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Sports & Physical Education

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thakuranjna99

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TOURNAMENT

To conduct tournament there are four methods:

- Knockout / Elimination Tournament
- League Tournament
- Combination Tournament
- Challenges Tournament

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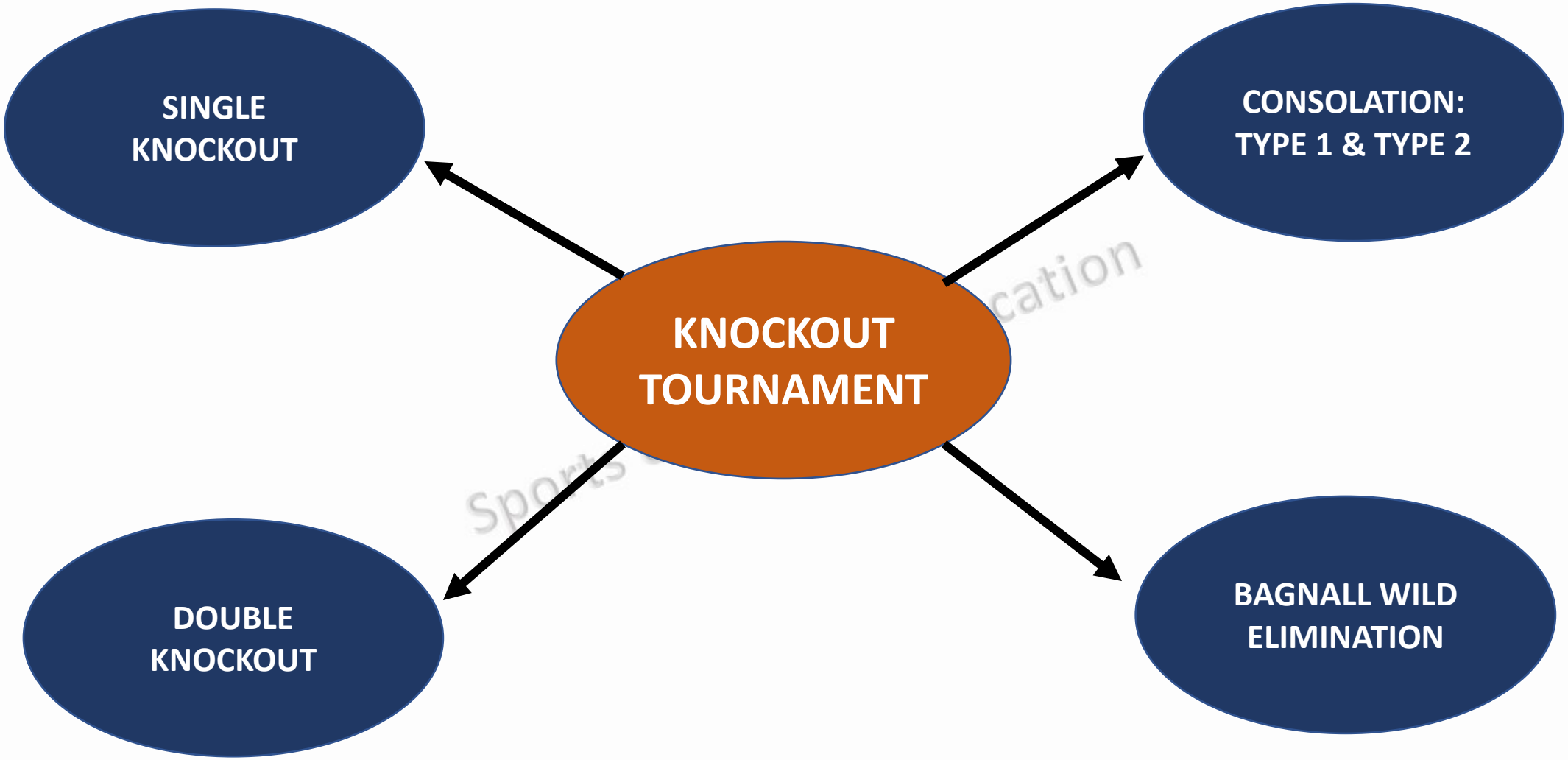
Knockout / Elimination Tournament

In this type of tournament a team which is once defeated automatically get eliminated from the tournament.

➢Type of Knock out tournament



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SINGLE KNOCKOUT

Also called as **Olympic System Tournament**, **Single Penetration** or **Sudden Death Tournament**.

FIXTURE IN SINGLE KNOCKOUT TOURNAMENT

Number of Matches : **“n - 1”** ; n : total numbers of teams

e.g. If number of teams are 16 than the number of matches is equal to 16 – 1 = 15.

Number of matches to be played in a knockout tournament is always one less than the number of teams.

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FIXTURE IN TWO HALFS: Number Of Teams In Upper And Lower Half:

➢For Even Numbers Of Team:

Number of team in upper and Number of team in Lower Half $= \frac{n}{2}$

➢For Odd Numbers Of Team:

Number of team in upper Half $= \frac{n+1}{2}$

Number of team in Lower Half $= \frac{n-1}{2}$

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BYE

Bye refers to a team automatically advancing to the next round of tournament play without competing .

Bye = Next Power Of 2 – Number Of Teams

Power of 2 = Least power of 2 higher than number of teams ;
$2^1, 2^2, 2^3, 2^4, 2^5, \ldots$

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Formula to calculate BYE:

- **For Even Numbers Of Team:**

$$\text{Number of byes} = \frac{nb}{2}$$

- **For Odd Numbers Of Team:**

$$\text{Number of byes in upper Half} = \frac{nb-1}{2}$$

$$\text{Number of byes in Lower Half} = \frac{nb+1}{2}$$

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NUMBER OF ROUNDS

Number of round will be the **next power of 2** i.e.2^n

where n will be the number of rounds

- **Example:** Let number of teams = 12

  Here, Next power of 2 is $2^4 = 16$

  Therefore, Number of Round = 4

  Hence for 12 teams, number of round will be 4

METHOD OF FIXING BYE

1. First bye is given to the last team of the lower half.
2. Second bye is given to the first team of the first half.
3. Third bye is given to the first team of lower half.
4. Fourth bye is given to the last team of upper half.

And so on.

KNOCKOUT FIXTURE FOR 14 TEAMS:

Total number of teams(n) = 14 ; here n is even.

Number of matches(n-1) = 14 – 1 = 13

Number of Rounds (Next power of 2 (2^4=16)) = 4 Rounds

Number of teams in Upper Half and Lower Half ($\frac{n}{2}$)= $\frac{14}{2} = 7$

Bye = Next power of 2 – number of teams

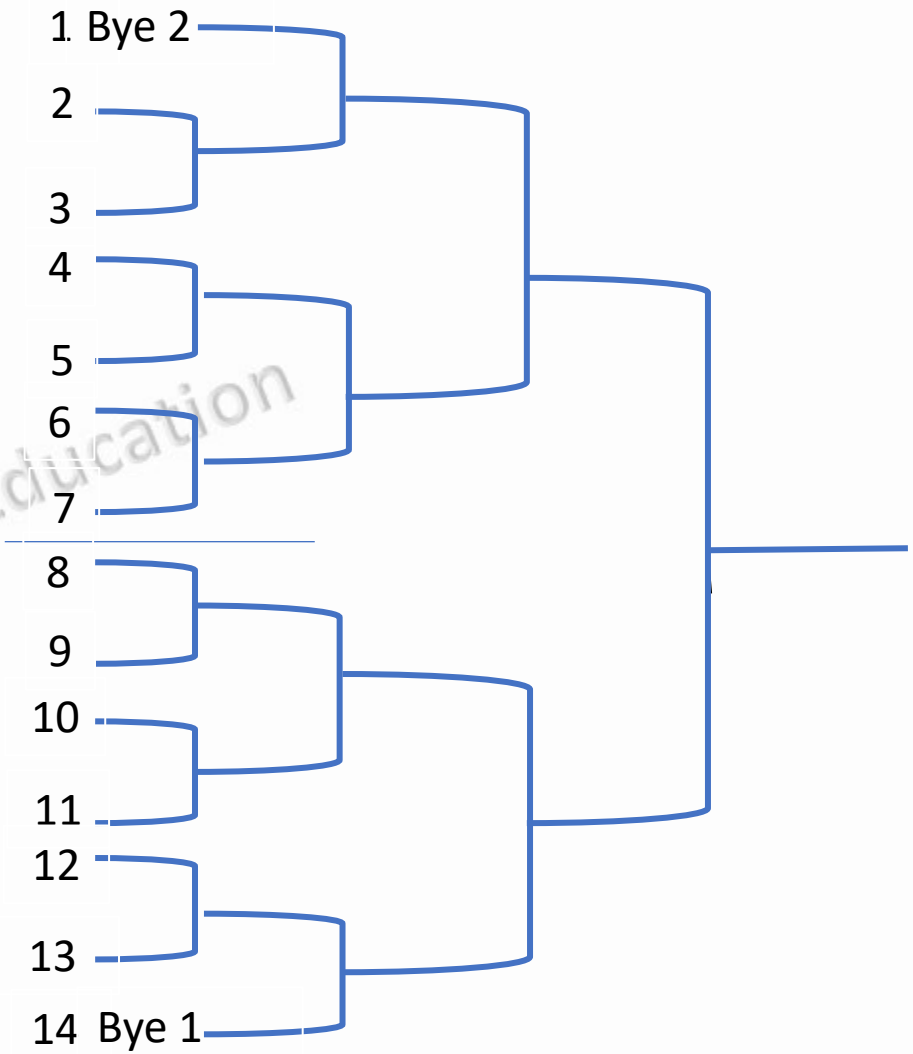
= 16 – 14

= 2

Total Bye = 2

Number of bye in Upper Half = $\frac{nb}{2} = \frac{2}{2} = 1$

Number of bye in Lower Half = $\frac{nb}{2} = \frac{2}{2} = 1$



KNOCKOUT FIXTURE FOR 11 TEAMS:

Total number of teams(n) = 11 ; here n is odd.

