1.5 GAMES AND SPORRTS

Introduction to the Topic

In the topic of games and sports the questions are based on various commonly played games like cricket, hockey, football, card games etc. The questions might also be based on certain games which are not commonly played or known or sometimes are based on some logical games.

Some common of questions asked on this topic are:

■ Based on number of matches in a tournament

■ Based on commonly played or logical games

Relevance in CAT

The questions based on the topic of games and sports have been asked in CAT examination since early 1990's. Although the questions have not been asked consistently in the examination but they have featured in the CAT examination at regular interval of time. Before going online these questions also featured in the 2008 examination.

Although these questions may or may not feature regularly in the CAT examination, but if asked they provide an avenue to score marks, if some basic knowledge of games and logic is used.

Number of Matches in Tournament

Games are primarily played in 2 types of tournaments viz. Round Robin Tournament and Knock Out tournaments. Some of the tournaments are also played on hybrid form in which both Round Robin and Knock outs are used.

Let us first understand some basic points about these tournaments.

■ **Round Robin Tournaments –** Each team plays all the other teams, irrespective of the outcome of an individual match. The winner of the tournament is generally the team with the highest number of points at the end. A perfect example of such tournaments is football leagues played across the globe viz. English Premier League, Spanish League etc.

■ **Knock Out Tournaments –** Winner of each match progresses to the next round and the looser is out of the tournament. The winner is the team or player who wins all the matches and all other teams or players are knocked out of the tournament. Various tennis tournaments like Australian Open, U.S. Open etc. are played on this format.

■ **Hybrid Tournament –** Some part of such tournaments are played on round robin basis by dividing the teams into groups and then the remaining part is played on knock out basis. Cricket world cup, Hockey world cup and Football world cup are played on this format.

Let us now see some examples to understand, how to find the number of matches in each type of the tournament.

Example 1: There are 13 teams that are playing in this year's I-League competition. Each team plays other team once at neutral venues. Winner of each match is awarded with 3 points and the loser gets no point. In case a match a drawn then a point each is awarded to both the teams. At end of the matches the team with highest points wins the I-League, and if the teams are tied on points then the team with highest goal difference wins the league. How many matches were played in I-League this year?

Solution: This is an example of a **round robin tournament**. There are 13 teams in total. So the first team will play the other 12 teams. The second team has already played the first team so it will play the remaining 11 teams and hence will have 11 more unique matches. The third team has already played the first and second team and the third team will play the remaining 10 teams. If we continue like this then the total number of matches will be = 12 + 11 + 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 78 matches.

We can generalize if there are '*N*' teams playing round robin matches then there will be $\dfrac{N(N-1)}{2}$ matches that will be played.

Example 2: In this year's French Open 256 players are taking part. The tournament will be played in rounds. In the first round a player will play the other player in a match where the winner will progress to next round and the looser will be out of the tournament. In the second round the winner of first round will play in such a manner that each match will have two players where again winner will proceed to next round and loose will be eliminated. It will continue till there is only one player left. How many matches are required to be played to decide the winner?

Solution:

This is an example of **knockout tournament**. In first round each match will have 2 players and hence there will be 128 matches. Only 128 players (winners of matches) will proceed to round 2. In round 2 there will be 2 players in each match and hence there will be 64 matches. Now 64 winners of round 2 will play in 32 matches in round 3. These 32 winners of round 3 will play in 16 matches in round 4 and so on. So the total number of matches that will be played = 128 + 64 + 32 + 16 + 8 + 4 + 2 +1 = 255 matches. If we see there are 256 players in the tournament but only 1 can win the tournament. So there have to be 255 losers. As 1 match gives only 1 looser we need 255 matches to get 255 losers.

In general if there are 'N' teams or players participating in a knockout tournament then the total number of matches will be *N* – 1.

Example 3: 14 teams took part in the 2011 cricket World Cup. The tournament was played in 2 stages. In the first stage, the teams are divided into two groups. Each group consists of 7 teams, with each team playing every other team in its group exactly once. At the end of the first stage, the top four teams from each group advance to the second stage while the rest are eliminated. The second stage comprises of several rounds. A round involves one match for each team. The winner of a match in a round advances to the next round, while the loser is eliminated. The team that remains undefeated in the second stage is declared the winner and claims the World Cup. What is the total number of matches played in the tournament?

