Name: **Enrolment No:**	UPES UNIVERSITY OF TOMORROW

UPES

End Semester Examination, May 2025

Course: Technology Management — **Semester:** 4

Program: MBA in General — **Time: 03 hrs.**

Course Code: LSCM8019 — **Max. Marks: 100**

Instructions: a) Use of calculator is allowed.
b) All questions are compulsory; marks for each part are indicated.
c) Show all necessary workings and label any diagrams or tables clearly.

SECTION A
10Qx2M=20Marks

S. No.		Marks	CO
Q-1.1	Define disruptive technology with an example.	2	CO1
Q-1.2	What is a technology life cycle?	2	CO1
Q-1.3	A smart home system enables users to control devices using voice commands and collects usage data via sensors. Identify two major components of this Internet of Things (IoT) ecosystem.	2	CO1
Q-1.4	What do you understand by technology transfer?	2	CO1
Q-1.5	In healthcare context, define “problem pull” and “technology push.”	2	CO1
Q-1.6	Mention two ways technology supports entrepreneurship.	2	CO1
Q-1.7	What is meant by predictive maintenance?	2	CO1
Q-1.8	EduLearn Pvt. Ltd. launches: (a) an AI-driven adaptive-learning platform (brand new), (b) a slightly improved mobile UI for existing courses, and (c) an internal process that cuts grading time by 30%. From EduLearn’s activities, name two types of innovation (e.g., product, process).	2	CO1
Q-1.9	What are sustainable technologies?	2	CO1
Q-1.10	GreenGrid plans a smart-meter rollout. Cost: ₹60 lakhs today. Projected benefits: Year 1: ₹15 L; Year 2: ₹25 L; Year 3: ₹30 L. Discount rate 12%. What does a positive NPV imply for GreenGrid’s decision?.	2	CO1

SECTION B
4Qx5M= 20 Marks

Q-2.1	FinBuddy rolls out a new budgeting app. Early user surveys show perceived usefulness high but perceived ease of use low. As FinBuddy’s product manager, propose two design or communication changes to improve each TAM construct, and explain how that drives user acceptance in this scenario.	5	CO2
Q-2.2	A mid-sized apparel firm adopts ICT tools to better coordinate with suppliers and reach customers online.	5	CO2

	Discuss how ICT enables strategic improvements in such business environments.		
Q-2.3	Highlight the key elements of the S-curve in the technology life cycle.	5	CO2
Q-2.4	AgriSense, an agritech startup, outfits 100 hectares of wheat fields with soil-moisture sensors and drone-mounted multispectral cameras. They auto-adjust irrigation in real time and detect crop stress early, boosting yield by 18% and cutting water use by 25%. Describe the two IoT applications AgriSense deployed. Analyze how each application directly contributed to yield improvement or resource savings. Identify one operational challenge AgriSense might face in scaling to 1,000 hectares.	5	CO2
SECTION-C 3Qx10M=30 Marks			
Q-3.1	Explain the role of technology in new product development. Provide an example from Indian industry.	10	CO3
Q-3.2	AgroTech Solutions develops both a simple moisture-sensor (widely documented) and a novel bioengineered fertilizer process that relies on deep tribal knowledge. They also trial a blockchain–IoT network for farm-to-fork traceability. Classify each of AgroTech's three technologies as per their types, and discuss two managerial challenge for each category.	10	CO3
Q-3.3	a) Describe the role of technology in sustainable development. **OR** b) Elaborate on the strategic importance of investing in technology development.	10	CO3
SECTION-D 2Qx15M= 30 Marks			
Q-4.1	A firm introduces a smart energy meter and anticipates adoption over 15 years. Parameters: K = 3 million, b = 0.40, t_0 = 2027 **a.** Calculate expected adoption in 2022 and 2032. (6 marks) **b.** How will early or delayed infrastructure investment affect the S-curve? (4 marks) **c.** Discuss 2 limitations of relying solely on the S-curve for forecasting disruptive tech. (5 marks)	15	CO4
Q-4.2	A drone delivery startup aims to estimate user adoption using the Bass Model. Market size (M) = 200,000, p = 0.02, q = 0.4 **a.** Use the continuous form to estimate cumulative adoption in Year 5. (6 marks) **b.** Explain the implications of high q (0.4) and low p (0.02) on market strategy. (5 marks)	15	CO4

	c. Suggest two marketing tactics to influence imitation-based adoption. (4 marks)		