

**Code No: 155GK****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, August/September - 2024****DESIGN OF INTERACTIVE SYSTEMS****(Computer Science and Design)****Time: 3 Hours****Max. Marks: 75****Note:** i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART – A****(25 Marks)**

- 1.a) List the goals of system engineering. [2]
- b) Explain the significance of human factors in design. [3]
- c) Define ethnographic observation. [2]
- d) Outline the process of usability testing. [3]
- e) What is remote direct manipulation? [2]
- f) Mention the benefits of fast movement through menus. [3]
- g) Define user productivity in the context of interaction devices. [2]
- h) Describe the role of keyboards and their functions in user interfaces. [3]
- i) What is phrase search in textual documents? [2]
- j) Explain the significance of hypertext in information search. [3]

**PART – B****(50 Marks)**

- 2.a) Explain the guidelines for data display and data entry, and discuss how they contribute to effective user interface design.
- b) Discuss how high-level theories influence user interface design. [5+5]

**OR**

- 3.a) Explain the importance of object-action interface design with a real-world example.
- b) Outline the key principles for designing data display in user interfaces. [5+5]

- 4.a) Explain the significance of scenario development in the design process.
- b) Describe the concept and importance of acceptance tests in the design process. [5+5]

**OR**

- 5.a) Explain the importance of legal issues in user interface design, including potential challenges and strategies to address them.
- b) Evaluate the role of specification methods in the design process, focusing on how they ensure the usability and functionality of the interface. [5+5]

- 6.a) Explain the role of icons in visual thinking.  
b) Discuss the significance of item presentation sequence in user interface design. [5+5]

**OR**

- 7.a) Outline the strategies for organizing commands in user interfaces.  
b) Analyze the impact of response time on user satisfaction. [5+5]

- 8.a) Discuss the benefits and challenges of image and video displays.  
b) Outline the considerations for display design with respect to color. [5+5]

**OR**

- 9.a) Explain the significance of theoretical foundations in designing interaction devices.  
b) Differentiate between reading from paper and from displays. [5+5]

- 10.a) Analyze the design principles and challenges associated with individual and multiple window interfaces, providing examples of effective implementations.  
b) Mention the benefits of implementing asynchronous interaction in collaborative systems. [5+5]

**OR**

- 11.a) Explain the role of advanced filtering techniques in improving search results and user experience.  
b) Mention the significance of personal role management in enhancing user productivity. [5+5]

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