Solution:

This is an example of a **Hybrid tournament**, where it is played in 2 stages, one being round robin and the other being a knock out stage. We can easily find the total number of matches in the tournament by using the above two formulas we have seen in the previous examples.

7 teams in group 1 will give $= \dfrac{7(7-1)}{2} = 21$ matches

7 teams in group 2 will give $= \dfrac{7(7-1)}{2} = 21$ matches

Total matches in first stage = 42 matches

Matches in second stage = 8 – 1 = 7

Total Matches in the World Cup = 21 + 21 + 7 = 49.

Some important points of matches played

- Round Robin Tournament $= \dfrac{N(N-1)}{2}$ matches
- Knock Out Tournament = (*N* – 1) matches

Commonly Played Logical Games

These set of questions are based on different games like hockey, football, cricket, cards or some other logical games. The questions may be based on finding the winner, finding the number of matches, finding number of points etc.

There is no set pattern or formula that can be used in such questions. A candidate has to go questions wise and find the logic behind the game played to get to the final answers.

Example 4: In a sports event, six teams (A, B, C, D, E and F) are competing against each other Matches are scheduled in two stages. Each team play three matches in Stage – I and two matches in Stage – II. No team plays against the same team more than once in the

event. No ties are permitted in any of the matches. The observations after the completion of Stage – I and Stage – II are as given below.

Stage-I:
- One team won all the three matches.
- Two teams lost all the matches.
- D lost to A but won against C and F.
- E lost to B but won against C and F.
- B lost at least one match.
- F did not play against the top team of Stage-I.

Stage-II:
- The leader of Stage-I lost the next two matches
- Of the two teams at the bottom after Stage-I, one team won both matches, while the other lost both matches.
- Once more team lost both matches in Stage-II.
- a. The two teams that defeated the leader of Stage-I are:
- b. The only team(s) that won both matches in Stage-II is (are):
- c. The teams that won exactly two matches in the event are:
- d. The team(s) with the most wins in the event is (are): **[CAT 2008]**

Solution:

Each team will play the other team once in the whole event. So any team plays 3 teams in round 1 and the remaining 2 teams in round 2. Now if we analyse the additional statements given we can get the following table and information.

Stage-I:

A team cannot play itself so we will put the cross mark in that also for a win we will put 'W' and for a loss we will put 'L'. While the grey cells will mean that the team has not played the other team in round 1. (Read the table from rows)

	A	B	C	D	E	F
A	×			W		
B		×			W	
C			×	L	L	
D	L		W	×		W
E		L	W		×	W
F				L	L	×

Now if we see the table above D and E cannot be the team will all the 3 wins as they have lost a match each. Also B cannot be team with all three wins as information says it lost atleast 1 match. From the table C has also lost against D and E hence it cannot be top team. The additional information also states that F didn't played the top team of Stage 1, hence F cannot be the top team. So we are left with A to be the top team of stage 1 and hence A won all the three matches.

Also, F cannot play against A in round 1 and E cannot play against A as well in stage 1 as it is playing against B, E and F. So, A will play and win against B, C and D. The updated table will be:-

	A	B	C	D	E	F
A	×	W	W	W		

	A	B	C	D	E	F
B	L	×			W	
C	L		×	L	L	
D	L		W	×		W
E		L	W		×	W
F				L	L	×

The updated table shows C to have lost all the matches but we need another team who will lose all matches. A, B, D and E cannot be that team as all of them have won atleast one match. Hence, F is the other team to have lost all the matches.

	A	B	C	D	E	F
A	×	W	W	W		
B	L	×			W	W
C	L		×	L	L	
D	L		W	×		W
E		L	W		×	W
F		L		L	L	×

On basis of the table above we can have the following deductions:-

Team	Played against (Round 1)	Won Against	Lost Against	Will Play Against (in Round 2)
A	B, C, D	B, C, D	_	E, F
B	A, E, F	E, F	A	C, D
C	A, D, E	_	A, D, E	B, F
D	A, C, F	C, F	A	B, E
E	B, C, F	C, F	B	A, D
F	B, D, E	_	B, D, E	A, C

Stage-II:
Let us draw the table for stage 2, and then we will fit in the additional information given into this table.

