Games & Tournaments - 2

Career Launcher

LRDI - 11

CEX-D-0283/18

Number of Questions : 25

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

The year was 2006. All six teams in Pool A of World Cup hockey, play each other exactly once. Each win earns a team three points, a draw earns one point and a loss earns zero points. The two teams with the highest points qualify for the semifinals. In case of a tie, the team with the highest goal difference (Goal For - Goals Against) qualifies.
In the opening match, Spain lost to Germany. After the second round (after each team played two matches), the pool table looked as shown below.

Pool A

Teams	Games Played	Won	Drawn	Lost	Goals For	Goals Against	Points
Germany	2	2	0	0	3	1	6
Argentina	2	2	0	0	2	0	6
Spain	2	1	0	1	5	2	3
Pakistan	2	1	0	1	2	1	3
New Zealand	2	0	0	2	1	6	0
South Africa	2	0	0	2	1	4	0

In the third round, Spain played Pakistan, Argentina played Germany, and New Zealand played South Africa. All the third round matches were drawn. The following are some results from the fourth and fifth round matches

(a) Spain won both the fourth and fifth round matches.
(b) Both Argentina and Germany won their fifth round matches by 3 goals to 0.
(c) Pakistan won both the fourth and fifth round matches by 1 goal to 0.

1. Which one of the following statements is true about matches played in the first two rounds?
(1) Germany beat New Zealand by 1 goal to 0. (2) Spain beat New Zealand by 4 goals to 0.
(3) Spain beat South Africa by 2 goals to 0. (4) Germany beat South Africa by 2 goals to 1.

2. Which one of the following statements is true about matches played in the first two rounds?
(1) Pakistan beat South Africa by 2 goals to 1. (2) Argentina beat Pakistan by 1 goal to 0.
(3) Germany beat Pakistan by 2 goals to 1. (4) Germany beat Spain by 2 goals to 1.

3. If Pakistan qualified as one of the two teams from Pool A, which was the other team that qualified?
(1) Argentina (2) Germany (3) Spain (4) Cannot be determined

4. Which team finished at the top of the pool after five rounds of matches?
(1) Argentina (2) Germany (3) Spain (4) Cannot be determined

Directions for questions 5 to 7: Answer the questions on the basis of the information given below.

Data on an ongoing football league of a country is given below. 20 teams are playing in the league. The rules of the league are as follows:

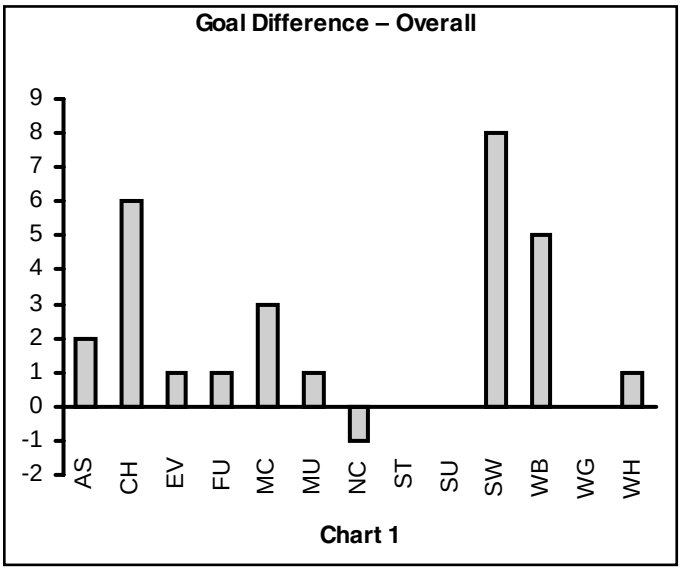
1. Each team plays all the other teams twice, once in its home ground, and once in the opponent's home ground.
These matches are known as the "Home" match and the "Away" match respectively.
2. A win results in 3 points, a draw in 1 point, and a loss in 0 point for team.
3. The number of goals a team scores is termed as "Goals For" and the number of goals it concedes is termed as "Goals Against". We get the "Goal Difference" by subtracting "Goals Against" from "Goals For".
The ranking of the teams is decided on the total points. If two teams are tied on their total points, the team which has higher Goal Difference gets the higher rank. If the tie cannot be resolved on Goal Difference, Goals For is checked followed by Goals Against. If the tie persists, the teams are ranked in the ascending order of their names.
Table 1 provides data on the current top 13 teams based on the overall situation, i.e., by taking into account both home matches and away matches of each team.
Table 2 provide data on the current top 13 teams based on home matches only.
Chart 1 provides a plot of the goal difference of each of the 13 teams based on the overall situation.

