USN

Internal Assesment Test – I

Sub:	Innovation and Design Thinking						Code:		22MBA402
Date:	18/08/2025	Duration:	90 mins	Max Marks:	50	Sem:	IV	Branch:	MBA

SET - 2

		Marks	OBE	
			CO	RBT
	Part A - Answer Any Two Full Questions (2* 20 = 40 marks) **Part B – Compulsory – Case Study (1*10 = 10 marks)**			
1 (a)	List any three benefits of adopting Design Thinking in business management.	3	CO1	L1
(b)	Outline the evolution of Design Thinking from its historical origins to current applications.	7	CO1	L4
(c)	Conclude the **Design Innovation Model** and its role in product/service development, with an example.	10	CO2	L5
2 (a)	What is the role of "Forming an Intent" in the Sense Intent stage?	3	CO2	L2
(b)	Compare and contrast the "From–To Exploration" and "Trends Matrix" methods in Sense Intent.	7	CO2	L3
(c)	Illustrate a step-by-step approach using **Innovation Landscape** and **Initial Opportunity Map** for a new technology start-up.	10	CO2	L4
3 (a)	Define "System Overview" and explain its significance in Knowing Context.	3	CO2	L1
(b)	Analyse how **Competitors–Complementors Mapping** supports sustainable innovation decisions.	7	CO2	L3
(c)	Recommend the effectiveness of using **SWOT Analysis** in identifying societal innovation opportunities.	10	CO2	L5
	Part B - Compulsory (01*10=10 marks)			
4	**Case Study**			
	Case Study: A healthcare company is exploring telemedicine services for rural areas. A) Using the Sense Intent phase, outline the initial actions they should take. B) For the same case, use Knowing Context to assess the challenges and opportunities in their service delivery.	5 5	CO2 CO2	L4 L2

Course Outcomes (COs)		PO1	PO2	PO3	PO4	PO5	PS01	PS02	PS03	PS04
CO1:	Understand the Design Thinking process from a business management L1 perspective.	1a 1b							1a 1b	
CO2:	Apply the knowledge and skills of Design Thinking in prototype L3 development for product and service innovations.			1c 2a 2b 2c 3a 3b 3c 4a 4b			1c 2a 2b 2c 3a 3b 3c 4a 4b			
CO3:	Analyse sustainable and societal challenges and find solutions.									
CO4:	Evaluate the pros and cons of sustainable development by applying Design Thinking.									

Cognitive level	KEYWORDS
L1 - Remember	list, define, tell, describe, recite, recall, identify, show, label, tabulate, quote, name, who, when, where, etc.
L2 - Understand	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss
L3 - Apply	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify
L4 - Analyze	classify, outline, break down, categorize, analyze, diagram, illustrate, infer, select
L5 - Evaluate	asses, decide, choose, rank, grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate
L6 - Create	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate

PO1–*Theoretical Knowledge;* PO2–*Effective Communication Skills;* PO3–*Leadership Qualities;*
PO4 –*Sustained Research Orientation;* PO5 –*Self-Sustaining Entrepreneurship*

CI **CCI** **HOD**

SCHEME OF EVALUATION
Internal Assessment Test 1– Jan 2025

Sub:	Innovation and Design Thinking						Code:	22MBA402
Date:	18/08/2025	Duration:	90mins	Max Marks:	50	Sem:	IV	Branch:	MBA

Note: Part A - Answer Any Two Full Questions (20*02=40 Marks)

Part B - Compulsory (01*10= 10marks)

Part	Question #		Description	Marks Distribution		Max Marks
A	1	a)	**1 (a) List any three benefits of adopting Design Thinking in business management.** 1. **Sharper customer value and differentiation:** Systematic empathy work (field research, journey maps, insight synthesis) surfaces unmet needs, enabling offerings customers adopt faster and recommend more. 2. **Lower risk and faster learning:** Iterative ideation–prototype–test loops expose bad bets early, reducing rework and time-to-market while increasing confidence in what to scale. 3. **Cross-functional alignment:** Tangible artifacts (personas, storyboards, prototypes) create a shared language so product, design, engineering, and business converge on the same problem and success criteria.	Write three clear benefits (e.g., customer-centric innovation, reduced risk via prototyping, better cross-functional collaboration). Each benefit in one line.	3	20 M

