



Technical Board
IIT Guwahati

3D Modelling and Printing

GC Points – 400

Final Date – 13/10/2018

Venue – New SAC

Time – 9:30pm

Last Updated – 11:00pm | 23/09/2018

Contact Details

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From reducing costs to increasing efficiency to spurring innovation, many people are excited about the impact that 3D printing will have on the future of manufacturing. However, the truth is, it already has made a significant impact on the manufacturing industry.

3D Printing is changing your health, education, the way we travel and allowing mass customized consumer products, right now.

THIS ISN'T SCIENCE FICTION ANYMORE.

Technical board's mission is to help the students to explore the 3D printing technology. Hence the problem statement covers the two most important aspects ie, Modelling and printing of the model created.

Objective:

Design a 3D model of the given building in any modelling software.

Description:

Each hostel have to make a 3D model of the desired building in any modeling software. The file should be submitted in STL format ONLY. The buildings will be decided by the technical board (For Eg: New sac building etc..) and they are allotted to the hostels on the basis of chit picking. The models will be printed after the submission date. The hostel's representative should be able to print the model on their own. Tech board will organize a workshop on the basics of 3D printer and its work frame which helps to print your model on your own.

Material Specification: PLA plastic. (Poly lactic acid) or ABS plastic (Acrylonitrile Butadiene Styrene)

Technical Board has its own 3D printer and all the printing models are done on that printer.

Each hostel can build their model in any 3D modelling software and they can use any 3D slicing software for generating the print models.

Buildings to be designed:

- Admin Block
- Library
- Core 1
- Core 2
- Core 3
- Core 4
- Lecture hall
- New sac Building
- Auditorium
- Conference hall

- Old Sac
- Director`s house
- Guest house (old)
- Guest house (New)

Marking Scheme:

The competition is scaled to 1000 marks and the kriti GC points will be based on the position.

- The designed file ie., STL file carries 40% of the total marks. Animation files are not acceptable.
Binary marking scheme
- The printing of the part carries 50% of the total marks. Every hostel has to print on their own and printing slots will be decided later.
The marking scheme will be decided on the printing specifications (Eg: Infill density used, Temperature used for heating etc)
- Lecture session carries 10% of the total marks.
Marks for attendance(at least 3 students from each hostel)

Judging Criteria:

- Each design should follow proper dimensional scaling of all the axes. Failure to do so will result in deduction of 10% of total marks.
- Each design should have appropriate contours. Failure to do so will result in deduction of 10% of total marks.
- Each design should have proper architectural elevations. Failure to do so will result in deduction of 10% of total marks.
- Only one submission is allowed from each hostel. In case if any hostel submits two or more files, the first file received will be considered.
- Animation files will result in disqualification.
- Any format other than STL format file will result in disqualification.
- The 3D printer uses G-code to print the desired file. Unable to generate your own G-code will result in deduction of 10% of the total marks.
- Unable to adjust your own printing specifications such as nozzle temperature, bed temperature, infill density, speed etc. will result in deduction of 20% of the total marks.
- If the hostel damages the 3D printer or any of its components, the team will be disqualified.

Printer Specification:

- <https://www.3ding.in/3dprinters/hydra-dual>
- Manual for the above printer
<https://drive.google.com/open?id=1C9uQj8u2g2g46AltYnyRWqvAumPMO9OD>

Important Dates:

- 25/09/2018 (9PM) - Chit picking in New Sac
- 12/10/2018 (11:59:59 PM) - Every hostel should email the STL file and the original file to (events.iitg@gmail.com)
- After the submission of files, the printing slots will be decided on the basis of chit picking.
- Workshop date will be declared soon.

Team Specification:

- A team can have a maximum of 4 members.
- Only one team can participate from each hostel.



12 Hostels, 7 Days, 1 Title!