	A	B	C	D	E	F
A						

The table if read row wise tells about the matches that will be played in round 2. The non coloured boxes are the boxes where matches will happen.

By using additional information given, it states leader of the first stage loses next two matches which means A will lose to E and F in stage 2. One of the bottom team of stage 1 is winning both the matches and other lost both the matches. F cannot be team which loses both the matches as it has won against A. Hence, F won both the matches of stage 2 and C lost both the matches of stage 2.

Transferring this information in the table we get:

	A	B	C	D	E	F
A					L	L
B			W			
C		L				L
D						
E	W					
F	W		W			

Now according to the information given, another team lost both the matches. That team cannot be E or B as in the table above both have atleast 1 wins. So the team with two loses will be D.

	A	B	C	D	E	F
A					L	L
B			W	W		
C		L				L
D		L			L	
E	W			W		
F	W		W			

a. E & F defeated A.

b. B, E & F won both the matches in Stage II.
c. D & F won exactly two matches in the event.
d. B and E have the most number of wins (4 wins).

Example 5: Recently, Ghosh Babu spent his winter vacation on Kyakya Island. During the vacation, he visited the local casino where he came across a new card game. Two players, using a normal deck of 52 playing cards, play this game. One player is called the 'dealer' and the other is called the 'player'.
First, the player picks a card at random from the deck. This is called the base card. The amount in rupees equal to the face value of the base card is called the base amount. The face values of ace, king, queen and jack are ten. For other cards the face value is the number on the card. Once the 'player' picks a card from the deck, the 'dealer' pays him the base amount.
Then the 'dealer' picks a card from the deck and this card is called the top card. If the top card is of the same suit as the base card, the 'player' pays twice the base amount to the 'dealer'. If the top card is of the same colour as the base card (but not the same suit), then the 'player' pays the base amount to the 'dealer'. If the top card happens to be of a different colour than the base card, the 'dealer' pays the base amount to the 'player'.
Ghosh Babu played the game four times. First time he picked eight of clubs and the 'dealer' picked queen of clubs. Second time, he picked ten of hearts and the 'dealer' picked two of spades. Next time, Ghosh Babu picked six of diamonds and the 'dealer' picked ace of hearts. Lastly, he picked eight of spades and the 'dealer' picked jack of spades. Answer the following questions based on these four games.   **[CAT 1999]**
a.   If Ghosh Babu stopped playing the game when his gain would be maximized, the gain in Rs. would have been?
b.   The initial money Ghosh Babu had (before the beginning of the game sessions) was Rs. X. At no point did he have to borrow any money. What is the minimum possible value of X?
c.   If the final amount of money that Ghosh Babu had with him was Rs. 100, what was the initial amount he had with him?
Solution:
If we see the whole arrangement in form of a table then we can easily get the answers to each of the questions.

Round	Ghosh Babu's Card	Dealers Card	Result	Amount won by Ghosh Babu in the round	Total Amount with Ghosh Babu at end of the Round
1st	8 clubs	Q clubs	Ghosh Babu gets Rs. 8 Dealer gets twice the amount (Rs. 16) as the cards are of same suit	Rs. 8 – Rs. 16 = – Rs. 8	– Rs. 8
2nd	10 hearts	2 spade	Ghosh Babu gets Rs.10 Ghosh Babu gets the base amount (Rs. 10) as the cards are not of the same colour	Rs. 10 + Rs.10 = Rs. 20	Rs. 12
3rd	6 diamonds	A Hearts	Ghosh Babu gets Rs. 6 from Dealer Dealer gets the base amount (Rs. 6) as the cards are of same colour	Rs. 6 – Rs. 6 = Rs. 0	Rs. 12
4th	8 spades	J spades	Ghosh Babu gets Rs. 8 from Dealer Dealer gets twice the amount (Rs. 16) from Ghosh Babu	Rs. 8 – Rs. 16 = – Rs. 8	Rs. 4

a.   So the maximum gain that Ghosh Babu can have is Rs. 12.

b. If we see in the table above the lowest Ghosh Babu have at any time is – Rs. 8, hence he should start with an amount of Rs. 8.

c. From the table above we see that the final gain of Ghosh Babu is Rs. 4, hence he should have started with Rs. 96 to finish at Rs. 100.