Number of matches(n-1) = 11 – 1 = 12

Number of Rounds (Next power of 2 (2^4=16)) = 4 Rounds

Number of teams in Upper Half ($\frac{n+1}{2}$)= $\frac{11+1}{2} = 6$

Number of teams in Lower Half ($\frac{n-1}{2}$)= $\frac{11-1}{2} = 5$

Bye = Next power of 2 – number of teams

= 16 – 11 = 5 bye

Number of bye in Upper Half = $\frac{nb-1}{2}$ = $\frac{5-1}{2} = 2$

Number of bye in Lower Half = $\frac{nb+1}{2} = \frac{5+1}{2} = 3$

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FIXTURES OF KNOCKOUT IN QUARTERS

When number of teams in a Knock our tournament are very large(more than or equal to 16), the fixture is divided into four quarters i.e. each half to be divided in two parts. The first and second quarters will complete the upper half and the third and fourth quarters will complete the Lower half.

DIVISION OF TEAMS INTO QUARTERS:

CASE 1: When total numbers of team are divisible by 4:

In this case each quarters will have equal number of teams

NUMBER OF TEAMS	Q1	Q2	Q3	Q4
16	4	4	4	4
20	5	5	5	5
24	6	6	6	6
32	8	8	8	8

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CASE 2: When total numbers of team are not divisible by 4:

Let us understand through an example.
Let there are 27 teams:

QUARTER	Q1	Q2	Q3	Q4
24 TEAMS	6	6	6	6
SEQUENCE TO FILL REMAINING TEAMS	**I**	**III**	**II**	**IV**
3	1	1	1	-
DIVISION	7	7	7	6

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METHOD OF FIXING BYE

Bye = Next power of 2 – number of teams

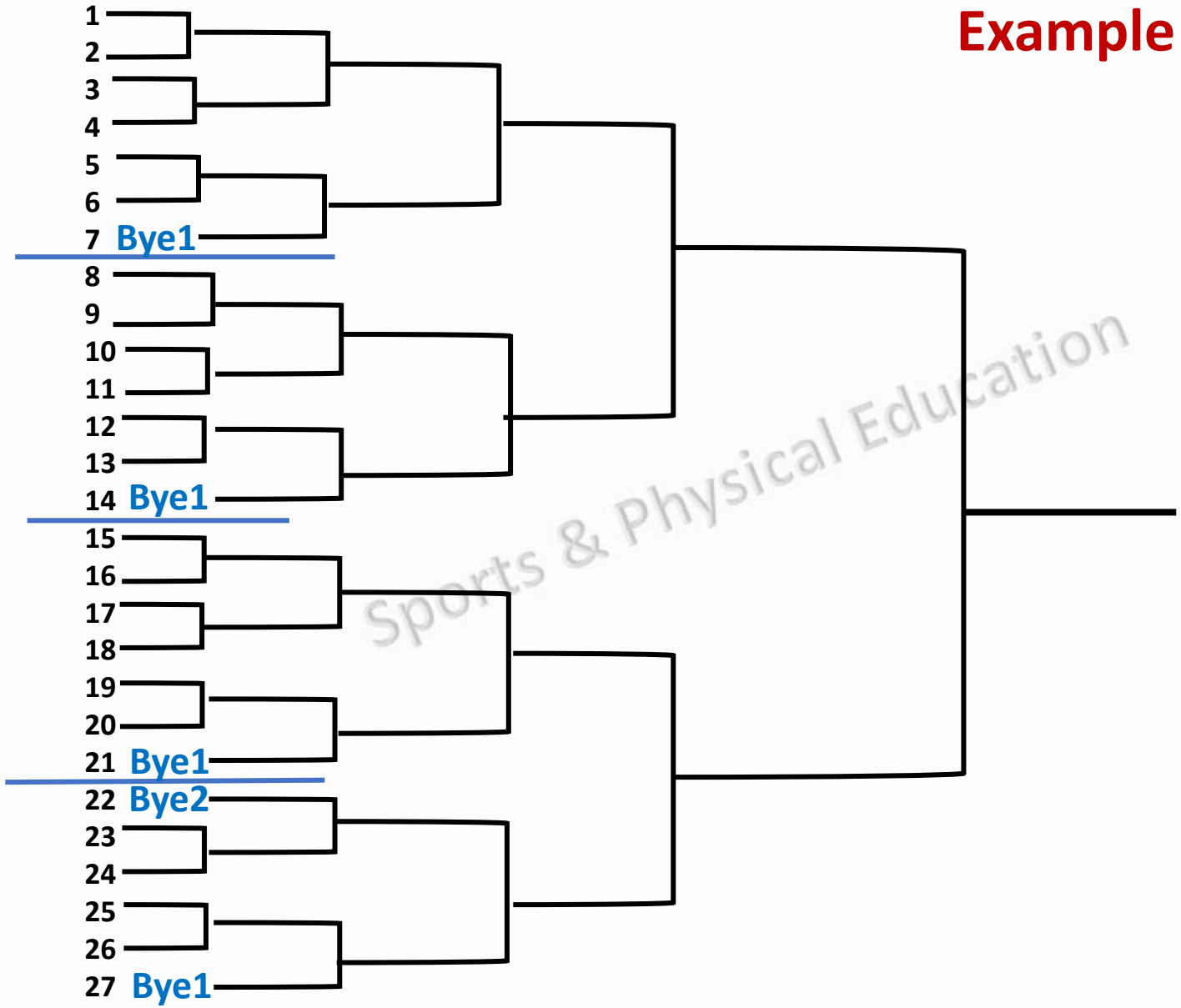
For 27 teams, Number of byes = 32 - 27 = 5

Let us fill 5 byes as explained below:

BYE IN QUARTER	BQ1	BQ2	BQ3	BQ4
4 BYES	1	1	1	1
SEQUENCE TO FILL REMAINING BYES	IV	II	III	I
1	-	-	-	1
DIVISION	1	1	1	2

FIXTURES OF KNOCKOUT IN QUARTERS

Example - 27 Teams



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SEEDING

Seeding is a procedure by which good teams are placed in fixtures in such a way that stronger teams do not meet each other at the very start of a tournament. In seeding, the strong teams are selected to keep them at appropriate places in the fixtures so that they should not meet in the earlier rounds.

METHOD OF SEEDING:

- Seeding is given in the power of 2 i.e. 2, 4, 8, 16 etc.
- With two seeded entries, one should be placed at the bottom of lower half and the other at the top of the upper half.
- If four competitor are two be seeded, the third should be placed at the upper of the lower half and other at the lower of the upper half.
- If there are byes, the seeded teams get them in order of their ranking . First team gets the first bye , second team to the second bye and so on.

Example 17 Teams With Seeding Four Teams:

Total number of teams(n) = 17 ; here n is odd.