	b)	**1 (b) Outline the evolution of Design Thinking from its historical origins to current applications.** • **1960s–70s (Origins):** Early "design methods" and systems thinking (e.g., Herbert Simon) formalize problem framing, iteration, and evaluating alternatives. • **1980s (Human-centered turn):** Participatory design and ergonomics expand the focus from styling to user needs, context, and co-creation. • **1990s (Practice industrialization):** Firms like IDEO popularize rapid prototyping and multidisciplinary teamwork on products, services, and environments. • **2000s (Mainstream in business & education):** Stanford d.school and others codify toolkits (empathize–define–ideate–prototype–test). Executives adopt DT for growth and transformation. • **2010s (Integration era):** DT blends with Lean Startup and Agile; service design, experience strategy, and platform/ecosystem thinking mature; public/social sector uptake accelerates. • **2020s–today (Data & systems):** DT operates with AI/data, sustainability, ethics, and complex systems; remote collaboration and design ops scale practice across enterprises.	🎬 Cover **5–6 stages**: 1. 1960s–70s: Design methods (Herbert Simon). 2. 1980s: Human-centered/participatory design. 3. 1990s: IDEO popularization. 4. 2000s: Stanford d.school and business adoption. 5. 2010s: Integration with Agile, Lean, service design. 6. 2020s: AI, sustainability, complex systems. 🎬 Mention each in **2–3 sentences max**.	7	

| | | c) | **1 (c) Conclude the Design Innovation Model and its role in product/service development, with an example.** A widely used **Design Innovation Model** (per Vijay Kumar's framework) moves through seven modes: **Sense Intent → Know Context → Know People → Frame Insights → Explore Concepts → Frame Solutions → Realize Offerings**. In practice it: **Aligns strategy and scope** (Sense Intent), **Builds situational awareness** (Context, People), **Transforms research into opportunity areas** (Frame Insights), **Generates and tests options** (Explore Concepts, Frame Solutions), and **Ships and scales** (Realize Offerings), with evidence captured at each gate. *Role:* It reduces ambiguity early, concentrates resources on validated value, and links desirability–viability–feasibility decisions to a delivery roadmap. *Example:* A fintech team targeting Gen-Z savings. Sense Intent defines the ambition ("help first-jobbers build emergency funds"). Research reveals pain points (low financial literacy, irregular income). Insights frame opportunities ("make saving invisible and social"). Concepts include "round-up savings" and "peer challenges." Prototypes validate uptake; MVP launches with automated round-ups and a social nudge feed; analytics guide scaling. | 🎬 Define the **Design Innovation Model** (7 stages).

 🎬 Explain its **importance** in linking desirability–feasibility–viability.

 🎬 Provide a **practical example** (e.g., fintech, healthcare product).

 🎬 Structure: **Definition (3 marks) + Role (4 marks) + Example (3 marks)** | 10 | |

2	a)	**2 (a) What is the role of "Forming an Intent" in the Sense Intent stage?** "Forming an Intent" sets a clear, testable **direction of change** before research begins. It: • Articulates **why now**, **where to play**, and preliminary **how to win** hypotheses. • Establishes **guardrails** (target segments, markets, constraints, ethics/compliance boundaries). • Defines **success criteria and learning goals** (e.g., adoption, retention, unit economics, risk limits). • Produces a **design brief** that focuses the team, budgets, and timeline. Deliverables typically include an **intent statement**, scope, assumptions to test, and an initial stakeholder map.	*Role of "Forming an Intent" in Sense Intent stage.* • Briefly define *Forming Intent*. • Mention its **purpose** (sets direction, scope, assumptions). • Keep it in **3 bullet points**.	3	20 M

b)	**2 (b) Compare and contrast the "From–To Exploration" and "Trends Matrix" methods in Sense Intent.**

Aspect	From–To Exploration	Trends Matrix
Purpose	Declare shifts from current to desired future states to align ambition.	Scan external forces (social, tech, economic, environmental, political) to spot drivers of change.
Orientation	Primarily **internal** (organization/customer experience today → tomorrow).	Primarily **external** (macro signals, weak signals, discontinuities).
Output	Crisp **From→To statements** (e.g., "From one-size-fits-all → To adaptive, need-based pricing").	A **matrix of trends** with **implications** and **opportunity prompts**.
When to use	To forge strategic alignment and define the character of desired change.	To broaden horizons, de-bias assumptions, and inform positioning against future forces.
Strengths	Simple, memorable, creates shared intent rapidly.	Comprehensive, reduces myopia, uncovers non-obvious opportunities/threats.
Risks	Can be aspirational without evidence if not validated.	Can become encyclopedic; needs synthesis to avoid analysis paralysis.

Compare and contrast From–To Exploration and Trends Matrix.

- Prepare a **small comparison table** with 3–4 criteria:
  - Purpose, Orientation (internal vs external), Output, Strengths/Risks.
- Conclude with which is better in which context.