Practice Exercise – Easy

Directions (Q. Nos. 1 – 2): *Answer the questions based on the following information.*
In a badminton tournament 8 rounds were played. The winner of each match in a round progresses to the next round while the looser is knocked out of the tournament. The last round had only 1 match and the winner of that match was the winner of the tournament.

1. Find the number of matches being played in the tournament?
    a. 192   b. 255   c. 128   d. 318

2. Find the number of players who took part in the tournament?
    a. 256   b. 512   c. 138   d. 322

Directions (Q. Nos. 3 – 6): *Answer the questions based on the following information.*
Four players — Alex, David, George, and Smith are part of the Australian team taking part in the 4 test being played against India. They all have certain number of money with them before the start of the first test match. They decided that the player who scores the least number of runs in a particular test match, will double the money of each of the remaining players. They all played in the four test matches and each player scored the least number of runs in one of the test match in the alphabetical order of their names. At the end of fourth test match, each friend had 48 dollars with them.

3. How many dollars did Alex had before the start of the test series?
    a. 51   b. 99   c. 27   d. 15

4. Who started with the lowest amount of dollars?
    a. Alex   b. David   c. Smith   d. George

5. Who started with the highest amount of dollars?
    a. George   b. David   c. Alex   d. Smith

6. What was the amount with George at the end of the second test match?

a. 12 b. 108 c. 60 d. 120

7. 116 people participated in a singles tennis tournament of knock out format. The players are paired up in the first round; the winners of the first round are paired up in second round, and so on till the final is played between two players. If after any round, there is odd number of players, one player is given a bye, i.e. he skips that round and plays the next round with the winners. Find the total number of matches played in the tournament.
 a. 115 b. 53 c. 232 d. 116

Directions (Q. Nos. 8 – 10): *Answer the questions based on the following information.*
24 teams play in the Spanish Football League. Each team plays all others teams twice in the league. A win will give 2 points, a draw 1 point and there will be no points for a loss. The team with the highest number of points wins the Spanish League. If two or more teams have same number of points then certain rules are applied to determine the winner of the league.

8. How many matches were played in the Spanish Football League?
 a. 516 b. 600 c. 552 d. 576

9. What is the maximum number of points can a team score?
 a. 46 b. 58 c. 74 d. 92

10. What can be the minimum number of wins by which a team can be the winner of the Spanish League?
 a. 5 b. 0 c. 11 d. 21

Practice Exercise – Medium

Directions (Q. Nos. 1 – 4): *Answer the questions based on the following information.*
Given below are the details of the top 16 Football clubs taking part in the 'I – League 2016'. These teams have been divided into two groups of 8 teams each. The league has different stages viz. first round, quarterfinals, semifinals and the best of three finals. A team will play against all the other teams of the same group once. Top four teams from each group will qualify for the quarterfinals. Top 4 teams of Group A are now Group C and the top 4 teams of Group B are now Group D. In the quarterfinal stages each team will play two matches with 2 different teams from the other group. The schedule of the quarterfinals is:

- Top team of Group A will play 1st and 4th placed teams of Group B
- 2nd placed team of Group A will play 2nd and 3rd placed teams of Group B
- 3rd placed team of Group A will play 2nd and 3rd place teams of Group B
- 4th place team of Group A will play 1st and 4th placed teams of Group B.

The top 2 teams from each group C and D move to the semi-finals, where they will have to play a match each with the other 3 teams. Top two teams from the semifinal round will qualify for the best of three finals, where a team has to win 2 matches to win the cup. If a team wins the first two finals then the third final will not take place and if both the teams have won 1 match each then only third final will take place.