Number of matches(n-1) = 17 – 1 = 16

Number of Rounds (Next power of 2 (2^5=32)) = 5 Rounds

Number of teams in Upper Half ($\frac{n+1}{2}$)= $\frac{17+1}{2} = 9$

Number of teams in Lower Half ($\frac{n-1}{2}$)= $\frac{17-1}{2} = 8$

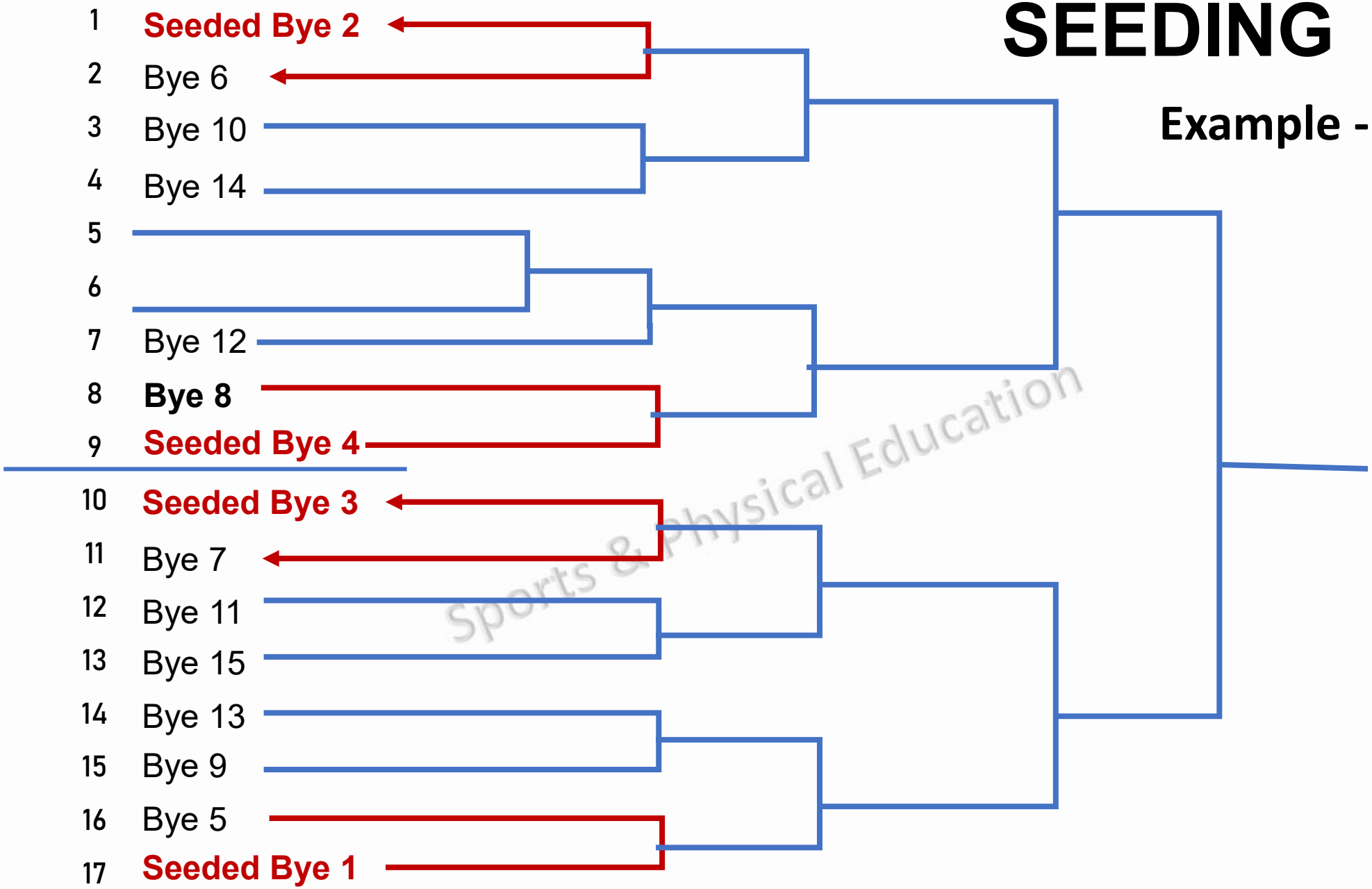
Bye = Next power of 2 – number of teams = 32 – 17 = 15 bye

Number of bye in Upper Half = $\frac{nb-1}{2} = \frac{15-1}{2} = \mathbf{7}$

Number of bye in Lower Half = $\frac{nb+1}{2} = \frac{15+1}{2} = \mathbf{8}$

SEEDING

Example -17 Teams



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SUPPER SEEDING

When some top ranking players or teams participate in a tournament, the fixtures are generally drawn in such a manner that these players or teams play directly at Quarter Finals or Semifinals stage.

Example-

A fixture of 24 teams participating in a tournament including 4 teams, i.e., 1, 12, 13 and 24, are given special seeding direct at the Quarter Finals stage.

For deciding the number of byes for the fixture of special seeding, first subtract the number of teams that are given special seeding (4) from the total number of teams participating (24), i.e., 24 – 4 = 20. Now, Number of Byes = 32 – 20 = 12 Byes

SUPPER SEEDING

❑ 24 Teams in Quarter-

- ➢ **24/4 = 6 Teams in each Quarter**

Quarter	1	2	3	4
24 Team	6	6	6	6

Number of Byes
= 32 – 20 = 12 Byes

❑ Bye in Quarter-

- ➢ **12/4 = 3 bye in each Quarter**

Quarter	1	2	3	4
12 bye	3	3	3	3
	IV	II	III	I

SUPPER SEEDING

I
1 Super Seeding
2 Bye1
3 Bye3
4
5
6 Bye2

II
7 Bye2
8
9
10 Bye3
11 Bye1
12 Super Seeding

III
13 Super Seeding
14 Bye1
15 Bye3
16
17
18 Bye2

IV
19 Bye2
20
21
22 Bye3
23 Bye1
24 Super Seeding

Winner

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DOUBLE KNOCKOUT TOURNAMENT

The Double Knockout Tournament , also known as Double Elimination tournament. Unlike a single knockout, where players are eliminated immediately upon losing any game, **in a double knockout players are eliminated only after losing two games.**

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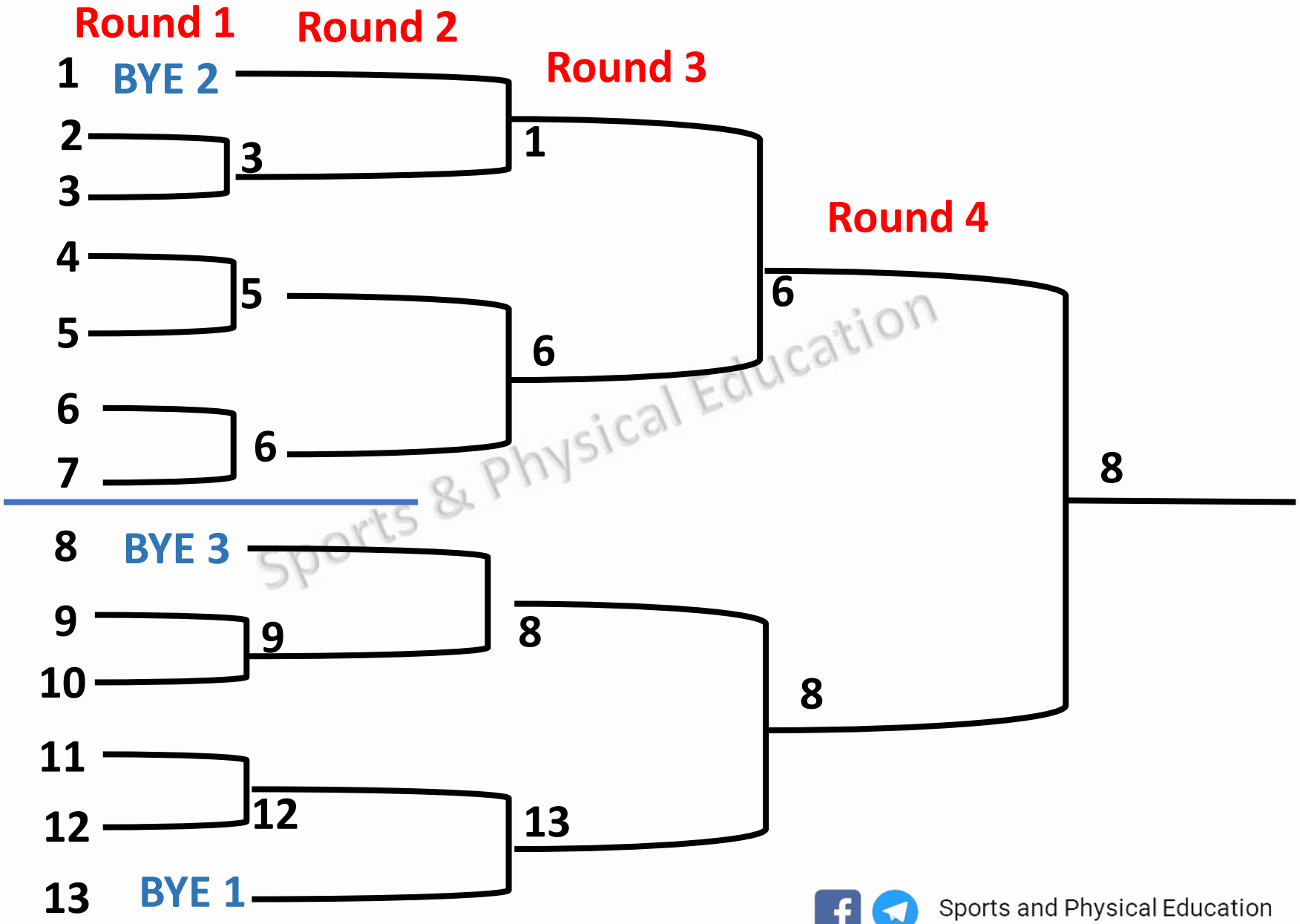
Example- 13 Team

