**20CS4703C**

**USER INTERFACE DESIGN**

**MICRO SYLLABUS**

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| **Offering**  **Branches** | CSE | | | | |
| **Course Category:** | PEC | | **Credits:** | 3 | |
| **Course Type:** | Theory | | **Lecture-Tutorial- Practical:** | 3-0-0 | |
| **Prerequisites:** | ------ | | **Continuous Evaluation:** | 30 | |
| **Semester End Evaluation:** | 70 | |
| **Total Marks:** | 100 | |
| **Course Outcomes** | | | | | |
| Upon successful completion of the course, the student will be able to: | | | | | |
| **CO1** | Understand the concepts and principles of graphical user interface design | | | | **L2** |
| **CO2** | |  | | --- | | Apply concepts of interaction devices to identify appropriate devices for an application | | | | | **L3** |
| **CO3** | |  | | --- | | Analyze given scenario and apply screen elements and windows to design a screen | | | | | **L4** |
| **CO4** | |  | | --- | | Analyze human physical and mental limitations for using computers to provide solutions. | | | | | **L4** |
| **Micro Content** | | | | | |
| **Unit-I**  **Introduction to User Interface** | | **Introduction to User Interface:**  Defining the user interface and its importance  The importance of Good design  Benefits of Good design  History of Screen design  Characteristics of graphical and web user interfaces   * Definition and importance of GUI * Characteristics of graphical user interface * Definition and importance of web user interface * Characteristics of web user interface * printed pages versus Web pages   Principles of user interface design   * principles for the Xerox Star * General Principles | | CO1 | |
| **UNIT-II**  **Design Process** | | **Design Process:**  Understanding how people interact with computers   * Why people have trouble with computers * Responses to poor design * People and their tasks   Human characteristics in Design  Human Considerations in Design  Human Interaction speeds  Outline the methods for gaining an understanding of users. | | CO1, CO4 | |
| **UNIT-III**  **Screen Designing** | | **Screen Designing:**  Screen and Web Page Meaning and Purpose  Organizing screen elements clearly and meaningfully  Ordering of screen data and content  Screen navigation and flow  Visually pleasing composition  Presenting information simply and meaningfully  Typography  Screen Elements | | CO1, CO3 | |
| **UNIT-IV**  **Windows**  **Components** | | **Windows:**  WindowCharacteristics  Window Components  Window Types  Selection of proper device based controls  Selection of proper screen based controls  **Components:**  Icons   * Kinds of Icons * Characteristics of Icons * Influences on Icon Usability * Choosing Icons   Images   * Choosing Images * Creating Images * Drawing Images   Multimedia   * Graphics * Images * Photographs/Pictures * Video * Diagrams * Drawings * Animation * Audition   Color and its uses   * Color-What is it? * Color Uses * Possible problems with color * Choosing colors for categories of information * Choosing colors for textual Graphic screens * Choosing colors for statistical Graphic screens * Choosing colors for Web pages | | CO1, CO3 | |
| **UNIT-V**  **Interaction devices** | | **Interaction devices**  Keyboards  Keypads  pointing devices   * Direct control pointing devices * Indirect control pointing devices * Comparison of pointing devices   speech and Auditory Interfaces | | CO1, CO2 | |

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| |  | | --- | | **Learning Resources** | | **Text Book** | | 1. ―The Essential Guide to User Interface Design- An Introduction to GUI Design Principles and  Techniques‖, Wilbert O Galitz, 3rd Edition, Wiley Dreama Tech  2. Designing the User Interface. Ben Shneidermann, 5th Edition, Pearson Education Asia | | **References** | | 1 Human Computer Interaction. Alan Dix, Janet Finlay, Goryd, Abowd, Russell Beal,3rd Edition,  2004, PEA. 2. User Interface Design. Soren Lauesen, Pearson Education. | | **e-Resources and other Digital Material** | | 1. http://iiscs.wssu.edu/drupal/node/4607  2. https://www.interaction-design.org/encyclopedia/human\_computer\_interaction\_hci.html | |