Overall				
Team	**M**	**W**	**D**	**GF**
CH	3	3	0	8
SW	3	2	1	10
WB	3	2	1	6
MC	3	2	1	8
MU	3	2	0	6
WH	3	2	0	4
EV	3	2	0	4
AS	3	1	2	2
WG	3	1	1	4
NC	3	1	1	3
FU	3	1	0	7
ST	3	0	3	3
SU	2	0	2	2

Table 1

Home					
Team	**M**	**W**	**D**	**GF**	**GA**
WB	W	2	0	5	0
WH	2	2	0	4	0
CH	2	2	0	6	2
MC	2	2	0	6	3
SW	2	1	1	5	2
NC	2	1	1	3	2
FU	1	1	0	5	0
EV	1	1	0	1	0
MU	1	1	0	3	2
TOT	2	0	2	2	2
NW	1	0	1	1	1
AS	1	0	1	0	0
ST	1	0	1	0	0

Table 2



5. Considering away matches only, the least number of teams with either 0 or 1 point is:
   (1) 2
   (2) 3
   (3) 4
   (4) 5

6. Let us define a term *pos* as the difference between "home rank" and "away rank". Which of the following has the maximum value of *pos*?
   (1) AS
   (2) WB
   (3) WH
   (4) MC

7. How many unique values of goal difference are there for away matches?
   (1) 5
   (2) 6
   (3) ≥ 6
   (4) ≥ 6 and ≤ 13

Directions for questions 8 to 12: Answer the questions on the basis of the information given below.

The following table gives the National Football League (NFL) 2008 standings as on April 30, 2008. In the format of NFL, each of the 12 participating teams plays twice with every other team. The League matches were to conclude by May 31, 2008. The rank of the team in the league is decided by the points scored by the team — the higher the points, the better the rank. If two teams are tied at the same points, then the team with the higher goal difference (goals scored – goals conceded) gets the better rank. If they are still tied, the team with the higher number of goals scored gets a better rank. Three points are awarded to the winning team and one point is awarded to both the teams in a drawn match. No point is awarded to the loosing team.

League Standings

Teams	P	W	D	L	F	A	Pts
Sporting Club	21	14	3	4	45	20	45
Dempo	20	13	5	2	25	15	44
East Bengal	20	12	4	4	31	12	40
Mahindra	21	7	11	3	26	20	32
Fransa	21	8	6	7	24	24	30
JCT Mills	21	7	7	7	19	17	28
Salgaocar	21	6	7	8	24	24	25
Churchill Bros	21	5	7	9	22	32	22
Mohun Bagan	21	5	7	9	15	18	22
Vasco	21	4	5	12	22	36	17
Tollygunge	21	3	8	10	20	43	17
SBT	21	3	6	12	22	34	15

Note: P = Played, W=Won, D=Drawn, L=Lost, F = Goals scored, A = Goals conceded, Pts=Points

8. How many teams can win the Championship?

9. If East Bengal won the NFL Championship in 2008, then which of the following events have necessarily happened?
   (1) East Bengal won the remaining two matches.
   (2) Sporting Club lost the remaining match.
   (3) Dempo drawn at least one of its remaining matches.
   (4) Dempo lost both the remaining matches.

