

**Government College of Engineering Kannur**  
**Department of Electronics & Communication Engineering**  
**EST 200 Design and Engineering**  
**S3 ECE A & B batches (2021 Admission)**

**1<sup>st</sup> Assignment**

**Due by : 10AM on 25-11-2022**

**Max. Marks: 7.5**

1. How does the design thinking approach help engineers in creating innovative and efficient designs?  
(1 Mark) (CO2)
2. Clarify the role of mathematics and physics in the design engineering process (1.5 Marks) (CO1)
3. Describe the use of value engineering in the design process (1 Mark) (CO1)
4. Design a water bottle that can be opened with one hand. Illustrate the various stages involved in design thinking. Sketch the final design (2 Marks) (CO3,CO2)
5. Illustrate the design thinking process for designing a walking stick for elderly people  
(2 Marks) (CO3,CO2)

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**Course Outcomes (COs)**

<b>Course Out- come Designa- tion</b>	<b>Course Outcome (CO) Description</b>
<b>EST 200</b>	<b>Design and Engineering</b>
	At the end of the course, the students will be able to:
CO1	Explain the different concepts and principles involved in design engineering
CO2	Apply design thinking while learning and practicing engineering
CO3	Develop innovative, reliable, sustainable and economically viable designs incorporating knowledge in engineering