Group A: Bengaluru FC, Bharat FC, Dempo, East Bengal, Mohun Bagan, Mumbai, Pune, Royal Wahingdoh
Group B: Salgaocar, Shillong Lajong, Sporting Goa, Mohammedan Sporting, Churchill Brothers, JCT Phagwara, Chirag United, ONGC

Assume that all the matches where result oriented no draw, no tie. The top teams are decided on basis of number of points; if the teams have same number of points then a complex rule is used to decide the top teams. At start of first round, quarterfinals and semifinals each team is considered to have 0 points.

1. What is the total number of matches that were played in the 'I – League'?
 a. 78   b. 73
 c. 72   d. Cannot be determined

2. Teams in each group are listed according to their finishing position in the last 'I – League' tournament, such that that one group will have teams with even number of finishing positions and the other group will have teams with

odd number of finishing places. If the teams with positions 1 to 8 of last years 'I – League' move to the quarter-finals, which of the following matches cannot be played in the quarterfinals?
   a. Salgaocar v/s JCT Phagwara
   b. Salgaocar v/s Dempo
   c. Mohammedan Sporting v/s Bengaluru FC
   d. Bengaluru FC v/s Shillong Lajong

3. With how many minimum wins, can a team win the tournament?
   a. 5   b. 8   c. 9   d. 10

4. Last year's 1st, 2nd, 4th and 5th ranked teams qualified for the Semifinals. In all the matches of semifinal a lower ranked team beat the higher ranked team (ranks of last year are taken into account) except Bangaluru FC (1st) v/s Sporting Goa (4th) and Salgaocar (2nd) v/s Bharat FC (5th) match. Than which two teams will qualify for the finals?
   a. Salgaocar & Sporting Goa
   b. Bharat FC & Bangaluru FC
   c. Bangaluru FC & Sporting Goa
   d. Salgaocar & Bharat FC

Directions (Q. Nos. 5 – 8): *Answer the questions based on the following information.*
In the 2022 FIFA World Cup, 32 teams are taking part. These teams are divided into 8 groups of 4 teams each. Each team plays all other teams of the group twice (irrespective of the result of the previous match). Each winning team in any group match is awarded with 3 points while the losing team gets no points. If a group match is drawn then both the teams are given 1 point each. The top 2 teams from each group move to the knock out stages. If the teams have same point in the groups then the goal difference is taken into account to decide the team which will progress. If the teams are still tied then the number of goals scored is taken into account, if they are still tied then number of goals conceded is taken into account. If the teams are still tied, then the team with higher FIFA rank moves to the next round.
The knock out stage starts with pre-quarterfinals followed by quarterfinals, semi-final and the final. In each match of knock out stages a winner is decided and the winner moves to the next round while the looser is knocked out of the tournament. The two losing semifinalist teams play a match to decide the 3rd and 4th place team just before the final match.

5. How many total matches were played in the tournament?
   a. 116   b. 120   c. 112   d. 126

6. What is the minimum number of wins required by any team to win the tournament?
   a. 4   b. 5   c. 7   d. 9

7. Which of the following is necessarily true?
   a. A team with the highest goal difference wins the tournament.
   b. The top 2 teams on basis of FIFA rankings qualify from each group.
   c. Team with the highest FIFA ranking wins the tournament.
   d. None of the above is necessarily true.

8. What can be the maximum number of wins of a team which has not won the tournament?
   a. 8   b. 9   c. 7   d. 6

Directions (Q. Nos. 9 – 12): *Answer the questions on the basis of the information given below:*
In the table below is the listing of players, seeded from highest (#1) to lowest (#32), who are due to play in an Association of Tennis Players (ATP) tournament for women. This tournament has four knockout rounds before the final, i.e., first round, second round, quarterfinals, and semi-finals. In the first round, the highest seeded player plays the lowest seeded player (seed #32) which is designated match No. 1 of first round; the 2nd seeded player plays the 31st seeded player which is designated match No. 2 of the first round, and so on. Thus, for instance, match No. 16 of first round is to be played between 16th seeded player and the 17th seeded

player. In the second round, the winner of match No. 1 of first round plays the winner of match No. 16 of first round and is designated match No. 1 of second round. Similarly, the winner of match No. 2 of first round plays the winner of match No. 15 of first round, and is designated match No. 2 of second round. Thus, for instance, match No. 8 of the second round is to be played between the winner of match No. 8 of first round and the winnr of match No. 9 of first round. The same pattern is followed for later rounds as well.