10. For which group of ranks in the NFL 2008 can you conclude the names of the teams in that group?
(1) Top 3 ranks (2) Bottom 3 ranks
(3) Ranks 4 to 6 (4) Options (1) and (2)

11. In the remaining match between Sporting Club and Dempo, Dempo won. Also, Dempo managed to draw with East Bengal in the other remaining match. What is the order of top three teams?

12. How many teams' rankings will remain unaffected after the completion of the league matches?

Directions for questions 13 to 17: Answer the questions on the basis of the information given below.

Player Name	Runs	Balls Faced	4's	6's
A Gilchirst	148	104	13	-
M Hayden	40	55	3	-
R Ponting	37	42	1	1
A Symonds	-	21	2	0
S Watson	13	5	0	1
M Clarke	81	-	11	3
Total	-	-	-	**10**

The table given above shows the scorecard of Australia during a recently held ODI. Further, more information is given.
(a) Total runs scored by Gilchirst in 1's and 2's are in the ratio of 1 : 5.
(b) Number of dot balls faced by Symonds is 6.
(c) A dot ball is defined as the ball on which no run is scored.
(d) During the entire match only 1's, 2's, 4's and 6's were taken by the batsmen.
(e) Gilchirst hits the maximum number of 6's among all the batsmen.
(f) Beside Symonds every player has hit at least a six.
(g) Every player has taken at least a 1 and a 2.

13. What is the total number of dot balls faced by Gilchrist?
(1) 45 (2) 59 (3) 72 (4) 17

14. What is the minimum number of balls faced by Clarke?
(1) 20 (2) 24 (3) 36 (4) 14

15. The number of runs taken by Symonds in 1's is greater than that in 2's, then he can score a maximum of ____ runs.
(1) 21 (2) 25 (3) 27 (4) 35

16. Assume if only the given players scored during the match for the team, then what is the minimum score of the team?
(1) 440 (2) 340 (3) 342 (4) 341

17. What was the maximum possible net run rate of the team?
(1) 7.56 (2) 8.48 (3) 1.40 (4) 5.51

Directions for questions 18 to 21: Answer the questions on the basis of the information given below.

The year is 2089. Beijing, London, New York, and Paris are in contention to host the 2096 Olympics. The eventual winner is determined through several rounds of voting by members of the IOC with each member representing a different city. All the four cities in contention are also represented in IOC.

(a) In any round of voting, the city receiving the lowest number of votes in that round gets eliminated. The survivor after the last round of voting gets to host the event.

(b) A member is allowed to cast votes for at most two different cities in all rounds of voting combined. (Hence, a member becomes ineligible to cast a vote in a given round if both the cities (s)he voted for in earlier rounds are out of contention in that round of voting.)

(c) A member is also ineligible to cast a vote in a round if the city (s)he represents is in contention in that round of voting.

(d) As long as the member is eligible, (s)he must vote and vote for only one candidate city in any round of voting.

The following incomplete table shows the information on cities that received the maximum and minimum votes in different rounds, the number of votes cast in their favour, and the total votes that were cast in those rounds.

Round	Total votes cast	Maximum votes cast		Eliminated	
		City	No. of votes	City	No. of votes
1		London	30	New York	12
2	83	Paris	32	Beijing	21
3	75				

It is also known that:

- All those who voted for London and Paris in round, 1 continued to vote for the same cities in subsequent rounds as long as these cities were in contention. 75% of those who voted for Beijing in round 1, voted for Beijing in round 2 as well.
- Those who voted for New York in round 1, voted either for Beijing or Paris in round 2.
- The difference in votes cast for the two contending cities in the last round was 1.
- 50% of those who voted for Beijing in round 1, voted for Paris in round 3.

18. What percentage of members from among those who voted for New York in round 1, voted for Beijing in round 2?
(1) 33.33 (2) 50 (3) 66.67 (4) 75

19. What is the number of votes cast for Paris in round 1?
(1) 16 (2) 18 (3) 22 (4) 24

20. What percentage of members from among those who voted for Beijing in round 2 and were eligible to vote in round 3, voted for London?
(1) 33.33 (2) 38.10 (3) 50 (4) 66.67

21. Which of the following statements must be true?
I. IOC member from New York must have voted for Paris in round 2.
II. IOC member from Beijing voted for London in round 3.