- Total number of teams(n) = **13**
- Number of matches(2n-2) = **2x13 – 2 = 24**
- Number of teams in Upper Half $\left(\frac{n+1}{2}\right) = \frac{13+1}{2} = 7$
- Number of teams in Lower Half $\left(\frac{n-1}{2}\right) = \frac{13-1}{2} = 6$
- Bye = Next power of 2 – number of teams = **16 – 13 = 3 bye**
- Number of bye in Upper Half = $\frac{nb-1}{2} = \frac{3-1}{2} = 1$
- Number of bye in Lower Half = $\frac{nb+1}{2} = \frac{3+1}{2} = 2$

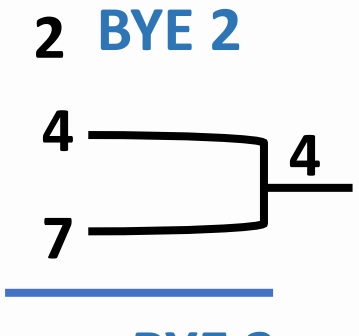
Example- 13 Team Fixture

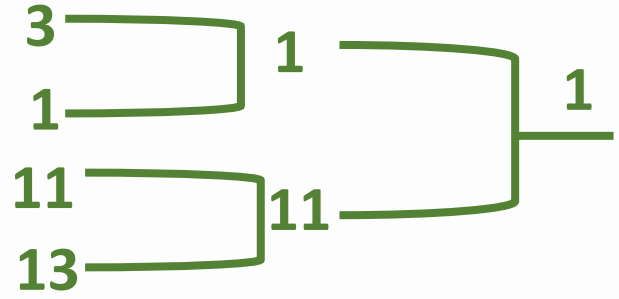


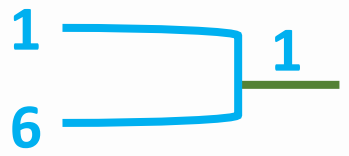
DOUBLE KNOCKOUT TOURNAMENT

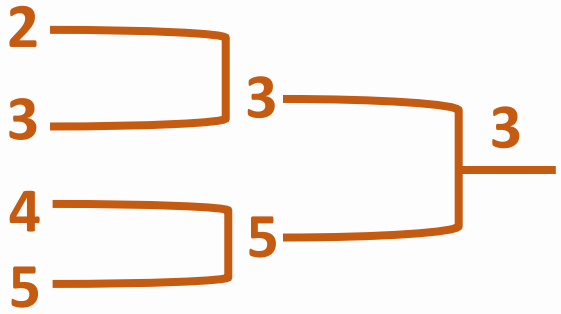
Round 1	Round 2	Round 3	Round 4
2	3	1	6
4	5	13	
7	9		
10	12		
11			

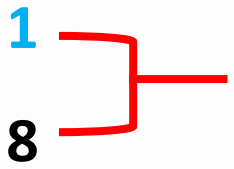
Round 1	Round 2
2	3
4	5
10	9
11	12

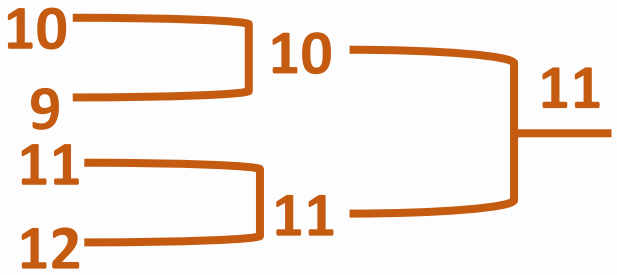












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Consolation Tournament

- It provides a chance to the defeated teams to play again and show their skill/performance and win subsidiary honour. We know the fact that in single knockout tournament a good team may get itself eliminated by chance or by other reason it does not have another chance to show its real worth, therefore, consolation tournaments are suggested.

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CONSOLATION TOURNAMENT

TYPE-I

- In this type of tournament all the teams that were defeated in the first round of regular single elimination tournament and the teams that got byes in the first round but were defeated in second round will play among themselves in consolation tournament for subsidiary honour.

TYPE-II

- In this type of tournament, every loser of regular round will have an opportunity to play in the consolation round to win the subsidiary honour. The arrangement of the teams should be such that teams that meet in regular rounds, do not meet in early rounds of the consolation..

FIXTURE IN CONSOLATION TOURNAMENT-I

KNOCKOUT FIXTURE FOR 11 TEAMS:

Total number of teams(n) = 11 ; here n is odd.

Number of teams in Upper Half $(\frac{n+1}{2}) = \frac{11+1}{2} = 6$

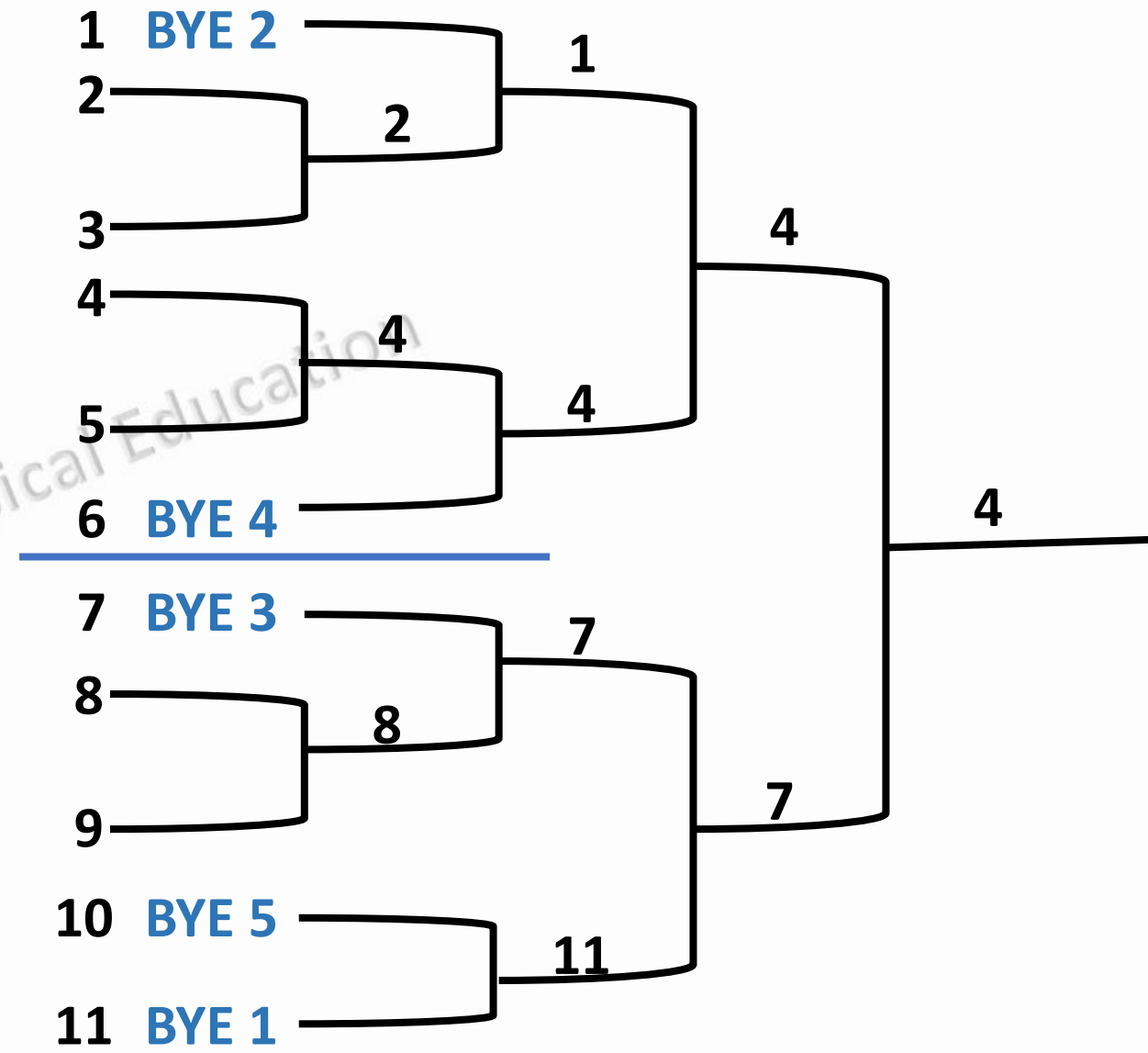
Number of teams in Lower Half $(\frac{n-1}{2}) = \frac{11-1}{2} = 5$

