

Problem Statement: Manthan

Contact: 1.Subham Kumar Sahu (9800050111)

2.Vinay Kumar (9494263344)

With the ever-increasing population, we've realized that food security is an important issue at hand that needs immediate action. With UN recognizing the same, they've developed 17 Sustainable Development goals, out of which Zero Hunger and Responsible Consumption and Production are two important goals.

But, take a step back and introspect, do we really care about the amount of food that is left unconsumed on our plates everyday? We simply don't.

IIT Kharagpur, one of the largest technical institutes of the country is home to over 10,000 students. With over 21 Halls of residence, out of all the institutes in the country, IIT Kharagpur is the largest generator of food waste. Not only are we unable to produce enough to meet the demands of the ever increasing population, but we're also wasting food that can feed a huge chunk of undernourished population. On top of that, the food waste along with the kitchen waste is disposed in an unsustainable manner, in an open landfill that adds up to carbon emissions, which is mixed with other waste from various sources, creating an unsustainable habitat for people living in and around the area.

Keeping in mind the above mentioned issue and using the data provided below, the participants are expected to provide solutions to the following:

- 1) Estimate the amount of food waste generated. Estimate the leftovers on the plates and the unconsumed food waste separately.
- 2) What can be done to minimize the both the types of food waste generated?
- 3) Devise the value chain of the food waste that is generated and provide ways to turn the kitchen waste and food waste into wealth, turning the university into a zero waste producing institute. (For turning waste into wealth, provide technical details of the project you plan to undertake, along with the costs involved, break-even period and the profitability analysis.)

Prakriti, IIT Kharagpur hopes that the efforts you put into this do not go to waste, and through the analysis of IIT Kharagpur, you're able to think about the impact that you can create in your own university/college. We plan to turn all universities into a zero waste university, and you can be the pioneer of the change you want to see in your university.

Assumptions:

1. Assume the space will be provided to undertake any project free of cost.
  2. The distance between each Halls of Residence is 0.5kms.
  3. The meals provided everyday are Breakfast, Lunch, Snacks and Dinner.
- Take other necessary assumptions and mention them explicitly in the solution.

Hall	Single	Double	Triple	Total person
AZAD	260	21	143	532
BC ROY	162			162
BRH	1390			1390
GOKHALE	10		44	142
HJB	163			163
JCB	262			262
LBS			650	1950
LLR	334			334
MMM		789		1578
MS	397			397
MT			164	492
NH	263	21	45	440
NIVEDITA	35	43	1	124
PATEL	262	19	45	435
RK	302	23	96	636
RP	307	22	160	1467
RANI LAXMIBAI	250			250
SAROJINI	213	16	20	305
VS	335			335
TOTAL:				11394

Weightage:

Q1: 10%

Q2: 30%

Q3: 60%

Rules:

1. Teams must consist of a minimum of 2 and maximum of 5 participants.

2. The event is open for participation from students of all departments.

3. The event will be conducted in two phases:

Online submission of abstract

Final presentation by shortlisted teams at IIT Kharagpur

4. Shortlisted teams from abstract submission round have to present their ideas in the form of PowerPoint presentation during Prakriti 2019 at IIT Kharagpur.

5. The abstract should be submitted as a powerpoint presentation of not more than 10 slides, excluding the first page and the last page.

6. Relevant statistics can be added to support your claim (you may add extra slides as appendix to include stats, images)

7. Mail your submissions to prakritikgp@gmail.com with subject as "Manthan Submission" on or before 1st March 2019, 11:59PM.

8. All the teams are requested to provide contact numbers, Email IDs and name of the college of each member along with the attached submission file in the mail.

9. The results of first round shall be given to the above listed emails and mobile numbers.

10. The decision of judges shall be final and binding.