(1) Only I (2) Only II (3) Both I and II (4) Neither I nor II

Directions for questions 22 to 25: Answer the questions on the basis of the information given below.

In an 8 × 8 chessboard a queen placed anywhere can attack another piece if the piece is present in the same row, or in the same column or in any diagonal position in any possible 4 directions, provided there is no other piece in between in the path from the queen to that piece.
The columns are labelled a to h (left to right) and the rows are numbered 1 to 8 (bottom to top). The position of a piece is given by the combination of column and row labels. For example, position c5 means that the piece is in c^{th} column and 5^{th} row.

CAT - 2017

22. If the queen is at c5, and the other pieces at positions c2, g1, g3, g3 and a3, how many are under attack by the queen? There are no other pieces on the board.
(1) 2 (2) 3 (3) 4 (4) 5

23. If the other pieces are only at positions a1, a3, b4, d7, h7 and h8, then which of the following positions of the queen results in the maximum number of pieces being under attack?
(1) f8 (2) a7 (3) c1 (4) d3

24. If the other pieces are only at positions a1, a3, b4, d7, h7 and h8, then from how many positions the queen cannot attack any of the pieces?
(1) 0 (2) 3 (3) 4 (4) 6

25. Suppose the queen is the only piece on the board and it is at position d5.
In how many positions can another piece be placed on the board such that it is safe from attack from the queen?
(1) 32 (2) 33 (3) 36 (4) 37

LRDI - 11
Answers and Explanations

CEX-D-0283/18

1	4	**2**	2	**3**	4	**4**	4	**5**	4	**6**	1	**7**	2	**8**	–	**9**	1	**10**	4
11	–	**12**	–	**13**	1	**14**	2	**15**	2	**16**	4	**17**	2	**18**	4	**19**	4	**20**	4
21	1	**22**	–	**23**	–	**24**	–	**25**	–										

For questions 1 to 4:

Germany has won both their matches, so possible winning combinations in first two rounds is

R1 : Won 1 - 0 and R2: Won 2 - 1

Or

R1 : Won 2 - 1 and R2: Won 1 - 0.

Argentina must have won R1 and R2 by 1 - 0.

If Germany won by 2 - 1 in R1 vs Spain, Spain won in R2 by 4 - 0, and if Germany won 1 - 0 in R1, then Spain won 5 - 1 in R2.

Since only New Zealand and South Africa conceded 4 or more than 4 goals, then Spain must have played either one in R2.

If Spain won 4 - 0 in R2 vs South Africa, then South Africa must win R1 by 1 - 0, which is a contradiction to the fact that South Africa has lost both R1 and R2. Also, Spain can never win 5 - 1 vs South Africa in R2 (goals conceded by South Africa is 4).

Therefore, Spain won against New Zealand in R2.

Germany:

R1	vs	Spain	Won 2 -1	or	1 - 0
R2	vs	SA/Pak	Won 1 - 0	or	2 - 1
R3	vs	Arg	Draw		

Spain:

R1	vs	Germany	Lost 1 - 2	or	0 - 1
R2	vs	NZ	Won 4 - 0	or	5 - 1
R3	vs	Pak	Draw		

New Zealand:

R1	vs	Arg/Pak	Lost 1 - 2	or	0 - 1
R2	vs	Spain	Lost 0 - 4	or	1 - 5
R3	vs	SA	Draw		

Looking at the table, the only possible outcomes for Pakistan in the first two rounds are 2 -0 win and 0 - 1 loss.

In R1, New Zealand cannot lose 1 - 2 since Argentina conceded no goals and Pakistan's only loss was by a margin 0 - 1. Therefore, NZ lost R1 0 - 1. This score is possible only if its opponent is Argentina. Consequently, NZ lost 1 - 5 in R2 vs Spain. Hence, Spain must have lost 0 - 1 to Germany.