Bye = Next power of 2 – number of teams

= 16 – 11 = 5 bye

Number of bye in Upper Half = $\frac{nb-1}{2} = \frac{5-1}{2} = 2$

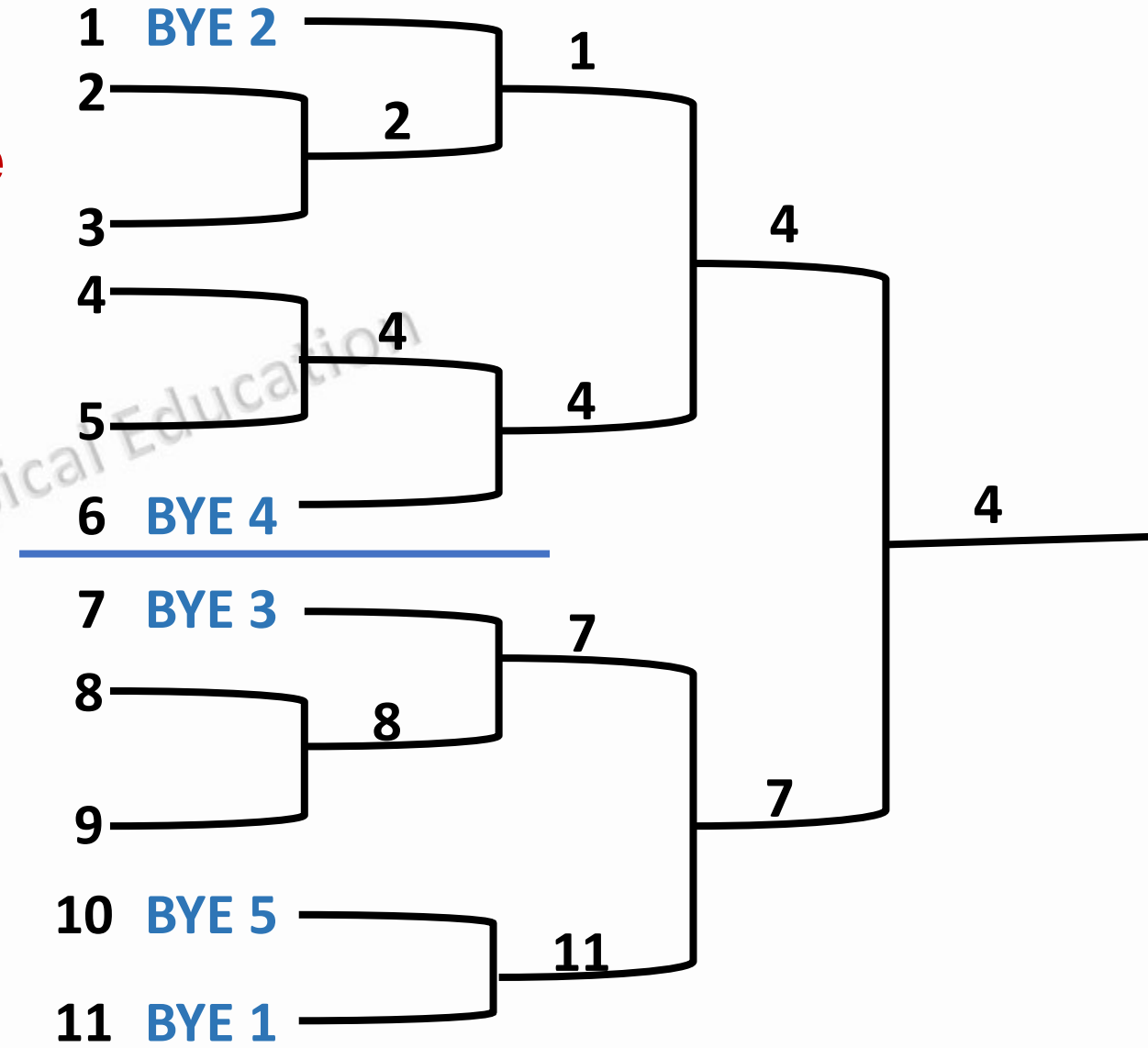
Number of bye in Lower Half = $\frac{nb+1}{2} = \frac{5+1}{2} = 3$



FIXTURE IN CONSOLATION TOURNAMENT-I

Teams that are eliminated in the first round and teams who got bye eliminate in second round.

3, 5,9, 6,10



➢ Teams that are eliminated in the first round and teams who got bye eliminate in second round will play among themselves in the consolation round.

3, 5,9, 6,10

Total number of teams(n) = 5 ; here n is odd.

Number of teams in Upper Half ($\frac{n+1}{2}$)= $\frac{5+1}{2} = 3$

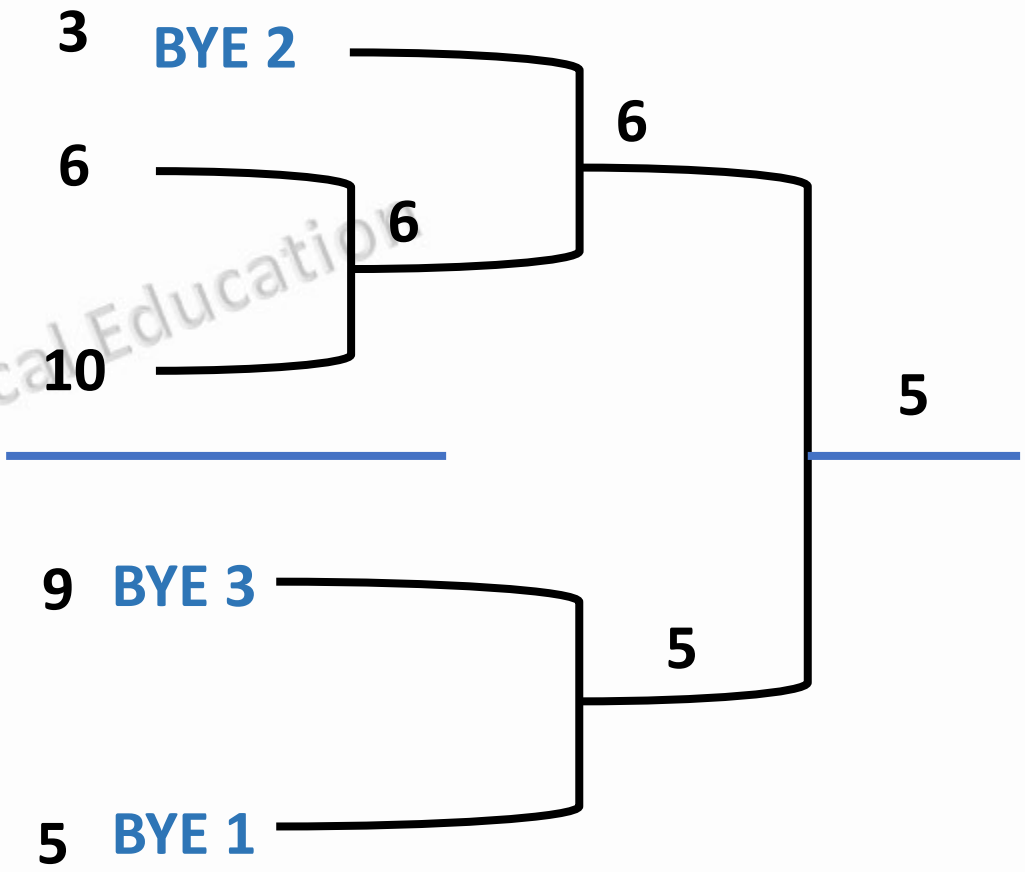
Number of teams in Lower Half ($\frac{n-1}{2}$)= $\frac{5-1}{2} = 2$

Bye = Next power of 2 – number of teams

= 8 – 5= 3 bye

Number of bye in Upper Half = $\frac{nb-1}{2} = \frac{3-1}{2} = 1$

Number of bye in Lower Half = $\frac{nb+1}{2} = \frac{3+1}{2} = 2$



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FIXTURE IN CONSOLATION TOURNAMENT-II

