8	4k8

Using the options:
Option (1): k7/(600 – 250 – 11k7) = 1/3
⇒ 3k7 = 350 – 11k7
⇒ k7 = 25
Option (3): k7/(600 – 250 – 11k7) = 3/2
⇒ 2k7 = 1050 – 33k7
⇒ k7 = 30
Option (4): k7/(600 – 250 – 11k7) = 2/3
⇒ 3k7 = 700 – 22k7
⇒ k7 = 28
Option (2): k7/(600 – 250 – 11k7) = 4/5
⇒ 5k7 = 1400 – 44k7
⇒ k7 = 200/7 which is not an integer.
Hence, option (2) is the correct answer.

Bookmark FeedBack

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

The table given below shows data about Chips and Electric Vehicle Batteries (EVBs) manufactured by ABC Company Limited in 8 months from January to August. Some of the Chips and EVBs manufactured in a particular month were consumed domestically and the remaining was exported in the same month. The 2nd column of the table provides the total number of Chips and EVBs manufactured by the company in each of the given 8 months. Similarly, the 3rd column shows the number of Chips consumed domestically; and the 4th column shows number of EVBs exported as a percentage of number of EBVs consumed domestically.

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	No. of EVBs exported as a % of No. of EVBs Consumed Domestically
January	360	50	12.5%
February	420	60	25%
March	400	100	20%
April	500	125	40%
May	450	80	50%
June	400	150	40%
July	600	250	10%
August	800	300	25%

Q.13 [11831809]

For how many of the given 8 months, the number of Chips exported cannot be zero?

1 ◯ 2

2 ◯ 3

3 ◯ 4

4 ◯ More than 4

Solution:
Correct Answer : 4

Answer key/Solution

From the given information, the table can be shown as:

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	Export of EVBs	EVBs Manufactured	Domestic Consumption of EVBs
January	360	50	k1	9k1	8k1
February	420	60	k2	5k2	4k2
March	400	100	k3	6k3	5k3
April	500	125	2k4	7k4	5k4
May	450	80	k5	3k5	2k5
June	400	150	2k6	7k6	5k6
July	600	250	k7	11k7	10k7
August	800	300	k8	5k8	4k8

Number of Chips exported:
January = 360 – 50 – 9k1 = 310 – 9k1
February = 420 – 60 – 5k2 = 360 – 5k2
March = 400 – 100 – 6k3 = 300 – 6k3
April = 500 – 125 – 7k4 = 375 – 7k4
May = 450 – 80 – 3k5 = 370 – 3k5
June = 400 – 150 – 7k6 = 250 – 7k6
July = 600 – 250 – 11k7 = 350 – 11k7
August = 800 – 300 – 5k8 = 500 – 5k8

Hence, the number of Chips exported only for January, April, May, June and July cannot be zero.

Bookmark FeedBack

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

The table given below shows data about Chips and Electric Vehicle Batteries (EVBs) manufactured by ABC Company Limited in 8 months from January to August. Some of the Chips and EVBs manufactured in a particular month were consumed domestically and the remaining was exported in the same month. The 2nd column of the table provides the total number of Chips and EVBs manufactured by the company in each of the given 8 months. Similarly, the 3rd column shows the number of Chips consumed domestically; and the 4th column shows number of EVBs exported as a percentage of number of EBVs consumed domestically.

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	No. of EVBs exported as a % of No. of EVBs Consumed Domestically
January	360	50	12.5%
February	420	60	25%
March	400	100	20%
April	500	125	40%
May	450	80	50%
June	400	150	40%
July	600	250	10%
August	800	300	25%

Q.14 [11831809]

If the number of EVBs consumed domestically is same in each of the given eight months, then what is the minimum number of Chips exported in April?

