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# PRE-CONDUCTION REPORT

## GREEN OPUS 2015-16



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## **Introduction:**

Green Opus is the inter hostel electricity saving and energy conservation competition. It is a part of Melange to be conducted by the Presidential Council for GC'15-'16. The specific percentage of Green Opus in Melange is 50%. Of the events of Melange, Green Opus will be open to all pools.

It will be conducted in two phases, each in a different semester.

**Phase I:** It will involve reducing energy consumption in different hostels. It will also consist of a case study competition given to each pool through lottery. It will be held from 6<sup>th</sup> October to 6<sup>th</sup> November.

**Phase II:** It involves reduction of electricity consumption. It will tentatively be held from 1<sup>st</sup> January to 31<sup>st</sup> January. It will also involve a few miscellaneous events such as quizzes, poster designing, video making, etc. to increase the popularity of the event. The details of these events will be given in the Pre-Conduction report of Melange and the point-division will also be finalized then.

The pool structure for Green Opus is the same as that for the General Championship.

## **Points Structure:**

The weightage of the various events in Green Opus will be as follows:

Phase I: 20%

Case study: 40%

Phase II: 40%

For any competition held in Green Opus 2015-16, the points shall be awarded finally to the pool. Every competition has got some specified maximum points, and the points would be awarded as follows:

1<sup>st</sup> Place: 100% of the maximum points

2<sup>nd</sup> Place: 55% of the maximum points

3<sup>rd</sup> Place: 25% of the maximum points

4<sup>th</sup> Place: 15% of the maximum points

5<sup>th</sup> Place: 05% of the maximum points

- The overall final rankings of Green Opus will be announced after adding the points obtained by each pool in each of the above competitions.
- For the smooth and fair conduction of Green Opus, volunteers will be selected from each pool. This will ensure that there is no discrepancy in collecting data for the competition.



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## **Methodology of Judging:**

### **1) Electricity Consumption Reduction:**

*Base months: October 2014, January 2015*

*Judging months: October 2015, January 2016*

- Percentage reduction in per capita energy usage from “Base Months” to “Judging Months” will be calculated.
- To take into account the limited scope of reduction for halls with low per capita consumption, a Hall Scaling Factor (HSF), based on the hall’s per capita consumption relative to the average per capita consumption of all the halls, will be included and the reduction will be scaled.
- Pools will be ranked on the basis of their percentage reduction in per capita consumption scaled by HSFs. (Details of calculations given in Appendix)
- Hall 1 and Hall 9, being parent halls, will not be considered for judging.

### **2) Case study competition**

#### **Topics of case Study:**

1) **Sustainable Energy Systems:** (Challenges and opportunities to become 100% energy efficient Campus)

2) **Zero waste Campus:** (Challenges and opportunities to Reduce, recycle, reuse, treat and disposal of campus Solid waste, organic waste)

3) **Environmental/Ecological psychology of Campus Residents**

4) **Campus Biodiversity** (Analyse the different ecological species in the campus and ways to enhance and improve their existence)

5) **Efficient use of water and less wastage of food in campus** (To find innovative solutions for decrease in exploitation of resources provided to us by the institute.)

Student teams need to make campus assessments, formulate innovative improvements, and be involved in the implementation of the project

Judges for the case study will be decided later.



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## APPENDIX I

The procedure for calculating the HSF will be as follows:

- Per capita energy usage will be calculated for each hall.
- Average per capita energy usage will be calculated for all the participating halls.
- Per capita usage of each individual hall will be divided by average per capita to get the Hall Scaling Factor for that Hall. (lets assign it a value HSF)
- For each hall percentage reduction in per capita energy usage from “Base Months” to “Judging Months” will be calculated.
- This percentage reduction/increase in per capita energy uses will be divided or multiplied by the HSF:  
Suppose the consumption decreases by X, then the final score will be calculated by :  
 $SCORE = X / HSF$   
Suppose the consumption increases by Y, then the final score will be calculated by :  
 $SCORE = Y * HSF$
- The HSF will be advantageous for the halls which have their energy consumption below the institute average and will be disadvantageous for the halls which have higher energy consumption.

For example, if the average per capita consumption in the institute is 800Wh. Let's assume two halls as Hall A and Hall B. Hall A has a consumption of 500Wh and Hall B has a consumption of 800Wh. Then the HSF for the two halls will be  
Now, if Hall A reduces its consumption by 50Wh and Hall B reduces its consumption by 100Wh. The effective reduction in the consumption of the two halls will be:  
Effective reduction by Hall A =  $50 / 0.625 = 80$   
Effective reduction by Hall B =  $100 / 1.25 = 80$   
Therefore, as illustrated above, the HSF will ensure that all halls will be on a more or less equal footing in Green Opus.



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## APPENDIX II

Format for electricity charges to be applicable from January 2016

Sr. no.	Details	Units	Amount Rs.
1.	Units consumed by the hall including shops, canteens, and hall office	A1	
2.	Units consumed by Shops and canteens in the hall and the amount (bills enclosed)	A2	
3.	Units consumed by the hall office <b>(For Information only)</b>	A3	
4.	Units to be paid for by the hall <b>(A = A1 – A2 – A3)</b>	A	
5.	Electricity rate per unit	B	
6.	Electricity charges		<b>C = A * B</b>
7.	Fixed charges for the hall <b>(α% of monthly charges C)</b>		<b>C * α%</b>
8.	<b>Total (6 + 7)</b>		<b>D</b>
9.	Electricity duty <b>(β% of D)</b>		<b>D * β%</b>
10.	Regulatory charges <b>(γ % of D)</b>		<b>D * γ %</b>
11.	Protective load charges <b>(δ% of E, E = X * Y x 1)</b>		<b>E * δ%</b>
12.	<b>TOTAL (F = 8 + 9 + 10 + 11)</b>		<b>F</b>
13.	Contribution by Institute to common area/community charges <b>(θ% of F)</b>		<b>F * θ%</b>
14.	Electricity charges to be paid by the hall <b>(J = 12 – 13)</b>		<b>J</b>

Values of constants such as α, β, δ, etc. to be given by IWD.