

CBCS SCHEME - Make-Up Exam

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BCG602

Sixth Semester B.E/B.Tech. Degree Examination, June/July 2025

Design Processes and Perspectives

Time: 3 hrs.

Max. Marks:100

**Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.**

Module – 1			M	L	C
1	a.	Explain the importance of Engineering Design Process.	4	L2	CO1
	b.	Apply a problem solving methodology to a real world scenario and explain the steps involved in it.	8	L3	CO1
	c.	Why is problem definition considered the most critical step in the design process? Identify and illustrate key components of well defined problem statement as described in the design process.	8	L2 L3	CO1
OR					
2	a.	With a neat diagram compare the design method with the scientific method for developing an sustainable water filtration system.	8	L3	CO1
	b.	What is problem solving methodology, apply the same to design a solution to solve problem of water shortage due to inefficient irrigation.	8	L2 L3	CO1
	c.	What are the consideration for good design, explain.	4	L2	CO1
Module – 2					
3	a.	Explain the process of converting data into information and knowledge with relevant examples.	8	L2	CO2
	b.	You are a product designers working on a new smart watch. i) Apply product architecture principles to decide between a modular or integral design, justify your answer. ii) Discuss how this choice affects cost, functionality and maintainability.	8	L3	CO2
	c.	How would you evaluate the credibility and accuracy of information?	4	L2	CO2
OR					
4	a.	How does product architecture influence cost, development firms and maintainability. Explain with examples.	8	L2 L3	CO2
	b.	What are the challenges in evaluating the credibility of web-based information? Suggest strategies to overcome these challenges.	8	L3	CO2
	c.	List and explain the five factors that help transform data into meaningful information.	4	L2	CO2
Module – 3					
5	a.	Define creative thinking and explain its importance in problem solving.	4	L2	CO3
	b.	Explain the Systematic Methods for Design Generation.	8	L2	CO3
	c.	Apply evaluation process to choose the best design among three Smartphone based on customer needs.	8	L3	CO3
1 of 2					

OR

6	a.	Explain the characteristics of creative thinking process.	4	L2	CO3
	b.	With a neat diagram explain the steps involved in Decision Making and Concept Selection Process.	8	L2	CO3
	c.	Explain the Behavioral aspects of Decision Making and Concept Selection Process.	8	L2	CO3

Module – 4

7	a.	What is pattern – based design? State its benefits.	4	L2	CO4
	b.	Explain the Golden Rules of user Interface Design.	8	L2	CO4
	c.	Explain the characteristics of a Good Design pattern with examples.	8	L2	CO4

OR

8	a.	Write a short note on the characteristics of Frameworks.	4	L2	CO4
	b.	Explain Web APP Interface Design.	8	L2	CO4
	c.	What is Design pattern? Explain how design patterns are characterized.	8	L2	CO4

Module – 5

9	a.	List the biological factors that help maintain ecosystem balance.	4	L2	CO5
	b.	How does the shift towards renewable and alternative fuels align with sustainability goals?	8	L2	CO5
	c.	Why is it difficult for corporations to make decisions that benefit environmental, social and economic goals simultaneously?	8	L3	CO5

OR

10	a.	How has the U S environmental movement influenced the education system?	4	L2	CO5
	b.	Analyze the steps involved in the recycling process and challenges associated with each step.	8	L2	CO5
	c.	Describe the meaning of sustainability and explain the importance of sustainability in today's global context.	8	L3	CO5