1 ◯ 39

2 ◯ 95

3 ◯ 151

4 ◯ 207

Solution:
Correct Answer : 3

Answer key/Solution

From the given information, the table can be shown as:

	Total Chips and EVBs Manufactured	Domestic Consumption of Chips	Export of EVBs	EVBs Manufactured	Domestic Consumption of EVBs
January	360	50	k1	9k1	8k1
February	420	60	k2	5k2	4k2
March	400	100	k3	6k3	5k3
April	500	125	2k4	7k4	5k4
May	450	80	k5	3k5	2k5
June	400	150	2k6	7k6	5k6
July	600	250	k7	11k7	10k7
August	800	300	k8	5k8	4k8

If the number of EVBs consumed domestically is same in each of the given eight months, then the number must be the LCM of (2, 4, 5, 8, 10) = 40 or any multiple of 40 (i.e., 80, 120, 160, 200, 240, 280). To minimize the number of Chips that was exported.
In April, if 40, 80, 120, 160, 200, 240, 280, EVBs consumed domestically, the number of EVBs manufactured will be 56, 112, 168, 224, 280, 336, 392.
So number of Chips manufactured will be 444, 388, 332, 276, 220, 164, 108.
Since 125 Chips consumed domestically, so number of Chips manufactured cannot be 108.
Also, in June 150 Chips consumed domestically, so the number of Chips manufactured cannot be 120, 64 and 8.
So in April the number of Chips manufactured cannot be 220, 164 and 108.
Hence, the required minimum number of Chips exported in April = 276 – 125 = 151.

Bookmark FeedBack

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

Five production houses - P, Q, R, S and T - that produced five prime-time shows have participated at the Sitara TV awards. Each production house produced only one show. The names of the prime-time shows that entered the competition for the awards were Aarohi, Barrister, Chandragupta, Deewane and Ehsaas, not necessarily in the same order. Each show won an award under one of the following categories - Best Actor Male, Best Actor Female, Best Director, Best Screenplay and Best Cinematography. Only one show won the award under each category. Also, each show received an overall ranking from 1 (best) to 5 (worst) for the Best Show category and there were no ties.
Further, it is also known that:
(i) The overall ranking for the winner of the Best Screenplay award was immediately above the show produced by Q productions, which was not Chandragupta.
(ii) Deewane was ranked immediately above Q's show, which was not the winner under Best Actor Male category.
(iii) Barrister was ranked immediately above the winner of the Best Cinematography award and immediately below the show produced by R production house.
(iv) The overall rank of Ehsaas immediately above the winner of the Best Actor Male category and immediately below the winner of the Best Screenplay award.
(v) Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.
(vi) The winner under the Best Actor Male category was neither Barrister nor was it produced by T production house.

Q.15 [11831809]
S production house won the award under which category?

1 ◯ Best Screenplay

2 ◯ Best Cinematography

3 ◯ Best Actor Male

4 ◯ Best Director

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From conditions (i) and (ii),

	Deewane	Best Screenplay
Q	Ehsaas	
		Best Actor Male

From conditions (iii) and (vi),

R		
× T	Barrister	Best Director / Best Actor Female
		Best Cinematography

From condition (v), Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.

		Best Actor Male
	Aarohi	
S	Chandragupta	

So Aarohi can be above or below Barrister.

Step 2:
From the given conditions, Barrister could have won the Best Actor Female or Best Director but not Best Actor Male. So Aarohi is not immediately below Barrister.
From the given conditions, the final table can be shown as:

Production house	Show	Award won	Overall Rank
P / T	Deewane	Best Screenplay	1
Q	Ehsaas	Best Actor Female	2
R	Aarohi	Best Actor Male	3
S	Barrister	Best Director	4
T / P	Chandragupta	Best Cinematography	5

We can see clearly from the table that S production house won the Best Director award for Barrister.

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

Five production houses - P, Q, R, S and T - that produced five prime-time shows have participated at the Sitara TV awards. Each production house produced only one show. The names of the prime-time shows that entered the competition for the awards were Aarohi, Barrister, Chandragupta, Deewane and Ehsaas, not necessarily in the same order. Each show won an award under one of the following categories - Best Actor Male, Best Actor Female, Best Director, Best Screenplay and Best Cinematography. Only one show won the award under each category. Also, each show received an overall ranking from 1 (best) to 5 (worst) for the Best Show category and there were no ties.
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(v) Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.
(vi) The winner under the Best Actor Male category was neither Barrister nor was it produced by T production house.