7

| | | c) | **2 (c) Illustrate a step-by-step approach using Innovation Landscape and Initial Opportunity Map for a new technology start-up.**
Scenario: A start-up exploring **AI-enabled home energy optimization**.

Step 1 — Construct the Innovation Landscape (sense the space)

1. **Define scope & actors:** Homeowners, renters, utilities, device makers, installers, regulators.
2. **Choose mapping axes:** e.g., *Customer segment* (apartment → large home) × *Value mechanism* (monitoring → automation → market participation).
3. **Plot the ecosystem:** Place incumbents (smart thermostats, solar inverters), substitutes (manual saving tips), and adjacent plays (home security, broadband).
4. **Layer forces & trends:** Electrification, dynamic tariffs, privacy norms, DIY vs pro-install, interoperability standards.
5. **Annotate barriers/enablers:** Upfront costs, rebates, data access, interoperability APIs.
6. **Spot white spaces:** e.g., "Renters with split incentives," "Automation for variable tariffs," "Community battery participation."

Step 2 — Synthesize themes from the landscape
7. Cluster observations into **opportunity themes**, e.g.,

● "No-hardware automation for renters,"
● "Tariff-aware device scheduling,"
● "Utility-verified savings for rebates."

8. Convert themes into **How-Might-We** questions and quick desirability/viability/feasibility notes.

Step 3 — Create the Initial Opportunity Map (prioritize bets)
9. Set evaluation criteria (Desirability, Viability, Feasibility, Time-to-learn).
10. Place each opportunity on a **2×2** (Impact × Feasibility) or **3-horizon** map; attach brief evidence (TAM proxies, regulatory signals, partner interest).
11. Select **Top 2–3 opportunities** (e.g., "Tariff-aware scheduling as API" and "No-hardware renter app") and write **opportunity statements** with assumptions to test. | *tep-by-step approach with Innovation Landscape + Opportunity Map.*

● Steps (at least 6–7):
  1. Define ecosystem/actors.
  2. Map competitors, substitutes, complementors.
  3. Identify gaps/white spaces.
  4. Cluster into themes.
  5. Create Opportunity Map (prioritize).
  6. Select 2–3 opportunities.
  7. Plan quick experiments/MVPs.
● Marks division: **Steps (7) + Example (3).** | 10 | |

		Step 4 — Plan learning sprints and next actions 12. Define **MVP experiments** per opportunity (Wizard-of-Oz scheduling with 50 renters; utility-rate integration for two regions). 13. Specify **success metrics** (e.g., ≥15% bill reduction, weekly active use ≥40%, CAC/LTV guardrails). 14. Identify **enablers/partners** (smart-plug vendors, utilities), **risks** (data privacy, policy shifts), and a **90-day roadmap** to converge on one scalable play.			
3	a)	**3 (a) Define "System Overview" and explain its significance in Knowing Context.** A **System Overview** is a structured representation of all the interacting elements, stakeholders, processes, technologies, and external forces that shape an industry, market, or ecosystem. It highlights how components connect, where dependencies or bottlenecks exist, and what factors influence change. **Significance in Knowing Context:** • It helps teams **visualize complexity** and avoid narrow, siloed perspectives. • By mapping the relationships among actors (customers, suppliers, regulators, technologies), decision-makers gain **clarity on leverage points** for intervention. • It exposes **gaps, redundancies, and systemic risks** that may hinder adoption of new solutions. • It creates a **shared mental model** across cross-functional teams, ensuring alignment before deeper research. • Ultimately, it enables innovators to locate **where new value can be introduced** with the least friction and the highest impact.	*Define System Overview & significance in Knowing Context.* • **Definition (1 mark)**: Map of all interacting elements in a system. • **Significance (2 marks)**: Clarifies complexity, shared understanding, identifies leverage points.	3	20 M

| | | b) | **3 (b) Analyse how Competitors–Complementors Mapping supports sustainable innovation decisions.** Competitors–Complementors Mapping is a tool that positions players not only by rivalry but also by their role in creating joint value.

 • **Competitors:** Show who is vying for the same customer segment or value proposition. Understanding competitors clarifies **differentiation strategies** and highlights market gaps.
 • **Complementors:** Identify organizations whose offerings enhance or enable the innovator's solution (e.g., platform providers, logistics, fintech partners). Recognizing complementors helps innovators form **ecosystem partnerships** that strengthen the business model.

