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Daffodil International University

Faculty of Science & Information Technology

Department of Software Engineering

Final Examination, Summer 2026

Course Code: SE447; Course Title: Human Computer Interaction

Sections & Teachers: 40-(A-D), 40-E (DSM & FT)

Time: 2 Hour **Marks: 40**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	*a)*	A modern university campus implements a smart learning environment to enhance the educational experience. Students use a mobile application and interactive kiosks to access course materials, check schedules, reserve study spaces, and receive personalized notifications. Smart classroom systems automatically adjust lighting, temperature, and multimedia settings based on occupancy and user preferences. Students and instructors also rely on collaborative digital platforms for communication, assignment submission, and group project coordination. I. **Apply** ubiquitous computing in this smart university campus with explanation. II. **Demonstrate** Principles of Computer-Supported Cooperative Work.	[Marks-5+5]	CLO-3 *Level-3*
	b)	**Explore** the need for multiprocessing	[Marks-5]	
	c)	Smith is part of a development team responsible for designing a smart library seat reservation system for a newly established university library. The purpose of this system is to help students search for available study seats, reserve a seat before arriving, and manage or modify their reservations easily through a mobile app or website. The goal is to reduce overcrowding, minimize waiting times, and make study space allocation more organized and efficient.		
		I. **Determine** Cognitive Task Analysis (CTA) and potential challenges a student may encounter while searching for and reserving a study seat using the system. II. **Demonstrate** the GOMS Model.	[Marks-5+5]	
2.	*a)*	An elderly person uses a smart home app to receive medication reminders, check daily health updates, and ask a voice assistant to call a family member in case of an emergency. The system is designed with large buttons, clear text, and voice interaction to make it easy to use.		CLO-4 *Level-4*
		I. **Explain** the application of HCI life cycle in this scenario. II. **Explore** user-centered design properties for increasing interaction between system and human.	[Marks-5+5]	
	b)	**Compare** between TUI and GUI.	[Marks-5]	

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