The above information can be finally summarised as:

Germany:

R1	vs	Spain	Won 1 - 0
R2	vs	SA	Won 2 - 1
R3	vs	Arg	Draw

Spain:

R1	vs	Germany	Lost 0 - 1
R2	vs	NZ	Won 5 - 1
R3	vs	Pak	Draw

New Zealand:

R1	vs	Arg	Lost 0 - 1
R2	vs	Spain	Lost 1 - 5
R3	vs	SA	Draw

Pakistan:

R1	vs	SA	Won 2 -0
R2	vs	Arg	Lost 0 - 1
R3	vs	Spain	Draw

Argentina:

R1	vs	NZ	Won 1 - 0
R2	vs	Pak	Won 1 - 0
R3	vs	Germany	Draw

South Africa:

R1	vs	Pak	Lost 0 - 2
R2	vs	Germany	Lost 1 - 2
R3	vs	NZ	Draw

1. 4

2. 2

Additional information for Q. 3 and 4:

* The given data set for rounds 4 and 5 appears to be inconsistent because from statements (a), (b) and (c) it is evident that four teams namely Spain, Argentina, Germany and Pakistan won their fifth round matches whereas the maximum possible wins in any round is only 3.

3. 4

4. 4

For questions 5 to 7:
There are two tables for the teams: Table 1, gives 'Overall record' and Table 2, gives 'Home record'. Using these two tables, another table containing records of the teams for away matches can be calculated. e.g. CH played a total of 3 matches out of which it won 3. In home matches it won both the matches it played on the home turf. Hence, it must have played 1 match away from home and won it. Also, its goal difference is 6, which means the goals against for it must have been (8 – 6) i.e. 2.
Similar analysis of other teams leads to the following table:

Away							
Team	**M**	**W**	**D**	**GF**	**GA**	**Points**	**Rank**
CH	1	1	0	2	0	3	3
SW	1	1	0	5	0	3	2
WB	1	0	1	1	1	1	8
MC	1	0	1	2	2	1	7
MU	2	1	0	3	3	3	5
WH	1	0	0	0	3	0	10
EV	2	1	0	3	3	3	4
AS	2	1	1	2	0	4	1
WG							
NC	1	0	0	0	2	0	11
FU	2	0	0	2	6	0	9
ST	2	0	2	3	3	2	6
SU							

The cells which are left blank cannot be filled using the given data.

5. 4 Table 2 contains data related to top 13 teams and the teams WG and SU are not in the table. Thus, the teams WG and SU must have scored less than or equal to 1 points in home matches.
Therefore, in away matches:
the point of the teams WG = 3 to 4 and
the point of the teams SU = 1 to 2.
Hence, in away matches, the least number of teams with either 0 or 1 points is 5 and these are WB, MC, WH, NC and FU.

6. 1 The pos value (difference of home rank and away rank) for the team:
AS = 12 – 1 = 11
WB = 2 – 1 = 1
WH = 10 – 2 = 8
MC = 7 – 4 = 3
SW = 5 – 2 = 3
Hence, the pos value is the maximum for the team AS.

7. 2 On the basis of the given information, the goal difference for away matches of 11 out of the top 13 teams can be calculated.
Nothing can be inferred about the goal difference for away matches of the rest of the teams. Therefore, on the basis of the given information, question cannot be answered. But if we consider teams for which data of goal difference for away matches is known, then the answer is 6 and the values are 2, 5, 0, –3, –2 and –4.

8. Three — Sporting Club, Dempo and East Bengal

9. 1 Only event (1),
From the table, it is clear that East Bengal must win the remaining 2 matches, thus reaching 46 points. Dempo must be contained within 46 points. So Dempo has three possible match outcomes:
i. lost both the matches
ii. drawn against in both the matches
iii. drawn against in one match and lost the other match
For Sporting Club, it is not necessary to loose the remaining match. It may have drawn the match and tied at 46 points with East Bengal. Still East Bengal can win the NFL 2007 by goal difference.

