Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (R,S) Exam April 2025 (2019 Scheme)

Course Code:AMT416

Course Name: HUMAN COMPUTER INTERACTION

Max. Marks: 100 **Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks. Marks

1	Define Human-Computer Interaction (HCI) and discuss its importance.	(3)
2	List and explain three components of interaction in HCI.	(3)
3	Explain the primary steps involved in the prototyping phase of the design process	(3)
4	Discuss the advantages of using direct manipulation in interactive systems.	(3)
5	Discuss the importance of animation in advancing user experience, providing examples of effective implementation.	(3)
6	Discuss the impact of color on user experience in webpage design, emphasizing key principles.	(3)
7	What are the key issues one should consider when conducting an evaluation in the field of Human-Computer Interaction?	(3)
8	Describe the process of conducting experiments in the context of evaluating cognitive systems in HCI.	(3)
9	Outline the key design considerations for mobile computing, focusing on enhancing user experience for mobile devices.	(3)
10	Discuss the applications of AI and interface agents in collaborative environments, emphasizing their impact on user experience.	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11	a)	Develop a usability testing plan for an interactive system, considering diverse user groups and cultural variations.	(7)
	b)	Explain the importance of considering cognitive and perceptual abilities when establishing usability goals for interactive systems.	(7)

OR

12 a) Evaluate theories related to interaction design and usability principles. (7)

b) Create a prototype for an interactive system that takes into account the cognitive and perceptual abilities of a diverse user group. (7)

Module II

13 a) Describe the role of HCI patterns in influencing design decisions. (6)

b) Evaluate the effectiveness of navigation by selection in interactive systems and propose improvements. (8)

OR

14 a) Explain the concept of fluid navigation and how it enhances user experience. (6)

b) Design a user interface using principles of direct manipulation and justify your design choices (8)

Module III

15 a) Evaluate the impact of system response time (SRT) on user satisfaction and propose strategies for optimizing SRT in interactive systems. (6)

b) Evaluate the impacts of frustrating experiences on user engagement and propose a framework for minimizing such experiences. (8)

OR

16 a) Explain examples of frustrating experiences in user interaction and propose design strategies to alleviate them. (6)

b) Design an information search interface that incorporates the Five Stage Search Framework, ensuring a seamless user experience. (8)

Module IV

17 a) Design an experiment to assess the effectiveness of a new interaction technique, incorporating principles of GOMS modeling. (7)

b) Describe a scenario where heuristic evaluation could be more suitable than usability testing in HCI evaluation. (7)

OR

18 a) Explain the basic principles of the GOMS Model and how it aids in the analysis of user interactions. (7)

b) Analyze and compare the strengths and weaknesses of usability testing and heuristic evaluation in different HCI scenarios. (7)

Module V

19 a) Discuss the key considerations in selecting an appropriate evaluation method for a specific HCI context. (7)

b) Explain the primary technological categories that facilitate collaborative work. (7)

OR

20 a) Develop a comprehensive evaluation plan for a cognitive system, considering the specific goals and tasks involved. (7)

b) Explain the key principles and best practices that designers should consider when crafting mobile experiences. (7)

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