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Bengaluru

Mid Term Examinations - October 2026

Date: 07/10/2026 **Time:** 02:00 PM - 03:30 PM

Course Code: CSD3422 **Course Name:** Intelligent Interfaces and User Experience

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	80	66	2	22	10

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Define Human-Computer Interaction (HCI). State any two fundamental design principles that govern effective human-computer interaction.	2	CO1	BT1
2	What is a User-Centered Design (UCD). Identify any two principal stages of the UCD lifecycle used in the development of interactive systems.	2	CO1	BT1
3	State any two technical characteristics of Intelligent User Interfaces (IUIs) that enable them to provide adaptive interaction compared with conventional user interfaces.	2	CO2	BT1
4	Differentiate between user profiling and preference learning. Mention their role in enabling personalized interaction in intelligent systems.	2	CO3	BT2
5	Identify any two categories of contextual information used in context-aware intelligent interfaces and state their relevance to adaptive interaction.	2	CO4	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Analyze the fundamental principles of Human-Computer Interaction (HCI) and their contribution to effective interactive-system design. Illustrate the roles of visibility, consistency, feedback, affordance, user control, error prevention, and accessibility.	10	CO1	BT4
7	Explain how user profiling, behavior tracking, and preference learning contribute to the construction of computational user models. Illustrate their application in personalization and adaptive interaction.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Analyze the architecture and functional characteristics of Intelligent User Interfaces (IUIs). Compare conventional and intelligent interfaces with respect to user modeling, adaptability, personalization, context awareness, learning capability, and intelligent decision-making.	10	CO2	BT4
9	Analyze the architecture and operational workflow of recommender systems. Compare collaborative filtering, content-based filtering, and hybrid recommendation approaches with respect to user modeling and preference learning.	10	CO4	BT4

PART D: Answer Any 1 Following Questions. 10 M

PTO (Please Turn Over)

Q.N.	Questions	M	CO	BT
10	Examine the relationship between User Experience (UX) and usability in intelligent interactive systems. Discuss learnability, efficiency, effectiveness, error tolerance, accessibility, user satisfaction, transparency, and user control with suitable examples	10	CO1	BT4
11	Analyze how context-aware interaction enables adaptive content presentation in intelligent interfaces. Discuss the influence of user, temporal, spatial, device, and activity contexts on dynamic interface adaptation.	10	CO4	BT4

PART E: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
12	A university is developing an AI-enabled Student Academic Support Portal to facilitate course registration, academic resource access, personalized recommendations, and progress monitoring. Preliminary user feedback indicates difficulties in navigation, locating frequently used functions, and understanding system-generated recommendations. Apply the User-Centered Design (UCD) methodology to this application. Explain how user and context analysis, requirements specification, interaction design, prototyping, usability evaluation, and iterative refinement can be systematically applied to improve the portal's usability and user experience.	10	CO1	BT3
13	A healthcare application uses an AI-based personalization engine to recommend wellness content, reminders, and services based on users' activity patterns, preferences, location, and interaction history. Some users are concerned about excessive data collection, unclear personalization decisions, possible discrimination in recommendations, and limited control over their personal information. Evaluate the ethical issues associated with this personalized intelligent interface. Discuss privacy, informed consent, data security, algorithmic bias, transparency, explainability, fairness, and user autonomy, and suggest suitable mechanisms for responsible personalization.	10	CO5	BT5