

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

M.E DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

First Semester

Product Design and Development

PPDT2413 - Creativity and Innovation

Regulations - 2024

Duration : 3 Hrs

Maximum : 100 Marks

PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Why is creative thinking essential for achieving quality in products or services?	RE	1	2
2.	Illustrate how do heuristics and models aid in problem-solving and decision-making?	UN	1	2
3.	Outline the three basic principles that guide the tools of directed creativity.	UN	2	2
4.	Show how does directed creativity serve as a bridge between mere creativity and successful innovation.	UN	2	2
5.	Explain the impact of emotion design on user experience and product success?	UN	3	2
6.	List the roles of innovation in the design of products and services?	RE	3	2
7.	Recall the key techniques for activating creativity in individuals or teams?	RE	4	2
8.	What are Altshuller's engineering parameters, and how do they relate to solving technical problems?	RE	4	2
9.	Interpret the key characteristics of the disruptive innovation model?	UN	5	2
10.	Distinguish between disruptive growth engine and traditional growth strategies?	AN	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Define theory behind directed creativity, and how does it facilitate effective problem-solving and innovation in various fields?	UN	1	7
	ii What are the mechanics of the mind, and how do they influence cognition, creativity, and problem-solving?	UN	1	6
	Or			
	b Find influences of heuristics on decision-making processes, and list out the potential advantages and disadvantages of relying on heuristics in complex problem-solving scenarios.	UN	1	13
12.	a i Summarize the effective tools and techniques for stimulating creativity and generating new ideas, and how can they be integrated into organizational practices to foster a culture of innovation.	UN	2	6

	ii	Explain about digital tools and technology enhance the process of idea generation and creativity, and show some examples of such tools in practice.	UN	2	7
		Or			
	b	Explain the six stages of the creative process interact to enhance the development of innovative ideas, and demonstrate practical strategies can individuals use to navigate each stage effectively.	UN	2	13
13.	a	Discover the three levels of emotional design—visceral, behavioral, and reflective—impact user experience and influence product development.	AN	3	13
		Or			
	b i	Analyze role of creativity in customer needs analysis.	AN	3	6
	ii	Inspect contribution of creative problem-solving techniques for incremental improvement in processes and products, and examine practical approaches can organizations adopt to integrate these techniques into their improvement strategies.	AN	3	7
14.	a i	Identify utilization of the Morphological Box on creative problem-solving tool in product development.	AP	4	7
	ii	Select the key requirements for effective inventive problem solving.	AP	4	6
		Or			
	b	Make use of Altshuller's engineering parameters, explain how it facilitate innovative problem solving in engineering and design?	AP	4	13
15.	a i	Explain about organizations leverage framework for identifying and implementing disruptive innovations in their industries.	UN	5	6
	ii	Discover how can organizations effectively implement each approach to foster innovation and meet market demands?	UN	5	7
		Or			
	b	Summarize the processes of commoditization and de-commoditization, and how can organizations navigate these processes to maintain competitive advantage and create value in their markets?	UN	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	What is Altshuller's Contradiction Matrix Algorithm, and how does it facilitate problem-solving in innovation and engineering?	AP	4	15
		Or			
	b	List new market disruptions, and how do they influence industries and consumer behavior?	AP	5	15