Q.16 [11831809]
Which of the following shows was the winner of the Best Show Category?

1 ◯ Aarohi

2 ◯ Deewane

3 ◯ Chandragupta

4 ◯ Barrister

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
From conditions (i) and (ii),

	Deewane	Best Screenplay
Q	Ehsaas	
		Best Actor Male

From conditions (iii) and (vi),

R		
× T	Barrister	Best Director / Best Actor Female
		Best Cinematography

From condition (v), Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.

		Best Actor Male
	Aarohi	
S	Chandragupta	

So Aarohi can be above or below Barrister.

Step 2:
From the given conditions, Barrister could have won the Best Actor Female or Best Director but not Best Actor Male. So Aarohi is not immediately below Barrister.
From the given conditions, the final table can be shown as:

Production house	Show	Award won	Overall Rank
P / T	Deewane	Best Screenplay	1
Q	Ehsaas	Best Actor Female	2
R	Aarohi	Best Actor Male	3
S	Barrister	Best Director	4
T / P	Chandragupta	Best Cinematography	5

We can see clearly from the table that the overall rank for Deewane was 1, so it was the winner under the Best Show category.

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Five production houses - P, Q, R, S and T - that produced five prime-time shows have participated at the Sitara TV awards. Each production house produced only one show. The names of the prime-time shows that entered the competition for the awards were Aarohi, Barrister, Chandragupta, Deewane and Ehsaas, not necessarily in the same order. Each show won an award under one of the following categories - Best Actor Male, Best Actor Female, Best Director, Best Screenplay and Best Cinematography. Only one show won the award under each category. Also, each show received an overall ranking from 1 (best) to 5 (worst) for the Best Show category and there were no ties.
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(v) Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.
(vi) The winner under the Best Actor Male category was neither Barrister nor was it produced by T production house.

Q.17 [11831809]
Which production house among the following got the award under Best Actor Male category?

1 ◯ P

2 ◯ Q

3 ◯ R

4 ◯ T

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From conditions (i) and (ii),

	Deewane	Best Screenplay
Q	Ehsaas	
		Best Actor Male

From conditions (iii) and (vi),

R		
× T	Barrister	Best Director / Best Actor Female
		Best Cinematography

From condition (v), Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.

		Best Actor Male
	Aarohi	
S	Chandragupta	

So Aarohi can be above or below Barrister.

Step 2:
From the given conditions, Barrister could have won the Best Actor Female or Best Director but not Best Actor Male. So Aarohi is not immediately below Barrister.
From the given conditions, the final table can be shown as:

Production house	Show	Award won	Overall Rank
P / T	Deewane	Best Screenplay	1
Q	Ehsaas	Best Actor Female	2
R	Aarohi	Best Actor Male	3
S	Barrister	Best Director	4
T / P	Chandragupta	Best Cinematography	5

R Production house won the Best Actor Male award for its show Aarohi.

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

Five production houses - P, Q, R, S and T - that produced five prime-time shows have participated at the Sitara TV awards. Each production house produced only one show. The names of the prime-time shows that entered the competition for the awards were Aarohi, Barrister, Chandragupta, Deewane and Ehsaas, not necessarily in the same order. Each show won an award under one of the following categories - Best Actor Male, Best Actor Female, Best Director, Best Screenplay and Best Cinematography. Only one show won the award under each category. Also, each show received an overall ranking from 1 (best) to 5 (worst) for the Best Show category and there were no ties.
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(v) Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.
(vi) The winner under the Best Actor Male category was neither Barrister nor was it produced by T production house.

Q.18 [11831809]
Which of the following shows was produced by T production house?