[CAT 2005]

Seed#	Name of Player	Seed#	Name of Player
1	Maria Sharapova	17	Jelena Jankovic
2	Lindsay Davenport	18	Ana Ivanovic
3	Amelie Mauresmo	19	Vera Zvonareva
4	Kim Clijsters	20	Elena Likhovtseva
5	Svetlana Kuznetsova	21	Daniela Hantuchova
6	Elena Dementieva	22	Dinara Safina
7	Justine Henin	23	Silvia Farina Elia
8	Serena Williams	24	Tatiana Golovin
9	Nadia Petrova	25	Shinobu Asagoe
10	Venus Williams	26	Francesca Schiavone
11	Patty Schnyder	27	Nicole Vaidisova
12	Mary Pierce	28	Gisela Dulko
13	Anastasia Myskina	29	Flavia Pennetta
14	Alicia Molik	30	Anna Chakvetadze
15	Nathalie Dechy	31	Al Sugiyama
16	Elena Bovina	32	Anna-lena Groenefeld

9. If there are no upsets (a lower seeded player beating a higher seeded player) in the first round, and only match Nos. 6, 7, and 8 of the second round result in upsets, then who would meet Lindsay Davenport in quarter finals, in case Davenport reaches quarter finals?
    a. Justine Henin   b. Nadia Petrova
    c. Patty Schnyder   d. Venus Williams

10. If Elena Dementieva and Serena Williams lose in the second round, while Justine Henin and Nadia Petrova make it to the semi-finals, then who would play Maria Sharapova in the quarterfinals, in the event Sharapova reaches quarterfinals?
    a. Dinara Safina   b. Justine Henin
    c. Nadia Petrova   d. Patty Schnyder

11. If, in the first round, all even numbered matches (and none of the odd numbered ones) result in upsets, and there are no upsets in the second round, then who could be the lowest seeded player facing Maria Sharapova in semi-finals?
   a. Anastasia Myskina   b. Flavia Pennetta
   c. Nadia Petrova   d. Svetlana Kuznetsova

12. If the top eight seeds make it to the quarterfinals, then who, amongst the players listed below, would definitely not play against Maria Sharapova in the final, in case Sharapova reaches the final?
   a. Amelie Mauresmo   b. Elena Dementieva
   c. Kim Clijsters   d. Lindsay Davenport

Directions (Q. Nos. 13 – 15): *Answer the questions on the basis of the information given below.*
Duckworth and Lewis developed D/L method for calculating revised targets in abandoned or rain hit matches. The system is applicable for a one day cricket match, in which each team play's 50 overs. A table for calculating revised target according to the overs left in the innings and wickets lost by the time of interruption (or re-commencement of the innings) is given below.

Percentage of score which is added or subtracted with the actual score to obtain the par score					
Overs Remaining	Wickets lost				
	0	2	5	7	9
50	100	85	49	22	4.5
40	89	77	47	22	4.5
30	75	67	44	21	4.5
25	66	60	42	21	4.5
20	56	52	38	20	4.5
10	32	31	26	17	4.5
5	17	16	15	12	4

- Team 1 is the team which bats in the first innings and Team 2 is the team which bats in the second innings.
- Revised target is the nearest multiple of 5 greater than the Par score.
- Par score is calculated by the following methods:

(I) If the interruption is in the 2nd innings then Par score is the team 1's score minus a certain percentage of team 1's score. (That percentage is calculated from the given table according to wicket lost & overs remaining)

(II) If the interruption is the 1st innings then the Par score is runs scored by team 1 plus a certain percentage of team 1's score. (That percentage is calculated from the given table according to wickets lost & over remaining). This par score also becomes the score of team 1.

(III) If the interruption is in the 2nd innings, and after few overs the match is resumed, then Par score is equal to team 1's score – (certain percentage of team 1's score when disruption occurred) + (certain percentage of team 1's score when match resumed)
   (Both these percentages are calculated from the given table according to wickets lost & overs remaining.)

