



PILLAI COLLEGE OF ENGINEERING, NEW PANVEL
(Autonomous) (Accredited 'A+' by NAAC)
END SEMESTER EXAMINATION

May 2023

BRANCH: Automobile/Mechanical Engineering

SEM VIII

Subject:- Product Design and Development

Time: 03.00 Hours

Max. Marks: 80

Date: 06/05/2023

N.B 1. Q.1 is compulsory

Subject Code:-

2. Attempt any three from the remaining four questions.

**AEDLO8061/MEDLO8
061**

3. Each Question carry 20 marks.

Q.1.	Attempt All	Marks
a)	Explain each phase of a Product Life Cycle (PLC) with a neat diagram	5
b)	What is Industrial Design (ID) and explain design for serviceability.	5
c)	Write a short note on Morphological Analysis in product design and development.	5
d)	Explain why a organization need a new product design.	5
Q.2.	Attempt All	
a)	What is Rapid Prototyping (RP) and explain Selective Laser Sintering (SLS) process with a neat diagram	10
b)	Explain the phases of the generic product development process with a block diagram.	10
Q.3.	Attempt All	
a)	Elaborate the steps involved in Design for Environment.	5
b)	Explain the steps involved in Planning for Product.	5
c)	Explain each step of the Concept Development process with neat flowchart diagram.	10
Q.4.	Attempt All	
a)	Prepare a flowchart for the concept generation method and explain each step in it.	10
b)	Explain the guidelines of Design for Manufacturing (DFM) and list out the advantages of CAD in product design.	10
Q.5	Attempt All	
a)	What is Quality Function Deployment (QFD) and explain each block of House of Quality.	10
b)	Explain brainstorming techniques.	5
c)	Explain competitive benchmarking	5