 Support for sustainable innovation decisions:

 • Encourages **collaborative advantage** rather than zero-sum competition.
 • Reveals opportunities for **bundling, integration, or co-branding** that make solutions more resilient.
 • Helps avoid unsustainable strategies that rely solely on displacing incumbents, instead fostering **network effects and shared growth**.
 • By balancing both competitor threats and complementor synergies, innovators create solutions that are **embedded in ecosystems**, improving long-term sustainability. | *Competitors–Complementors Mapping & sustainable innovation.*

 • Define the mapping.
 • Explain how it considers both rivals and partners.
 • Show **3 benefits**: ecosystem advantage, risk reduction, shared growth.
 • Conclude: supports long-term sustainability. | 7 | |

		c)	**3 (c) Recommend the effectiveness of using SWOT Analysis in identifying societal innovation opportunities.** SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) is effective for societal innovation because it integrates internal capacity assessment with external environmental scanning. • **Strengths/Weaknesses:** Encourage organizations to reflect on **resources, capabilities, credibility, and limitations** when addressing societal issues (e.g., healthcare access, education gaps). • **Opportunities/Threats:** Direct attention to **external forces** such as demographic shifts, policy changes, cultural attitudes, or technology adoption trends. **Effectiveness:** • Provides a **structured framework** to connect organizational potential with pressing social needs. • Highlights **where existing assets can be leveraged** (e.g., digital platforms for rural education). • Exposes **constraints** (such as funding, trust, or infrastructure) early, guiding realistic solution design. • Helps compare **multiple innovation opportunities** and prioritize those with the highest potential societal impact and organizational fit. Thus, SWOT is effective not just for business strategy, but as a **lens to align internal strengths with societal challenges**, ensuring relevance and sustainability.	*Effectiveness of SWOT in identifying societal innovation opportunities.* • Briefly define SWOT (1–2 lines). • Explain each element (Strengths, Weaknesses, Opportunities, Threats) with **societal focus**. • Show **why it works**: structured, prioritizes relevant opportunities, matches strengths to needs. • Structure: **Definition (2) + Analysis of 4 parts (5) + Conclusion (3).**	10	
B	4	a) b)	**4. Case Study** *A healthcare company is exploring telemedicine services for rural areas.* **A) Using the Sense Intent phase, outline the initial actions they should take.** 1. **Form Intent:** Define a clear ambition: *"Deliver affordable, accessible, and reliable telemedicine to underserved rural populations."* 2. **From–To Exploration:** Identify the intended shift: *"From travel-dependent, inconsistent healthcare → To remote, continuous, and trusted care access."* 3. **Trends & Forces Scan:** Explore drivers like smartphone penetration, government rural health policies, digital payment adoption, and cultural barriers to remote consultations.	**A) Sense Intent actions (5 marks):** • Form intent (affordable rural telemedicine). • From–To exploration (travel-dependent → remote). • Trends & forces scan (smartphones, policies). • Stakeholder mapping (patients, doctors, NGOs, telecom). • Intent statement & guiding principles.	10	10 M

		4. **Stakeholder Mapping:** Identify key actors—patients, local clinics, NGOs, doctors, telecom providers, regulators, and local community leaders. 5. **Intent Statement & Criteria:** Establish guiding principles—affordability, cultural acceptance, trust, compliance with health regulations. **B) For the same case, use Knowing Context to assess the challenges and opportunities in their service delivery.** **Challenges:** - **Infrastructure gaps:** Weak internet connectivity, lack of diagnostic equipment, power supply instability. - **Trust and adoption:** Rural patients may mistrust remote consultations compared to in-person visits. - **Regulatory hurdles:** Compliance with medical practice laws, patient privacy, and data security standards. - **Doctor availability:** Shortage of specialists willing to dedicate time to rural telemedicine sessions. - **Payment models:** Affordability for low-income groups and limitations in digital payment adoption. **Opportunities:** - **Mobile penetration:** Widespread use of smartphones provides a ready platform for telemedicine apps. - **Government support:** Public health programs and subsidies for rural healthcare create enabling policies. - **Local complementors:** NGOs, community health workers, and rural clinics can act as trust-builders and facilitators. - **Preventive care potential:** Regular monitoring through telemedicine can reduce hospital burden and costs. - **Scalable business model:** Once proven in one region, the solution can expand to multiple rural markets. **Conclusion:** By combining **Sense Intent** to align ambition with **Knowing Context** to assess constraints and enablers, the company can design a telemedicine service that is not only technically feasible but also socially acceptable and sustainable in rural areas.	**B) Knowing Context (5 marks):** - **Challenges (3–4 points):** Connectivity, trust, regulation, affordability. - **Opportunities (3–4 points):** Mobile penetration, government schemes, NGO support, preventive care.		