



# MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING VII SEMESTER B.TECH.

### MAKE UP SEMESTER EXAMINATION

### SUBJECT: HUMAN COMPUTER INTERFACE (CSE 4069)

Duration: 3 Hours

Date: 12/01/2024  
2.30 PM

MAX.MARKS: 50

NO.	Question	M	CLO	AHEP LO	BL
1A	What are mental models, and why are they important in computer interface design? Illustrate with an example.	4	1	1	1
1B	List and illustrate the three primary skill levels identified by Anderson's ACT model related to Human-Computer Interface.	3	1	1	3
1C	Highlight the positioning aspect of the devices. a) Eyegaze and b) Cursor keys.	3	1	1	3
2A	How can the usability of an interactive system be demonstrated or measured? Illustrate with a computer interface module.	4	2	1	3
2B	Discuss the advancements in interaction concerning a) The video display units and b) Personal computing.	3	2	1	3
2C	Justify the fact that iteration and prototyping are the universally accepted 'best practices' approaches for interaction design.	3	2	1	3
3A	Justify the fact that, Shneiderman's eight golden rules provide a convenient and succinct summary of the key principles of interface design.	4	3	3,5	3
3B	Summarize various principles affecting learnability with which new users can begin effective interaction and achieve maximal performance.	3	3	3,5	3
3C	Design an experiment to test whether adding color coding to an interface will improve accuracy. Identify your hypothesis, participant group, dependent and independent variables, task, experimental design, and analysis approach.	3	3	3,5	4
4A	How you can justify that adaptive help is a special case of a general class of interactive intelligent systems?	4	4	3,5	3
4B	A group of universities has decided to collaborate to produce an information system to help potential students find appropriate courses. The system will be distributed free to schools and career offices on CD-ROM. It will provide information about course contents and requirements, university and local facilities, fees, and admissions procedures. Identify the main stakeholders for this system, categorize them, and describe them and their activities, currently and about the proposed system, using the CUSTOM framework. Produce a rich picture showing the problem situation (you can use any format that you find helpful).	3	4	3,5	4



4C	What is speech act theory? Describe positive and negative issues that have arisen when it has been embodied in a specific system.	3	4	3,5	3
5A	Design a generic structured state diagram illustrating a conversation for action (CFA) representing the stages two participants go through in initiating an external action that one of them should perform. Consider, that there are two variants, the one shown represents a conversation where the first speaker (A) is requesting that the other participant (B) does something. The other, similar, variant is where the first speaker begins with an offer. Illustrate the action in simple terms.	4	4	3,5	4
5B	Compare Linear text and Hypertext communications with an example.	3	5	1,2,3	3
5C	Using task decomposition, illustrate the function 'clean the house.' Compare Hierarchical task analysis to task decomposition.	3	5	1,2,3	4