

## **CS8079 HUMAN COMPUTER INTERACTION**

### DETAILED SYLLABUS

#### **OBJECTIVES:**

- To learn the foundations of Human Computer Interaction.
- To become familiar with the design technologies for individuals and persons with disabilities.
- To be aware of mobile HCI.
- To learn the guidelines for user interface.

#### **UNIT I FOUNDATIONS OF HCI**

The Human: I/O channels – Memory – Reasoning and problem solving; The Computer: Devices – Memory – processing and networks; Interaction: Models – frameworks – Ergonomics – styles – elements – interactivity- Paradigms. - Case Studies

#### **UNIT II DESIGN & SOFTWARE PROCESS**

Interactive Design: Basics – process – scenarios – navigation – screen design – Iteration and prototyping. HCI in software process: Software life cycle – usability engineering – Prototyping in practice – design rationale. Design rules: principles, standards, guidelines, rules. Evaluation Techniques – Universal Design

#### **UNIT III MODELS AND THEORIES**

HCI Models: Cognitive models: Socio-Organizational issues and stakeholder requirements – Communication and collaboration models-Hypertext, Multimedia and WWW.

#### **UNIT IV MOBILE HCI**

Mobile Ecosystem: Platforms, Application frameworks- Types of Mobile Applications: Widgets, Applications, Games- Mobile Information Architecture, Mobile 2.0, Mobile Design: Elements of Mobile Design, Tools. - Case Studies

#### **UNIT V WEB INTERFACE DESIGN**

Designing Web Interfaces – Drag & Drop, Direct Selection, Contextual Tools, Overlays, Inlays and Virtual Pages, Process Flow - Case Studies TOTAL :45 PERIODS OUTCOMES: Upon completion of the course, the students should be able to:

#### **TEXT BOOKS:**

1. Alan Dix, Janet Finlay, Gregory Abowd, Russell Beale, —Human Computer InteractionII, 3rd Edition, Pearson Education, 2004 (UNIT I, II & III)
2. Brian Fling, —Mobile Design and DevelopmentII, First Edition, O'Reilly Media Inc., 2009 (UNIT – IV)
3. Bill Scott and Theresa Neil, —Designing Web InterfacesII, First Edition, O'Reilly, 2009. (UNIT-V)