❑ Method -1

- Condition -1
- Condition -2

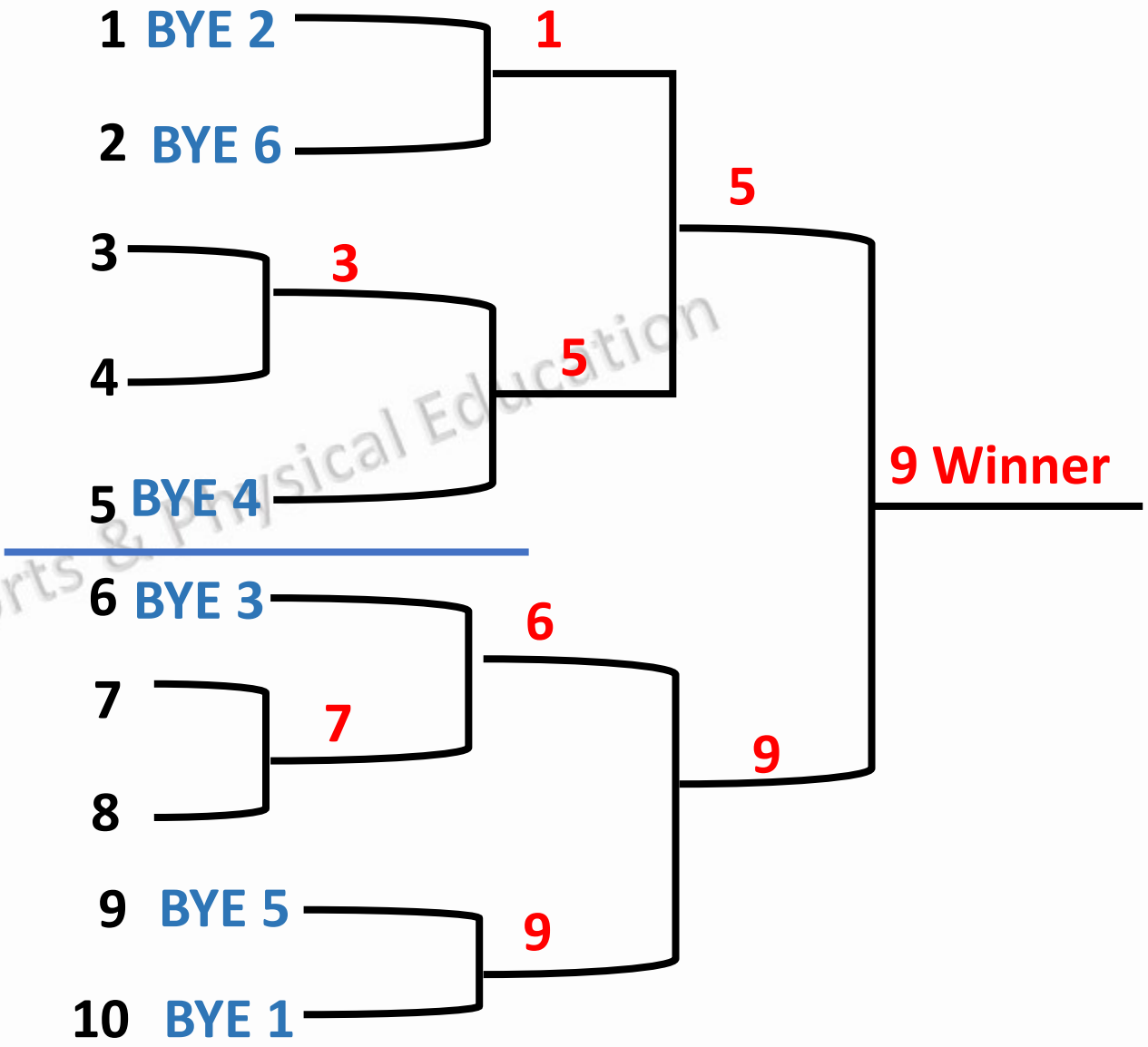
❑ Method -2

FIXTURE IN CONSOLATION TOURNAMENT-II

❑ Method -1

- Condition -1

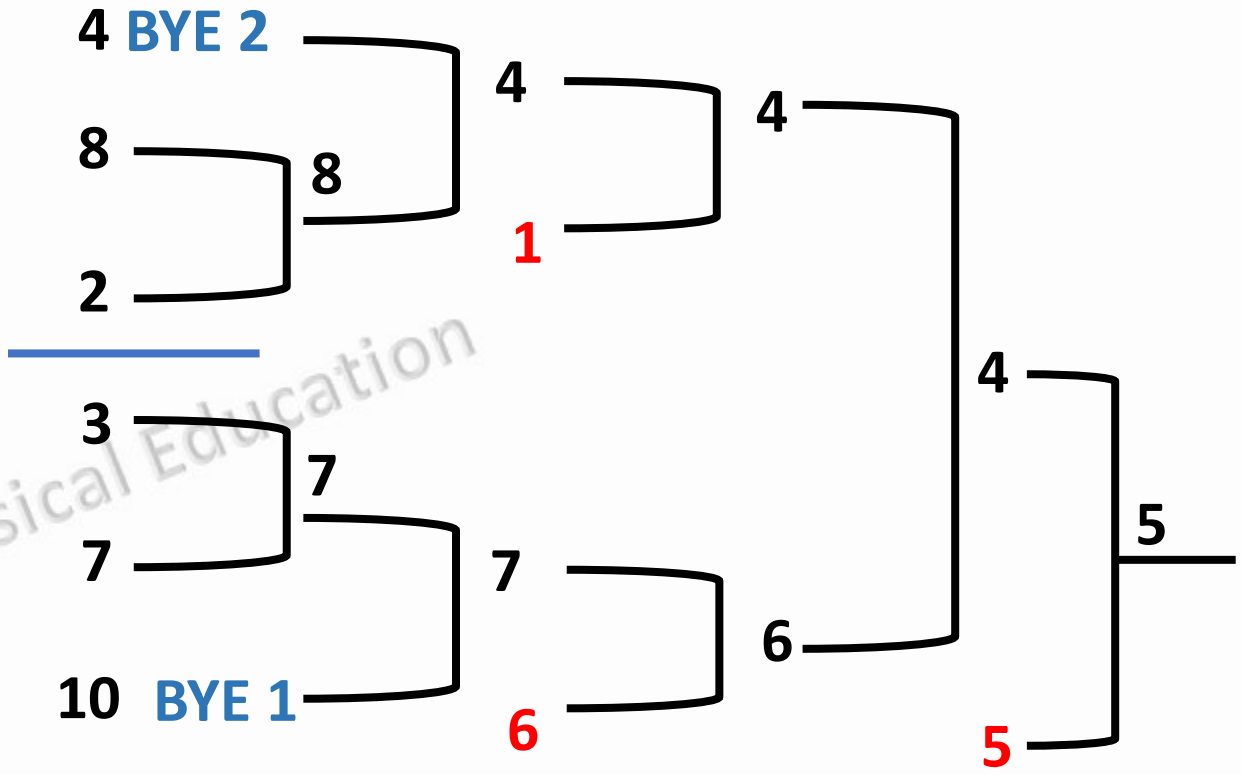
SINGLE KNOCKOUT FIXTURE FOR 10 TEAMS:



FIXTURE IN CONSOLATION TOURNAMENT-II

Condition -1

Round 1	Round 2	Round 3	Round 4
4	2	1	5
8	3	6	
	7		
	10		

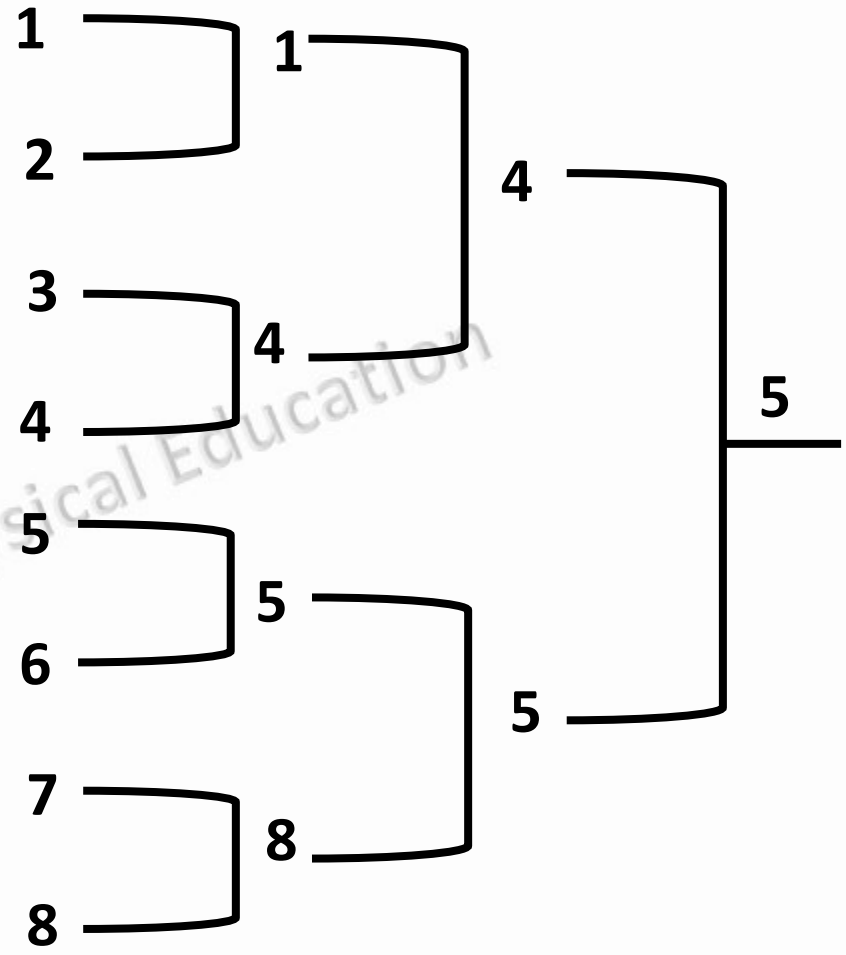


FIXTURE IN CONSOLATION TOURNAMENT-II

❑ Method -1

- Condition -2

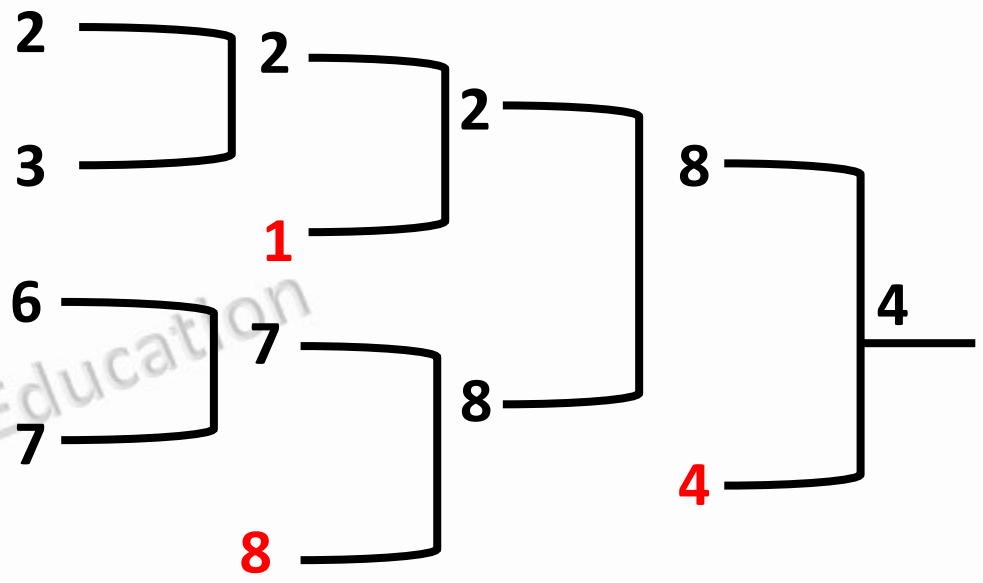
SINGLE KNOCKOUT FIXTURE FOR 8 TEAMS:



