

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY, Kattankulathur
DEPARTMENT OF MECHANICAL ENGINEERING
18MEC211L- Metrology and Quality Control Lab- AY23-24
CLAP4 (10 marks): Open Ended Experiment Proposal form

Date:

This open-ended experiment aims to provide students with hands-on experience in engineering by engaging them in reverse engineering and 3D printing of a common engineering component. Students will enhance their understanding of metrology, reverse engineering techniques, and additive manufacturing technologies through this experiment.

Constraints:

1. Teams of up to five students should select an engineering component (except spur Gears and Metric thread) used in day-to-day life.
2. Identify and list measurable features and use conventional metrology equipments for precise measurements.
3. Employ a portable CMM for reverse engineering the selected components.
4. Generate a 3D model from captured point clouds using suitable software.
5. Utilize a 3D printer to produce a replica and compare dimensions with the original.
6. *A project exhibition will be done for all the batches and attractive cash prizes, participation certifications will be given to winning teams!!*

NAME OF THE PRODUCT (CHOSEN FOR REVERSE ENGINEERING):

APPLICATION OF THE PRODUCT:

[Type here]

STUDENT(S) details :

S.No	Name of the students	Reg No	Section	Contact No	Faculty in charge
1.					
2.					
3.					
4.					
5.					

SCHEMATIC DIAGRAM OF THE PRODUCT:

[Type here]

MEASUREMENT PLAN:

S.No	Name of key Measurand	Name of conventional equipment used	Parameter that you want to measure
1.		SURFCOM 1400G/ Machine Vision/ Profile Projector	
2.			
3.			
4.			
5.			
6.	Reverse Engineering	Portable CMM	

SIGNATURE OF STUDENTS

FACULTY IN CHARGE

SIGNATURE OF LAB INCHARGE /Metrology Lab