- Team 2 is said to win/lose by the runs it made over/under the revised target. In all other cases, the match ends in a tie.

13. New Zealand scored 319 runs in their 50 overs and Sri Lanka lost 5 wickets in scoring 248 runs in 40 overs, when it started raining heavily due to which the match was abandoned. Find the outcome of the match using the method.
    a. Sri Lanka wins by 47 runs
    b. Sri Lanka wins by 17 runs
    c. Sri Lanka wins by 15 runs
    d. Sri Lanka wins by 8 runs

14. England bats in the first innings and scores 286 runs in 50 overs. In the second innings, South Africa scores 169 runs in 30 overs for the loss of 2 wickets when the match got interrupted due to rain. After some time, the match was resumed but overs available for South Africa were reduced to 40. After the resumption of the match, how many more runs does South Africa need to score to win the match?
    a. 92   b. 85   c. 62   d. 79

15. Ireland scored 243 runs in 40 overs for the loss of 9 wickets when it started when it started raining, due to which their innings was curtailed then only. When Afghanistan scored 179 runs for the loss of 7 wickets in 30 overs, it started raining again due to which further match was not possible. Find the outcome of the match.
    a. Ireland won by 28 runs
    b. Afghanistan lost by 26 runs
    c. Afghanistan won by 3 wickets
    d. Match ends in a tie

Practice Exercise – Difficult

Directions (Q. Nos. 1 – 3): *Read the instruction and answer the questions that follow.*
A Big Bash League between Hobart Hurricanes and Perth Scorchers was played at MCG. Perth Scorchers managed a total of 339 runs in 50 overs. In order to win Hobart Hurricanes had to manage 340 runs in 50 overs. Hobart Hurricanes innings was opened by Dunk and Paine. The first wicket fell at the end of the 9th over when the score was 73. At the end of the 19th over the second wicket fell at 138. 3rd wicket fell at the score of 197 when Dunk was caught at gully in the 32nd over. 4th and 5th wicket fell when score was 271 in 42nd over. Finally, Hobart Hurricanes score 343 with a four hit by Mennie of the first ball he faced in the 50th over. Hobart Hurricanes won the match by 4 wickets with two balls to spare. Dunk scored approximately 39% of the total runs scored by Hobart Hurricanes, but man of the match was given to the player who scored runs in the pressure situation at the end of the innings. Two more players scored more than 50 runs. Paine and Hales scored in mid 20's. Birt scored more than Hales and Paine but still Paine was not the least scorer. Hobart Hurricanes batting order "Dunk - Paine" "Hales" "Birt" "Bailey" "Sammy" "Wells" "Mennie" "Boyce" "Doherty" "Reed". Each team had 11 players 5 batsmen, 1 wicketkeeper and 5 bowlers; where only 10 wickets is to be taken of a team. The game was played in accordance with the rules laid down by the ICC.

1. What can be said about Dunk's contribution in the three partnerships he was involved in assuming that there were no extras conceded by the Hobart Hurricanes team?
    a. 39, 40 & 43   b. 50, 37 & 45
    c. 51, 39 & 42   d. 48, 39 & 47

2. What can be concluded from the analysis of the paragraph given above in accordance with the two statements give with this question?
    Statement I: Birt scored second highest runs and was the 5th wicket to fall for Hobart Hurricanes in the 42nd over.
    Statement I: Sammy scored a duck in the match.
    a. If statement I is false then statement II is necessarily true.
    b. If statement I is true then statement II is necessarily true.
    c. If statement II is true then statement I is necessarily false.
    d. Both the statements could be true.

3. What can be said regarding the following two statements?

Statement I: Wells was not out at the end of Hobart Hurricanes innings with second highest score.

Statement II: Dunk was not involved in the highest partnership.

a. Statement I is true and Statement II is false.

b. Statement I is false and Statement II is true.

c. Both statements could be true.

d. Both the statements are false.

