22MCIN04	IDEATION SPRINTS			SEMESTER V		
PRE-REQUISITE:		**CATEGORY**		**L**	**T**	**P**	**C**
		EE		**0**	**0**	**2**	**1**

Course Objectives:

1.	To offer a systematic and structured process to hack a solution using available tools & resources
2.	To identify the challenge/opportunity, derive insights from the customer/user interviews, & build a solution and validate the technical feasibility of the solution
3.	To build the PoC for proposed solution & pitch to user/customer for validation.

UNIT I	**INNOVATION 101**	3	0	0	3

Difference between a startup and a small business enterprise - Idea worth prototyping -Risk of innovations - Defining & validating hypothesis through Product Innovation Hypothesis (PIH) & Forge Innovation Rubric (FIR)

UNIT II	**PROBLEM VALIDATION & CUSTOMER DISCOVERY**	3	0	0	3

Tools and techniques of the managed innovation process (iTOOLS - innovation toolkit) -Customer-Centric Innovation: Customer-centric design thinking and validate the problem scenario, its significance, severity, and incidence - Discover & identify the right buyer beneficiary/Customer - rigorous Gap analysis of the existing solution - Adoption barriers of the solutions.

UNIT III	**DESIGNING & CRAFTING VALUE PROPOSITION**	3	0	0	3

Understand Customer Jobs, Pains & gains - Design Product/Service - Define & quantify Value Proposition -Build a compelling value proposition.

UNIT IV	**MUP SOLUTION CONCEPT EXPLORATION & DESIGN GENERATION**	3	0	0	3

Solution: Concept Generation, Concept Assessment, Solution, Capability, Usability, and Feasibility- MUP Design and Technology Block Diagrams- Bill of Materials Generation - BoM Optimisation

UNIT V	**PROOF OF CONCEPT DEVELOPMENT & DEMONSTRATION**	3	0	0	3

Proof-of-Concept design - hack to build PoC with critical features -Test PoC for technical feasibility test deliver of Value proposition - Innovation Brief documentation (Proposal) - Demonstrate a PoC;

Total (15L) = 15 Periods

Text Books:

1.	Tim Brown, Change by Design: How design thinking transforms organizations and inspires innovation – HarperCollins e-books, 2009
2.	Alexander Osterwalder, Value Proposition Design: How to Create Products and Services Customers Want (Strategyzer) - John Wiley & Sons, 2014
3.	Ulrich Karl and Eppinger Steven D, Product Design and Development - McGraw Hill, 5th edition, 2020
4.	Blank Steve, Four Steps to Epiphany: Successful strategies for products that win, KS Ranch, 5th edition, 2013

Reference Books:

1.	Everything you need about value proposition: https://blog.forgeforward.in/everything-you-need-to-know-about-value-proposition-7247493c940c
2.	Test your Value Proposition: http://businessmodelalchemist.com/2012/09/test-your-value-proposition-supercharge-lean-startup-and-custdev-principles.html
3.	Valuation Risk versus Validation Risk in Product Innovations: https://blog.forgeforward.in/valuation-risk-versus-validation-risk-in-product-innovations-49f253ca8624
4.	User Guide for Product Innovation Rubric: https://blog.forgeforward.in/user-guide-for-product-innovation-rubric-857181b253dd
5.	Innovation Risk Diagnostic — Product Innovation Rubric: https://blog.forgeforward.in/product-innovation-rubric-adf5ebdfd356
6.	Evaluating Product Innovations — proof, potential, & progress: https://blog.forgeforward.in/evaluating-product-innovations-e8178e58b86e

COURSE OUTCOMES: **Upon completion of the course, the students will be able to:**	**Bloom's Taxonomy Mapped**

CO1	Apply a scientific method to understand the inherent risks of product innovation	
CO2	Apply innovation tools & techniques to validate the problem scenario and to assess the market potential of product innovation;	
CO3	Design solution concept based on the proposed value by exploring various alternate solutions to achieve value-price fit;	
CO4	Demonstrate technical skills by applying technology to build and demonstrate proof of concept for the solution proposed;	
CO5	Develop skills to articulate the solution concept into a proposal for grants.	

COURSE ARTICULATION MATRIX

CO/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1															
CO2															
CO3															
CO4															
CO5															
Avg															

3 / 2 / 1 – indicates strength of correlation (3 – High, 2 – Medium, 1 – Low)