FIXTURE IN CONSOLATION TOURNAMENT-II

Condition -2

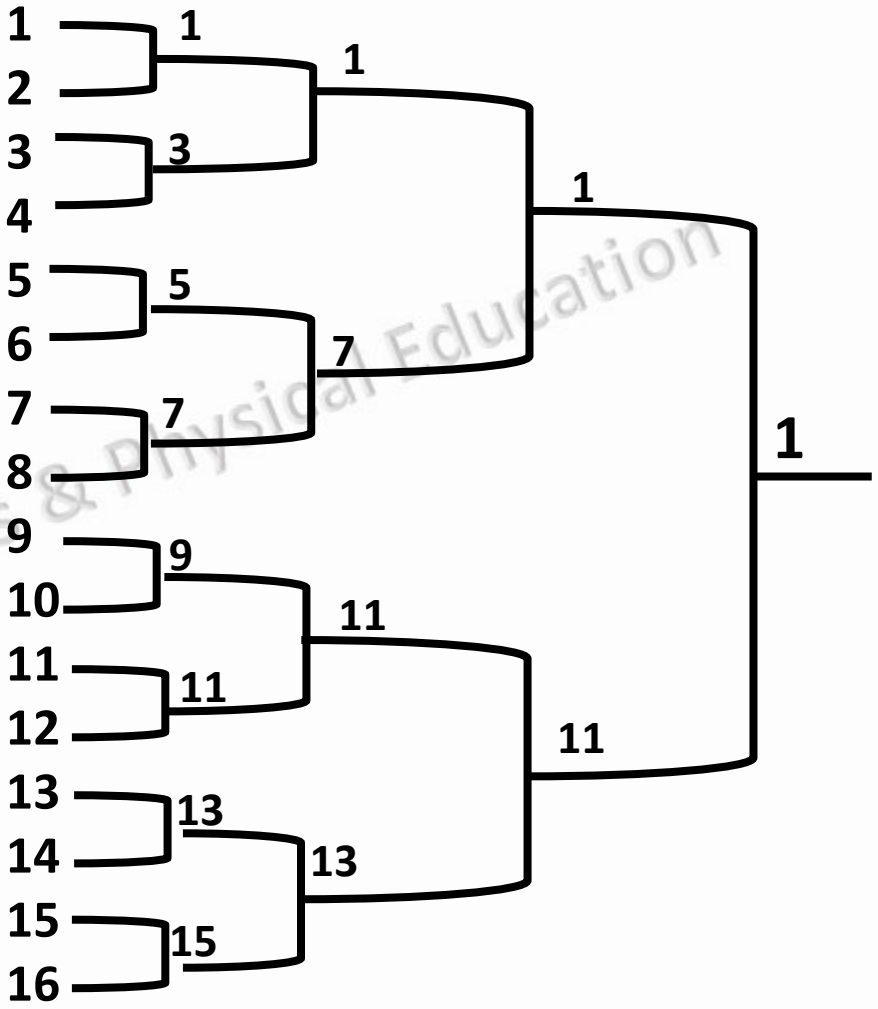
Round 1	Round 2	Round 3
2	1	4
3	8	
6		
7		



FIXTURE IN CONSOLATION TOURNAMENT-II

Method -2

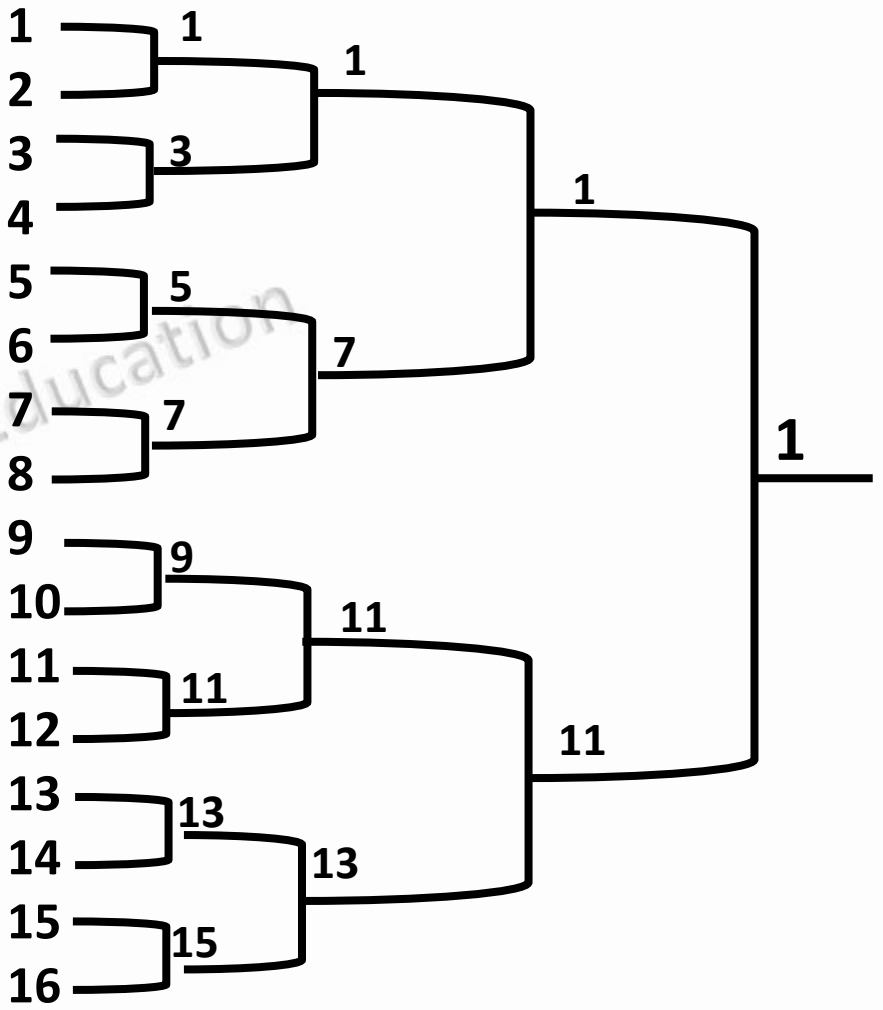
SINGLE KNOCKOUT FIXTURE FOR 16 TEAMS:



FIXTURE IN CONSOLATION TOURNAMENT-II

Method -2

Round 1	Round 2	Round 3	Round 4
2	3	7	11
4	5	13	
6	9		
8	15		
10			
12			
14			
16			



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Fixture in consolation tournament-II

R 1	R 2	R 3	R 4
2	3	7	11
4	5	13	
6	9		
8	15		
10			
12			
14			
16			

Loser I-Round

2 4 6 8 10 12 14 16 → 2 8 10 16 → 8

Loser II-Round

3 5 9 15 → 3 9 → 3

Loser III-Round

7 13 → 7

Loser IV-Round

3 7 11 → 7

7 Consolation Winner

Bagnall-Wild Elimination Tournament

- Bagnall –Wild tournament is a modified of knockout tournament. Its strong appeal lies in the fact that true second and third place winners are decided.
- This tournament can truly decide the First three place.

Bagnall-Wild Elimination Tournament

Single Knockout Fixture
Example -11 team

Total number of teams(n) = 11 ; here n is odd.

