The Ultimate Burnout

GC Points – 300

Final Date – 08/10/2018

Venue – Will be informed 2 days before event

Time – 17:30 onwards

Last Updated – 2:18 | 12/09/2018

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Surely every 'non-ghissus' has played the game "**Burnout Revenge**" and dreamt of playing it live. Thus serving as the perfect platform to test your skills, we present this event "**The Ultimate Burnout**". The ultimate aim of the competition is to accelerate the sense of wild competition, racing through your hearts, blending the robotics with motor sport and attracting the all age groups to indulge in the event.

This event requests each hostel to build a robotic car that can quickly accelerate to high speeds and win the race or come in top 3 positions. But this surely doesn't sound like a '**Burnout'** and moreover very lame. The twist comes when the predefined rules of this competition are "*No Holds Barred*".

Basic rules for car:

1. Each hostel has to build a **wireless RC car** of specified dimensions (stated **after mid sem**).
2. The remote can either be a hardware device or cell phone operated.
3. Cars may have to travel in multiple terrains all of which will be specified one week before the event. (*We will avoid too difficult terrains as the aim is to attract even the first/second yearites*).
4. Cars may have to perform **small air-times**, so be ready with basic suspensions.
5. If the bot goes outside specified dimension then 5% deduction will be done per millimeter from the total marks they have gained.

Basic rules for track:

6. The track may have multiple routes, out of which any one can be accessed but timely checkmarks have to be reached.
7. The tracks may have medium elevations without fences, so try accurate controls with faster remote to car transmission rate.
8. The tracks will hold max 4 cars at a time, so hostels will be divided in groups according to chit picking which will be **one day before the event**.
9. A designed map will be provided one week before and photos and dimensions will be provided 2 days before for final improvisation.
10. *Physical Contact*: Each participant will be allowed to physically handle their car (in case of toppling or malfunctioning or when car leaves the track) placing them at the same point where it malfunctioned, at the cost of some marks stated below.
11. Each participant can book a slot of no more than 30 min one day before the competition to test their cars.

No holds barred instructions:

12. There is only going to a single race for one round with these instructions applicable in the same.
13. Each participant is allowed to **knockout** or damage competitors car with whatever possible tech he/she can build.
14. The bot when on the starting line should be under given dimensions but **no limitations after the start**.
15. Can be a jumper but **not a flyer** i.e. the checkmarks need to be covered with the bot touching the ground. (C'mon after all it's a car race!)
16. *Physical Hit***:** A simple touch or contact between two bots of different hostels.
17. *Knocking Bot:* The bot which caused another bot to malfunction due to a physical hit.

18. *Knocked out Bot:* The bot which when malfunction due to a physical hit thus causing its hostel to claim a physical contact
19. *A* bot is considered *knocked out* if the bot malfunctions within 5 sec frame of a *physical hit.*
20. Knockouts are considered successful if the knocked-out team has claimed a **physical contact** within a 5 seconds frame from a bot being **knocked out** from the knocking bot.
21. *Ultimate knockdown*: If the knocked-out team quits the race due to inability to race anymore and the above condition is satisfied, bonus marks will be awarded.
22. In case when multiple cars are involved in the 5 second time frame of knockout, the decision of the secretary will be final.
23. In case of equal marks, a greater number of knockdowns will be awarded higher rank.

Game rules:

24. The game will consider of **2 stages**.
25. In first stage, all hostels will be grouped in groups of 3, resulting in four pools (given all dare to build this car) based on chit picking as mentioned above.
26. The winners of the first stage from each pool will be competing for final race.
27. The marks of both stages will be added for each hostel and finally rank will be given accordingly.
28. In case after first stage in of any pool, the winning hostel is not able to compete in second stage, hostel at second position will be given a chance for second stage and if even this hostel is unable to compete, no chance will be given further.
29. *Complete the Race:* Crossing all the checkpoints and then crossing the finish line.
30. Even if any one of the checkpoints is missed, race will not be considered completed even after crossing finish line and marks will be awarded per checkpoint basis and for knockdowns.

In Game Marks Table:

1st Position (additional only if you **complete the race**)	400
2nd Position (additional only if you **complete the race**)	250
3rd Position (additional only if you **complete the race**)	150
Race completion	20
Each knockdown	60
Ultimate knockdown	120
For total **i** physical contacts for **i>1**	$-20*(2^i)$

Each checkpoint	10
Reduction due to dimension	(5% per mm) of total the hostel scores in the end.

Prototype Study:

1. They have to explain the structural and electrical functioning of their bot.
2. Any Innovative technologies used to tackle, acceleration and suspension.
3. This doesn't have any marks but will serve as a judging criterion for participation condition in case your bot malfunctions in the end.
4. Any case of not being able to explain the technology used or the code used for it will result in instant disqualification so try to use components whose working is known by you or at least you can explain the code used in it.

