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Name: Arun Cs.

GOVT. COLLEGE OF ENGINEERING KANNUR

Department of Electronics and Communication Engineering

Third Semester Second Series Examination December 2022 (2019 Scheme) EST 200 Design and Engineering

Max. Marks: 50

Duration: 1.5 Hours

PART A

Answer all questions. Each question Carries 3 marks

Explain the significance of "Feedback capture matrix" in design-thinking [CO2](3)

Distinguish between layout drawings and detail drawings in the context of design-

communication

[C01](3)

3. Explain any three factors which are to be considered in technical communication of a design

Explain Modular design. Mention any two advantages of the same

[**CO1**] (3)

[C01](3)

Explain the importance of project-based learning in design engineering

[CO1](3)

PART B

Answer One full question from each Group

GROUP 1

6. Illustrate the design thinking process for designing a walking stick for elderly people. Use hand sketches for illustration [CO2, CO3] [14]

OR

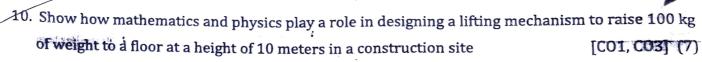
7. Design a water bottle that can be opened with just one hand. Illustrate the various stages involved in design thinking. Sketch the final design [CO2, CO3] (14)

GROUP 2

8. Design a foldable steel table. Draw the detailed 2D drawings of the same with design detailing, scale drawings and dimensions. Use only hand sketches. [C03](14)

Prepare a technical report for a newly designed website for online training of students, with neat diagrams for presenting to a client [CO3](14)

GROUP 3



OR

11. Describe the role of mathematical modelling in engineering design citing a suitable example

[CO1, CO3] (7)

Course Outcomes (COs)

CO Number	Description	O
EST 200.CO1	Explain the different concepts and principles involved in design engineering	Questions 2, 3, 4, 5,10,11
EST 200.CO2	Apply design thinking while learning and practicing engineering	1, 6, 7
EST 200.CO3	Develop innovative, reliable, sustainable and economically viable designs incorporating knowledge in engineering	6, 7, 8, 9, 10, 11