Rotolore - Roll the Ball

Problem Statement :

Teams should make a model of roller coaster track using plastic tubes (transparent) or paper.

Model rule:

1. Size restriction: Model height should be within 1.5 meter. Model area should be within: 1.5x1.5 m^2.

2. Track should be design for a regular size glass marble ball.

3. As the roller coaster does not have any external energy source without gravitational acceleration, teams do not use any kind of external energy source to run the marble ball without gravitational acceleration. Teams may use electrical energy for background lightning.

4. Each team have to measure the total length of the track of writing it down on respective roller coaster. In case of any circular object diameter is considered as length.

5. Teams should use more than one marble in case one marble fails to complete the track.

6. Maximum 3 trials will be given to all teams

7. All teams will be given 45 minutes for joining the parts on the event day

Judging Criteria :

1. Time (30 points):

Each group will be entitled to three runs. The longest time to complete the total track is calculated as official time.

Calculation of points: Official time(sec) * 30

2. Technical points:(40)

a. Loop factor(20): points= sum of the diameters of all the loops used in a model* 20

b. Vertical jump(10): the height that traveled by a coaster at the time of a jump.

Point: height * 10

c. Vertical loop(10): points: for one loop 6 points and for two loops 10points.

Bonus: Degree of Openness: points will be awarded for degree of openness of the track. Mostly closed- 0pts, around 50% open- 5pts, around 75% open- 10pts.

3. Aesthetics(30):

a. Creativity(15): For 90' turn of the track points: for 1 turn=2pts, for 2turns= 5pts. For 180' turns points: for 1turn= 5points. For 2turns = 10pts.

b. Theme(5): What is the name of your roller coaster? Does your senery support this theme? Does the design support your name?

c. Details(10): teams must submit the following:

i.   Start height.
ii.   Vertical jump.
iii.   Diameter of loops.
iv.   Diameter of the vertical loops:
v.   Total length of the track.