Dimensions:
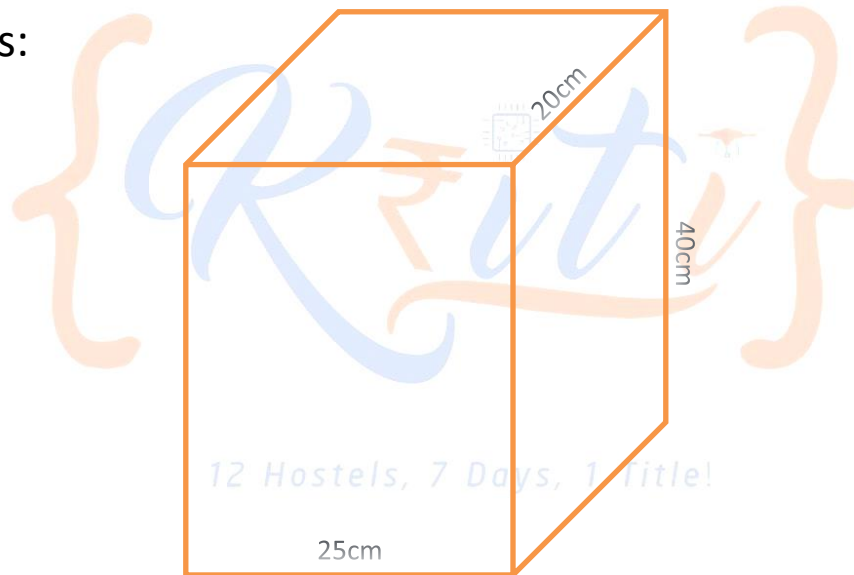
Threshold Condition: Threshold condition will be considered completed if you complete 3 checkmarks i.e. securing 30 points.
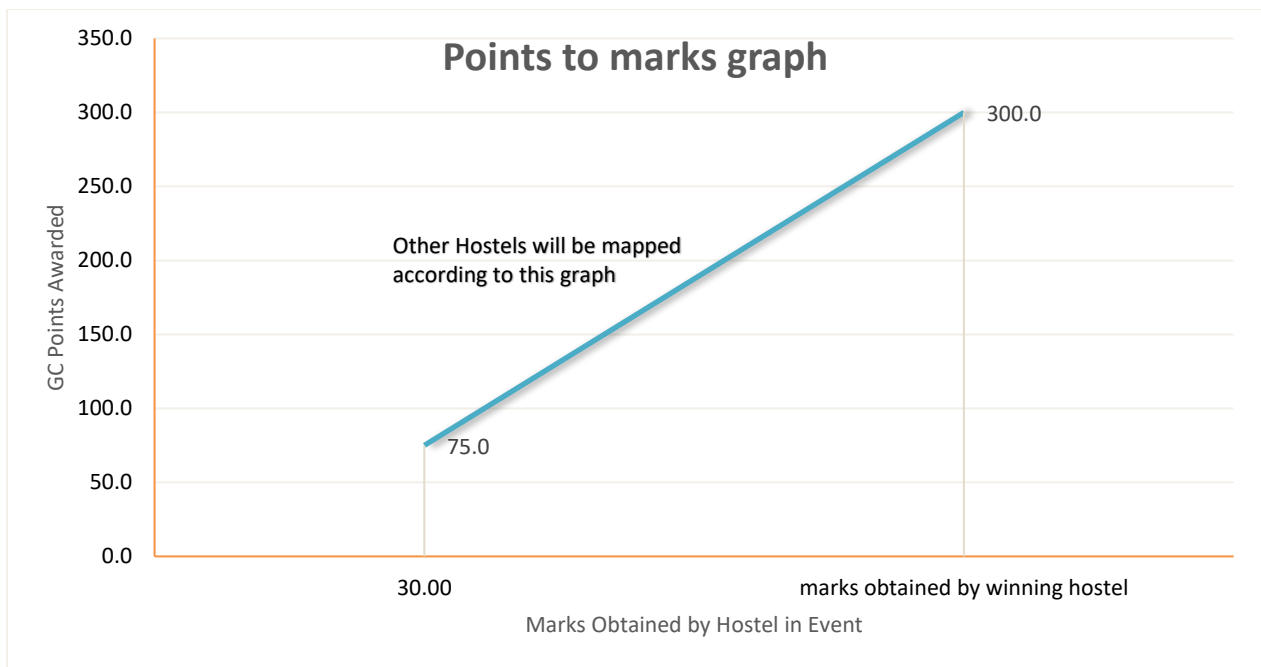
Participation Condition: Participation will be awarded only after completing 1 checkpoint. If there is a case of any prototype malfunction, secretary will award participation marks after studying the prototype.

People who can't Participate:

- Apoorva Kumar (160108010)
- Aniket Agrawal (160108005)

GC Points Structure:

1. For this event the GC Point distribution will feature a different structure.
2. The hostel coming first will be given the 100% GC points.
3. After that there will be linear scaling for the points with 15% GC points to the hostels scoring 30 marks.
4. This scale was decided so as to help people having a good number of knockouts might also get a good number of GC points and hostel who are not able to qualify for stage 2 also get a substantial amount of points.

Points to marks graph

Other Hostels will be mapped according to this graph

GC Points Awarded

Marks Obtained by Hostel in Event

THE FINAL VERDICT WILL BE OF THE CLUB SECRETARY!!