10. 4 Options (1) and (2) can be definitely concluded.

11. Even though we do not know the results of the remaining match involving East Bengal, assuming East Bengal wins it, it will still be able to get maximum of 44 points. So, the top three teams in descending order are - Dempo, Sporting Club and East Bengal.

12. Cannot be determined.

13. 1 Runs scored by Gilchrist in 4's = 13 × 4 = 52
Runs scored by him in 6's = 4 × 6 = 24
(As out of the remaining 5 sixes, maximum 4 are by Gilchrist.)
Total runs scored in 4's & 6's = 52 + 24 = 76
For these runs, we has played = 13 + 4 = 17 balls
Remaining runs scored in 1's & 2's = 148 – 76 = 72
Gilchirst scored 12 runs in 1's and 60 runs in 2's.
For these runs, he has played 12 + 30 = 42 balls
Total balls played for 148 runs = 42 + 17 = 59 balls
Total number of dot balls = 104 – 59 = 45 balls.

14. 2 Runs scored by Clarke in 4's = 11 × 4 = 44
Runs scored by him in 6's = 3 × 6 = 18
Total runs scored in 4's and 6's = 44 + 18 = 62
Remaining runs = 81 – 62 = 19
By taking 1's or 2's he has scored these 19 runs. To minimize the number of balls, Clarke has to score more run by taking 2's. So, he can score 18 runs by taking 2's and rest 1 run by taking a 1.
Total number of balls faced for 19 runs = 9 + 1 = 10
Minimum number of balls faced = 11 + 3 + 10 = 24 balls.

15. 2 Runs scored by Symonds in 4's = 2 × 4 = 8
Number of dot balls = 6
Remaining balls = 21 – (2 + 6) = 13
So, to maximize his score in 13 balls, Symonds can score 9 runs in the form of 1's runs and 8 runs in the form of 2's. So, he can score a maximum of 8 + 9 × 1 + 2 × 2 = 25 runs.

16. 4 In order to find the minimum score of team, we have to find the minimum runs scored by Symonds.
Minimum runs scored by Symonds
= 2 × 4 + 1 × 12 + 2 × 1 = 22
Minimum score of the team
= 148 + 40 + 37 + 22 + 13 + 81 = 341.

17. 2 In order to find the maximum possible run rate, we have to find the maximum runs scored and minimum balls faced by the team. For this, we have to find the minimum number of balls faced by M. Clarke and maximum runs scored by A. Symonds.
Minimum number of balls faced by M. Clarke = 24
Maximum runs scored by A. Symonds = 2 × 12 + 1 × 1 + 4 × 2 = 33
Maximum runs scored by the team
= 148 + 40 + 37 + 33 + 13 + 81 = 352
Minimum number of balls faced by the team
= 104 + 55 + 42 + 21 + 5 + 24 = 251 balls or 41.5 overs

$$\text{Maximum net run rate} = \frac{352}{41.5} = 8.48.$$

For questions 18 to 21:
L = London, Paris = P, New York = NY, Beijing = B
In round III, one of the two cities, either London or Paris will get 38 votes and the other 37. Further:

(1) The persons representing London, Paris, Beijing and New York can not vote as long as their own cities are in contention. In round I, New York gets eliminated and hence the representative from NY becomes eligible for voting in the II round hence increasing the total votes by 1. This means the total votes in the first round must be 83 – 1 = 82.

(2) After round II, the representative from Beijing votes in the III round. This should have increased the number of total votes by 1 and the total votes must have become 83 + 1 = 84.
We are given that the total votes in round III are 75 only. We conclude that 84 – 75 = 9 people who voted in round I and II have become ineligible for voting in round III.

(3) 9 people who have voted in round I and II become ineligible for voting in round III. The reason of their ineligibility is that till round I and II, they have already voted for two different cities which are not available for contention in round III. All of these 9 voters are those who voted for NY in round I and then voted for Beijing in round II.

