**MCT 311- Design of Machine Elements and CAD/CAM**

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**Complex Engineering Activity**

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**Project Report Requirements**

Each group should prepare a project report comprising of the following sections:

1. **Title Page:** It must include your name, Registration number, Subject name, Project’s name, Instructor’s name.
2. **Abstract:** A paragraph focusing on what the project is all about.
3. **Introduction**

* Project description (Introduction of chosen design and reason of selection)
* Details of research work done for finalizing project
* Important features
* Figure

1. **Methodology (Explain in detail)**

* Assumptions (if any)
* Updated/ Finalized design (if any changes made in initial design)

1. Explain the reason of selection

* Specify the design requirements (input speed, output speed or torque, weight requirement etc) according to the application.

1. Describe the selected Power drive system.

* Describe the selected motor for application and give reason for selection.
* Specify the selected motor parameters (rated power, rated current, rated torque, rated speed etc)
* Explain the reason of selection (in detail).
* A simplified CAD model of the motor drive.

1. Describe the chosen power transmission system (belts, chains, or gear drives).

* State reason of selection in detail
* Specify its design parameters (velocity ratio, no of teeth, sprocket/pulley sizes, center distance, belt length and size, hub diameter for gears, material of belt/ gears, mechanism for attachment at input and output shaft etc.) in detail.
* A complete CAD model for the power transmission system.

1. Complete design and calculations
2. A complete design of the housing for drive system using Sheet-Metal Design module of solidworks.
3. A static simulation of power transmission system for verifying the design parameters by considering safety and reliability.
4. Simulations of CAD model of complete system (Make 2D views as well).
5. Future recommendations/ Suggestions/ Reasoning.
6. Briefly discuss infrequently encountered issues you faced while doing this project and how you tackled them.
7. **References**: Help taken from any websites, or any book consulted must be mentioned in this section.
8. A table **must be added** at the end to show the individual contribution of all group members.

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| **Registration no** | **Mathematical Design** | **Simulations** | **Project Report Writing** |
| 2020-MC- |  |  |  |
| 2020-MC- |  |  |  |
| 2020-MC- |  |  |  |

**Note:**

* All the figures must be properly labelled.
* Consult the CEA document shared initially for deliverables and scholastic ethics.
* The individual contribution must be mentioned in percentage (e.g: 20% + 30% + 50% = 100%)