Number of teams in Upper Half ($\frac{n+1}{2}$)= $\frac{11+1}{2} = 6$

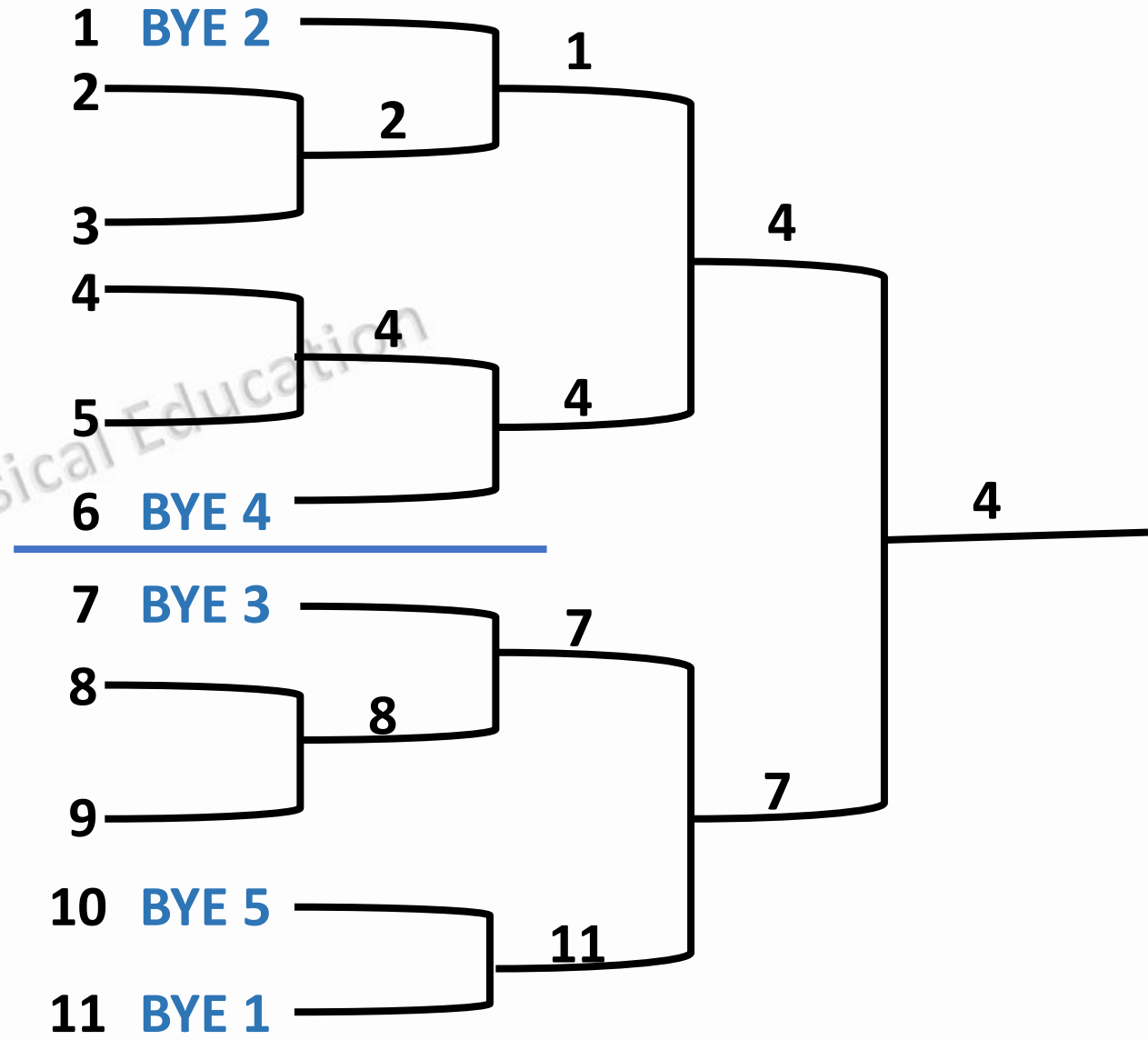
Number of teams in Lower Half ($\frac{n-1}{2}$)= $\frac{11-1}{2} = 5$

Bye = Next power of 2 – number of teams

= 16 – 11 = 5 bye

Number of bye in Upper Half = $\frac{nb-1}{2} = \frac{5-1}{2} = 2$

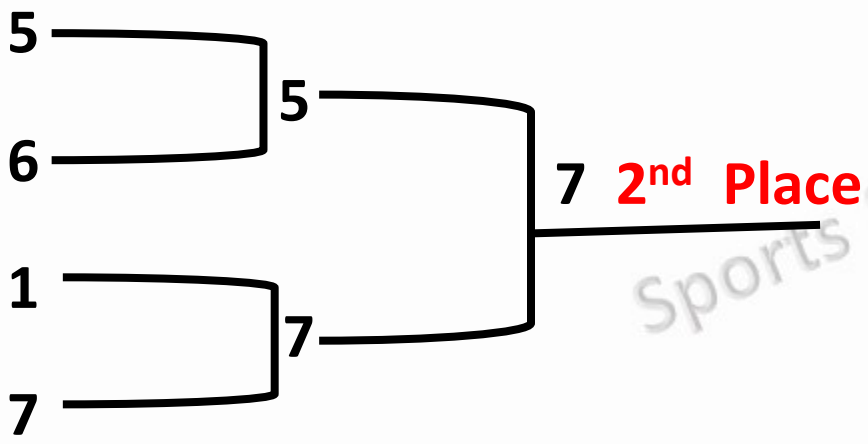
Number of bye in Lower Half = $\frac{nb+1}{2} = \frac{5+1}{2} = 3$

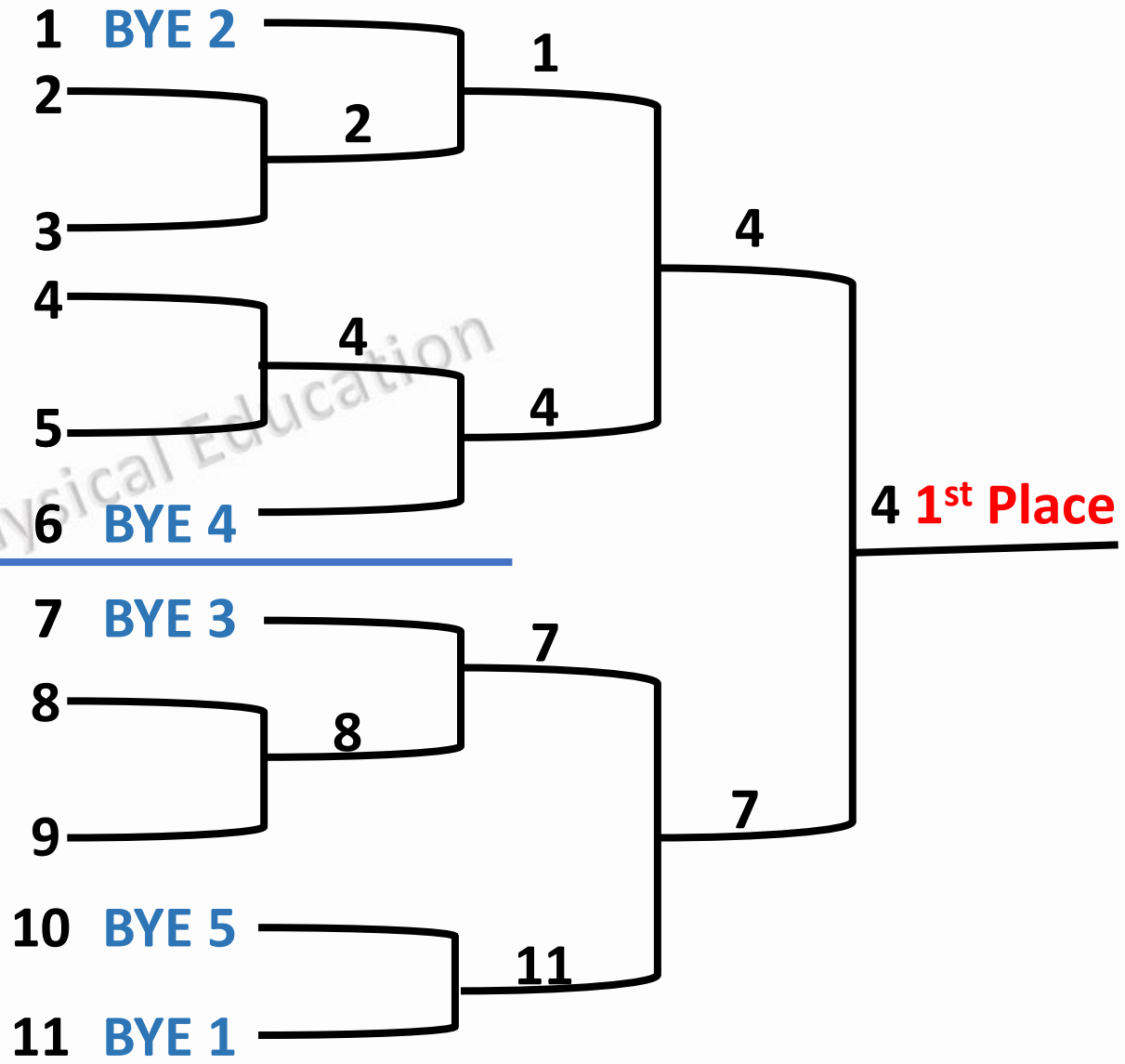


Bagnall-Wild Elimination Tournament

All the teams defeated by first place winner

5, 6, 1, 7





Bagnall-Wild Elimination Tournament

All the teams defeated by 2nd place winner 8, 11, 1, 5