(4) Beijing's vote in round II is 21. This includes 9 votes from people who voted for NY in the first round. So 21 – 9 = 12 people voted for Beijing in both round I and II.

(5) We are given that 75% of the people who voted for Beijing in round I, voted again for Beijing in round II as well. So, 16 people must have voted for Beijing in round I.

(6) In round I we have:
82 = L + P + B + NY
Or
82 = 30 + P + 16 + 12
Giving P = 24

(7) In round II, we have:
83 = L + 32 + 21, giving L = 30

(8) NY had 12 votes in round I. 9 of these votes went to B(see point 2 , again). The rest 3 went to P.

(9) 16 votes for B in round I. 12 of them still vote for B. The rest 4 voted for either L or P. L has the same number of votes in both the rounds I and II. This means in round II, these 4 votes must have gone to Paris only.

(10) The representative from NY did not vote in round I but has voted in round II. As L has the same people voting for it (30 votes in both the rounds I and II) and we know the exact break up of B in II. This NY-representative vote must go to Paris only. Further, in order to avoid ineligibility, this NY rep must vote for Paris only in round III also.

(11) Paris (in round II) break up is:
32 = 24 (from round I, who voted for Paris)
+ 4 (out of the 16, who voted for Beijing in round I)
+ 3(out of 12, who voted for NY in round I)
+ 1 (NY -Rep)

(12) Beijing gets eliminated in round II. So the rep of Beijing can vote in round III.

(13) 12 People (out of 21) who voted for Beijing in round II are still eligible for vote in round III.

(14) 50% of people who voted for Beijing in I (i.e. 8 People) voted for Paris in round III. These 8 People include 4 of those who voted for Paris in round II also. Therefore 4(out of 12 who voted for Beijing in round II and are still eligible for vote in round III) people have voted for Paris in round III.

(15) This implies that the rest 8(out of 12 who voted for Beijing in round II and are still eligible for vote in round III) can vote for London only. This makes London's vote = 30+ 8 or 38 in round III. Which implies that Paris got 37 votes.

(16) The Beijing Rep who is eligible to vote in round III must have voted for Paris only.
The following table sums up the Vote Pattern:

Round	Total Votes	London (L)	Paris(P)	Beijing (B)	New York (NY)
I	82	**30**	24	16	**12**
II	**83**	30	**32** = (24 + 4 + 3 + 1 of NY-rep)	**21** (12 + 9)	X
III	**75**	38 = (30 + 8)	37= (32 + 4 + 1 of B-rep)	X	X

(The data shown in **Bold** was already provided in the problem. The other data is deduced from the solution.)

18. 4 Required percentage = $\frac{9}{12} \times 100$ = 75%

19. 4 As seen from the table, Paris got 24 votes.

20. 4 Required percentage = $\frac{8}{12} \times 100 = 66.67\%$

21. 1 Based on the table, IOC members from New York must have voted for Paris in Round II.

22.

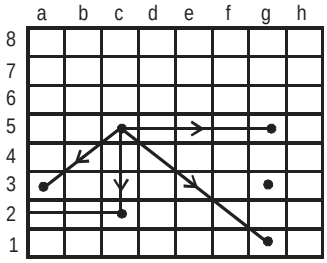


Figure 1

Directly from the diagram

23.

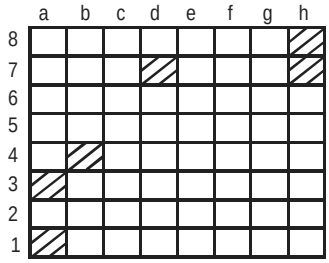


Figure 2

See the figure 2
If queen is at f8 then it can attack h8 and B4
Similarly, when queen is at a7 and c1 it can attack maximum of 2 piece
But when queen is at D3 then it can attack a3, d7 and h7.

24. Queen cannot attack 4 positions.

25. Another pieces can be at 36 positions.