Directions (Q. Nos. 4 – 6): *Answer the questions based on the following information.*

Sixteen teams have been invited to participate in the FIH Hockey World Cup 2016. The tournament is conducted in two stages. In the first stage, the teams are divided into two groups. Each group consists of eight teams, with each team playing every other team in its group exactly once. At the end of the first stage, the top four teams from each group advance to the second stage while the rest are eliminated. The second stage comprises of several rounds. A round involves one match for each team. The winner of a match in a round advances to the next round, while the loser is eliminated. The team that remains undefeated in the second stage is declared the winner and claims the World Cup. The tournament rules are such that each match results in a winner and a loser with no possibility of a tie. In the first stage, a team earns 3 points for each win and no points for a loss. At the end of the first stage, teams in each group are ranked on the basis of total points to determine the qualifiers advancing to the next stage. Ties are resolved by a series of complex tie-breaking rules so that exactly four teams from each group advance to the next stage.

4. The minimum number of wins needed for a team in the first stage to guarantee its advancement to the next stage is:

   a. 5　　　　b. 6　　　　c. 7　　　　d. 4

5. What is the highest number of wins for a team in the first stage in spite of which it would be eliminated at the end of first stage?

   a. 2　　　　b. 3　　　　c. 4　　　　d. 5

6. Which of the following statements is necessarily true?

   a. The winner will have more wins than any other team in the tournament.

   b. At the end of the first stage, no team eliminated from the tournament will have more wins than any of the teams qualifying for the second stage.

   c. It is possible that the winner will have the same number of wins in the entire tournament as a team eliminated at the end of the first stage.

   d. The number of teams with exactly one win in the second stage of the tournament is 4.

Directions (Q. Nos. 7 – 10): *Refer to the following information and answer the questions that follow.*

In the hockey series between Delhi Waveriders and Kalinga Wizards the goals scored are given below.

Delhi Waveriders :　1, 1, 6, 5, 2, 4

Kalinga Wizards　:　0, 1, 2, 4, 6, 5

Only one match ended in draw. 3 Matches was won by Delhi Waveriders and the remaining by Kalinga Wizards. If the team scored odd number of goals it lost the match.

7. If Delhi Waveriders won by scoring 4 goals in a match, how many goals did Kalinga Wizards score?

   a. 0　　　　　　　　　　b. 1

   c. 2　　　　　　　　　　d. Either 0 or 1 or 2

8. If in one of the matches, both the teams scored 5 goals each then Kalinga Wizards won the 2 matches by?

   a. 6 – 0 and 2 – 1　　　　b. 6 – 1 and 4 – 1

   c. 6 – 1 and 2 – 1　　　　d. Either (c) or (b)

9. If both the teams scored 1 goal each in one of the matches then Delhi Waveriders won the series by?

a. 6 – 4, 4 – 2 and 2 – 1   b. 6 – 5, 4 – 2 and 2 – 0
c. 6 – 5, 4 – 2 and 2 – 1   d. Either (a) or (c)

10. How many different ways are there in which the series could have ended?
   a. 1   b. 2   c. 3   d. 4

Directions (Q. Nos. 11 – 14): *Answer the questions on the basis of the information given below.*
Three players Karan, Aman, Vijendar are playing a game lotto lottery. There are three balls, each marked with a different single digit positive numbers. In each round the balls are given to the player randomly and each player receives an points equal to the number on his ball. After 2 or more round the scores of Karan, Aman and Vijendar are 20, 10 and 9 respectively. In the last round played so far, Aman got the largest amount among the 3 players.

11. Who has received all three balls in one or the other rounds
   so far?
   a. Karan   b. Aman
   c. Vijendar   d. None of these

12. If ball are arranged according to descending order of the number written on them, who got the middlemost ball in
   the first round?
   a. Karan   b. Aman
   c. Vijendar   d. Cannot be determined

13. What will be the minimum number of rounds (including above) after which all three could have the same number
   of amount?
   a. 12 rounds   b. 8 rounds
   c. 6 rounds   d. Never

14. After Karan has got Rs. 20 in total, another player Sarabjeet joins them, with a ball which is dealt along
   with the previous three and distributed among all four. Four rounds after joining, Sarabjeet has exactly the same
   amount as Karan. What is the number on the ball that Sarabjeet brought?
   a. 6
   b. 3
   c. 2
   d. Cannot be determined uniquely