

# GUJARAT TECHNOLOGICAL UNIVERSITY

Chandkheda, Ahmedabad

Affiliated



Institute  
Logo  
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(Name of Institute)

A Report On-

**(TOPIC)**

Under subject of  
**DESIGN ENGINEERING – 2A**  
B. E. III, Semester – V  
(XXXXXX Branch)

Submitted by:  
Group:

Sr.	Name of student	Enrolment No.
1.		
2.		
3.		
4.		

CCCC DDDD EEEE  
(Faculty Guide)

AAAA BBBB CCCC  
Head of the Department

Academic year  
(2015-2016)

## Common Instructions:

- 1) There is no need to repeat/ rewrite these instructions in your report document.
- 2) All questions are to be attempted to best describe your thinking approaches.
- 3) Questions may be answered in paragraph form. Avoid bullet unless to mention very specifically something.
- 4) There are no page limit/ word limit for the answer, may be you can put in brief/ detail to best of your discretion. Your choice obviously.
- 5) You can also use pictures (in part or full size) of your canvas if any. Kindly make sure you reduce the using compression (Format tab at top) with a resolution of 200 dpi. Teams can add picture of any part of canvases to explain particular thing in the report. (These instructions is applicable to the teams who changed their topic in 5<sup>th</sup> semester as they need to again make all canvases and frameworks)
- 6) Sections are illustrative here. Students and faculty guide may decide their best way to express the THINKING APPROACH in report.
- 7) The report book can be spiral bound and team can keep one copy with them and they can give a copy to the department for record.
- 8) GTU will provide a web link where each team in each branch can register and upload the soft copy of the report including image of each canvas, if the portal will be ready by the time of examination. Else Examiner shall mail best 3 project reports to [design@gtu.edu.in](mailto:design@gtu.edu.in)
- 9) Teams will have to show the physical canvases, other frameworks and logbooks (logbook is optional for 5<sup>th</sup> semester) to the department/examiner during the practical examination and explain briefly.
- 10) After examination students team has to keep record of all the canvases, other frameworks and logbooks for their further reference or submit to the department. They need to safeguard all the canvases, other frameworks and logbooks for future references.
- 11) If you have carry forwarded the project from second year, examiner may ask for any further documents related to your project in current semester, hence student need to carry all the previous year documents with them to exam.

## Contents:

**Note: Content may vary as case to case basis.**

### 1. Introduction

- If you have carry forwarded the project from second year, describe briefly about your domain and journey for 3<sup>rd</sup> and 4<sup>th</sup> semester part.
- If you have selected new domain in 5<sup>th</sup> semester, then you need to give details of newly selected domain in 5<sup>th</sup> semester and describe in detail about the same.

### 2. Literature Review/Secondary Research

- For the detail design part, students need to find out literature and learn some of the aspects as identified in the LNM

### 3. Design Considerations for detail design part:

3.1 Design for Performance, Safety and Reliability

3.2 Design for Ergonomics and Aesthetics

3.3 Design for Manufacturability & Assembly (DFMA)

3.4 Design for Cost, Environment

### 4. Design Calculation

- It may include size & shape specifications, tolerances, material requirement, standards/safety rules/govt. policies, sketches, detail & assembly drawings, list of components with specifications etc.) These all aspects are case sensitive so one can add/remove some aspects from the list. **(For CE, IT other soft branches/ EC, IC circuit branches, one may also use Flow chart, Block diagrams, Algorithms, Programming, Circuit diagrams etc.)**
- **Relate your Design calculation with improvement of Design Consideration mentioned in Contents 3.**
- Students need to describe or show the whole process of design calculation in detail. **For example:** If your solution/part contain size of 25.10 mm then students are need to give justification why they are taking 25.10 mm and not 25.25 mm or likewise. If it contains curvature then you need to explain details of considering curvature. In short, you need to describe every single features and aspects for your detail design part.

5. Measuring Instruments/ techniques - knowledge and use
  - If you have used any Measuring Instruments/ techniques for your problem statement to check the sequential progress then you need to describe in detail.
6. Comparison of existing materials, methods, tools and equipment for your project and justify your selection of materials, methods, tools and equipment etc.
7. Simulation and Analysis (Software modelling), Mathematical model
8. Conclusion/Future scope
9. **For teams who have developed some proof of concepts/Prototypes (optional)**

Any team having developed a proof of concept/ prototype of their project while solving a challenge has to make a short film (3-5 minutes explaining their project covering, exact challenge which they are trying to solve, what idea they implemented and what are the limitations which can still be improved related to the innovation).

Such teams may refer similar practices at below given link based on experiments at IIT Delhi.

[https://www.youtube.com/results?search\\_query=MEP+101](https://www.youtube.com/results?search_query=MEP+101)

Student team who has developed a prototype of their 5<sup>th</sup> Semester DE-2 (a) project should make a video as above and add that in YouTube and share the YouTube link with their faculty guide. Each college should collect these teams' details (who are team members, their registration/ enrolment number, and title of project) along with YouTube video link and share with GTU Design Engineering team by mailing the list at [design@gtu.edu.in](mailto:design@gtu.edu.in) .

GTU design team will create a playlist combining all these video links and share in YouTube so that many can refer them and help taking the ideas to next level when ever needed.

N.B # 9 is only for those teams who have developed some concrete prototypes based of their innovation/project as a part of their course DE2-(a) and it is optional. Such teams need to be given more weightage for their efforts while taking final examination by both internal and external examiners.