

SVKM'S NMIMS
MUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT & ENGINEERING



Academic Year: 2023-2024

Program/s: B Tech/ MBA Tech

Year: III/IV Semester: V/VII

Stream/s ; IT/AI

Subject: HUMAN COMPUTER INTERACTION

Time: 03 hrs. (02:00 to 05:00)
pm pm

Date: 28 / 11 / 2023

No. of Pages: 03

Marks: 100

Final Examination

Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer Book, which is provided for their use.

- 1) Question No. 1 is compulsory.
- 2) Out of remaining questions, attempt any 4 questions.
- 3) In all 5 questions to be attempted.
- 4) All questions carry equal marks.
- 5) Answer to each new question to be started on a fresh page.
- 6) Figures in brackets on the right hand side indicate full marks.
- 7) Assume Suitable data if necessary.

Q1		Answer briefly:	[20]
CO-1 ; SO-2 ; BL-2	a.	Describe the main goals of HCI and how it aims to improve the interaction between humans and computers.	05
CO-1 ; SO-2; BL-2	b.	Explain the significance of user research in the initial stages of the design process. What methods can be used to gather user requirements?	05
CO- 2; SO- 2; BL-3	c.	How can cognitive psychology principles be applied to the design of virtual reality to enhance user immersion and understanding?	05
CO-1; SO-2; BL-1	d.	Write a short note on following i) Elements of UX ii) Heuristics.	05
Q2			[20]
CO-2; SO-2; BL-2	a.	Explain how to create a GOMS model for a typical user task, such as sending an email or formatting a document?	08

CO-2; SO-2; BL-2	b.	Explain how Participatory Design can be adapted to ensure the inclusion of users with disabilities. What strategies and best practices can enhance accessibility through PD?	12
Q3			[20]
CO-2; SO-1; BL-1	a.	Define the key characteristics of quantitative research in HCI. How does it differ from qualitative research?	10
CO-2; SO-1; BL-1	b.	Define ergonomics and explain its significance in HCI. How does it contribute to the design of user-friendly interfaces?	10
Q4			[20]
CO-1,2; SO-1,2; BL-1,2	a.	I) What are the major challenges in designing effective user interfaces for small, wearable screens and limited input methods like touch gestures or voice commands. II) Explain How does the integration of Human-Computer Interaction principles enhance collaboration and problem solving in multidisciplinary fields.	05 05
CO-1,2; SO-1,2; BL-3,4	b.	You are designing a website for a travel booking service. How would you employ UI elements like clear call-to-action buttons and intuitive navigation menus to guide users through the booking process, reducing friction and increasing conversions?	10
Q5			[20]
CO-1,2; SO-1,2; BL-3,4	a.	You are working on a redesign of a popular e-commerce website. The website currently has inconsistent navigation menus and button placements across different pages. How would you apply Shneiderman's consistency rule to improve the overall user experience and reduce confusion among customers?	10
CO-2; SO-2; BL-1	b.	i) List out common interaction styles ii) Write a short note Short term memory?	05 05
Q6			[20]
CO-2; SO-2; BL-2	a.	Explain the process of creating user personas. How do personas help in user-centered design?	10

CO-3; SO-1; BL-2	b.	Outline the typical steps or phases in the UX design process, and briefly describe the purpose of any one each phase?	10
Q7			[20]
CO-3,2; SO-1,2; BL-3,4	a.	You are developing a voice-based educational tool for young children. How would you design the interface to be engaging and age-appropriate, while also considering the educational goals and content delivery?	10
CO-2; SO-2; BL-2	b.	Explain experimental evaluation model in HCI which helps researchers and designers understand how users interact with digital products or systems?	10