1 ◯ Chandragupta

2 ◯ Ehsaas

3 ◯ Deewane

4 ◯ Either (1) or (3)

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From conditions (i) and (ii),

	Deewane	Best Screenplay
Q	Ehsaas	
		Best Actor Male

From conditions (iii) and (vi),

R		
× T	Barrister	Best Director / Best Actor Female
		Best Cinematography

From condition (v), Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.

		Best Actor Male
	Aarohi	
S	Chandragupta	

So Aarohi can be above or below Barrister.

Step 2:
From the given conditions, Barrister could have won the Best Actor Female or Best Director but not Best Actor Male. So Aarohi is not immediately below Barrister.
From the given conditions, the final table can be shown as:

Production house	Show	Award won	Overall Rank
P / T	Deewane	Best Screenplay	1
Q	Ehsaas	Best Actor Female	2
R	Aarohi	Best Actor Male	3
S	Barrister	Best Director	4
T / P	Chandragupta	Best Cinematography	5

Either Chandragupta or Deewane was produced by T Production house.

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

Five production houses - P, Q, R, S and T - that produced five prime-time shows have participated at the Sitara TV awards. Each production house produced only one show. The names of the prime-time shows that entered the competition for the awards were Aarohi, Barrister, Chandragupta, Deewane and Ehsaas, not necessarily in the same order. Each show won an award under one of the following categories - Best Actor Male, Best Actor Female, Best Director, Best Screenplay and Best Cinematography. Only one show won the award under each category. Also, each show received an overall ranking from 1 (best) to 5 (worst) for the Best Show category and there were no ties.
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(v) Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.
(vi) The winner under the Best Actor Male category was neither Barrister nor was it produced by T production house.

Q.19 [11831809]
What was the rank under Best Show category for the show that won the Best Director award?

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From conditions (i) and (ii),

	Deewane	Best Screenplay
Q	Ehsaas	
		Best Actor Male

From conditions (iii) and (vi),

R		
× T	Barrister	Best Director / Best Actor Female
		Best Cinematography

From condition (v), Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.

		Best Actor Male
	Aarohi	
S	Chandragupta	

So Aarohi can be above or below Barrister.

Step 2:
From the given conditions, Barrister could have won the Best Actor Female or Best Director but not Best Actor Male. So Aarohi is not immediately below Barrister.
From the given conditions, the final table can be shown as:

Production house	Show	Award won	Overall Rank
P / T	Deewane	Best Screenplay	1
Q	Ehsaas	Best Actor Female	2
R	Aarohi	Best Actor Male	3
S	Barrister	Best Director	4
T / P	Chandragupta	Best Cinematography	5

The rank under Best Show category for the show that won the Best Director award was 4.

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(vi) The winner under the Best Actor Male category was neither Barrister nor was it produced by T production house.

Q.20 [11831809]

Which of the following combinations of Show and Award is correctly matched?
I. Aarohi - Best Screenplay
II. Deewane - Best Actor Female
III. Ehsaas - Best Actor Male
IV. Barrister - Best Director
V. Chandragupta - Best Cinematography

1 ◯ II & III only

2 ◯ II & V only

3 ◯ IV & V only

4 ◯ I & II only

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From conditions (i) and (ii),

	Deewane	Best Screenplay
Q	Ehsaas	
		Best Actor Male

From conditions (iii) and (vi),

R		
× T	Barrister	Best Director / Best Actor Female
		Best Cinematography

From condition (v), Aarohi was ranked immediately below the show that won under the Best Actor Female category and immediately above the show produced by S production house, which was not Chandragupta.

		Best Actor Male
	Aarohi	
S	Chandragupta	

So Aarohi can be above or below Barrister.

Step 2:
From the given conditions, Barrister could have won the Best Actor Female or Best Director but not Best Actor Male. So Aarohi is not immediately below Barrister.
From the given conditions, the final table can be shown as:

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R	Aarohi	Best Actor Male	3
S	Barrister	Best Director	4
T / P	Chandragupta	Best Cinematography	5

Barrister won the award for Best Director and Chandragupta won the award for Best Cinematography.
Hence, option (3) is correct.

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