



Department of Artificial Intelligence and Machine Learning

Course Code : 21AI74H4
Semester : VII Semester
Max Marks : 10 + 50

Date :
Time :
Duration : 120 mins

Artificial Intelligence Product Management IMPROVEMENT TEST – Scheme and Solutions

Note: Answer all the Questions

Q. No	PART A Quiz	M	B T	C O
1 a)	<p>Distinguish between Value Chain Analysis and Value Curve Analysis.</p> <p>Ans: Value chain analysis: A method of evaluating each activity in a company's value chain to understand how AI-driven software can improve them. Value curve analysis: A method of comparing products on a range of factors by rating them on a scale from low to high to define propositions against that of a competitor or industry norms.</p>	2	2	1
b)	<p>Write 5W and 1H Framework for Product Requirement Analysis.</p> <p>Ans: Why: The actual purpose of the requirement What: The outcome for the user When: The time and frequency of user usage Who: The user persona Where: The place of usage How: Usage mechanism</p>	2	2	1
c)	<p>What are two major industry disruptions caused by AI products like OpenAI's ChatGPT, Google's Bard, and Microsoft Copilot?</p> <p>Ans: Any Two (1+1) Traditional customer support has been transformed with AI chatbots handling queries, troubleshooting issues, and providing 24/7 assistance without human intervention. AI-powered writing assistants disrupt content creation, copywriting, coding, and documentation by generating high-quality text, reports, and summaries in seconds.</p>	2	2	2
d)	<p>Mention two features of the Canva software that use AI-as-a-Service.</p> <p>Ans: Any Two (1+1) Magic Design – Generates design templates based on user inputs and preferences. Brand Kit Suggestions – AI recommends color palettes, fonts, and layouts based on brand identity.</p>	2	2	2
e)	<p>Justify the open-source AI models provide flexibility and Control.</p> <p>Ans: Any Example Meta's LLaMA – A powerful open-source large language model that developers can fine-tune and deploy privately. OpenAI's GPT-4 API – Allows developers to build chatbots, content generators, and AI-powered assistants with fine-tuned responses.</p>	2	2	3

PART B Main Questions		M	BT	CO
1	<p>a. Write the purpose of the following tools in two to three sentences while discovering the need for a product.</p> <p>i. Ethnographic research ii. Conjoint Test iii. Scenario Planning</p> <p>iv. PESTLE analysis</p> <p>Ans:</p> <p>Ethnographic research: A market research method that originates from anthropology studies of users in real-life scenarios in their business process and industry.</p> <p>Conjoint test: A form of statistical analysis to understand how customers value different components or features of the product and services. This can help with pricing, marketing, and feature development strategy.</p> <p>Scenario planning: A method to identify a specific set of uncertainties and possible realities of what might happen related to your industry.</p> <p>PESTLE analysis: A framework used to gain a macro picture of an industry, especially on the political, economic, social, technological, legal, and environmental factors that may impact the industry, and identify risk factors.</p> <p>b. Explain how political and technological factors impact the development and expansion of DeepSeek AI.</p> <p>Ans:</p> <p>Political Factors:</p> <ul style="list-style-type: none"> • DeepSeek AI operates in China, where strict AI regulations govern model outputs to ensure alignment with government policies. • The US-China tech war restricts China's access to advanced AI chips (e.g., NVIDIA A100, H100), impacting DeepSeek's ability to train competitive models. <p>Technological Factors:</p> <ul style="list-style-type: none"> • DeepSeek AI competes in a rapidly evolving AI industry, requiring continuous improvements in large language models (LLMs) to stay competitive. • It integrates with China's tech ecosystem (e.g., Alibaba Cloud, WeChat), helping businesses leverage AI-powered services for automation and content generation. 	6+4	3	2
2	<p>a. Give clear distinctions between three types of requirements categorization, namely tactical, strategic and disruptive with respect to various aspects.</p> <p>Ans: Any five Rows correctly written</p>	5 + 5	3	2

	Aspect	Tactical	Strategic	Disruptive			
	Scope	Addressing the existing business challenge	Product growth Emerging opportunities	Anticipating market shift Disrupting the market			
	Product stage	Introduction Maturity	Early growth Later growth	Later growth			
	Customer value	Very clear	Partially clear Hypothesis needing validation	Unclear Continual validation			
	Time horizon	Short-term	Near-long-term	Long-term			
	Technology enabler	Established technology (e.g., regression, XGBoost, CNN, transformer deep learning)	Novel technology (e.g., generative adversarial network, TinyML, multimodal learning)	Groundbreaking technology (e.g., neurosymbolic AI, AGI, quantum machine learning)			
	Outcome	Steady revenue	Potential growth	Future sustainability			
	<p>b. Give the various stages in product life cycle. Assume company's Chatbot has entered the growth stage of the product life cycle. Based on this stage, suggest any two key strategies the company should implement to maximize its market share and profitability.</p>						
	<p>Ans: 2M</p>						
	Two strategies (3M)						
3	<p>Discuss briefly the five-step product strategy used by Smart Concierge, an AI startup that provides AI consulting for the hospitality business.</p> <p>Ans: Each step 2 M</p> <ol style="list-style-type: none"> 1. Product Visioning and Objectives 2. Product Discovery 3. Requirements Analysis 4. Product prioritization 5. Roadmap Efficacy Evaluation 				10	2	3

4	AI as a Service (AlaaS) enables businesses to leverage AI capabilities through a cloud-based subscription model, eliminating the need for in-house expertise or infrastructure. Considering the AI product selected for your experiential learning assignment , analyze five key features demonstrating its practical implementation as an AlaaS solution. Ans: Each feature carries two marks on the selected EL (2M x 5)	10	4	4
5	Write the TEN key principles for designing the developer experience for AI products. Ans: (1M X 10) 1. Ease of use and integration 2. Flexibility and control 3. Comprehensive tools and capabilities 4. Good documentation and support 5. Monitoring and visibility 6. Scalability and maintenance 7. Collaboration and community 8. Trustworthiness 9. Fairness 10. Feedback	10	2	3

Marks, BT-Blooms Taxonomy Levels, CO-Course Outcomes

	Particulars	C01	C02	C03	C04	L1	L2	L3	L4	L5	L6
Marks Distribution	Max Marks CIE	4	24	22	10		30	20	10	-	-

Course Outcomes: After completing the course, the students will be able to:-	
CO1	Understand and realize the need of AI in Product Management
CO2	Identify AI Product Management concepts for building AI products for various applications
CO3	Explain and apply Product Management concepts to address various requirements of real-world problems
CO4	Analyse and summarize the concepts of Product Management as a member of team to manage projects in multidisciplinary environments
CO5	Exhibit effective communication through writing effective reports and presentations.