HUMAN AND COMPUTER INTERACTION

II Semester: CSE

Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	T	P	C	CIA	SEE	Total
BCSB16	Elective	3	0	0	3	30	70	100
Contact Classes: 45	Total Tutorials: Nil	Total Practical Classes: Nil			Total Classes: 45			

I .COURSE OVERVIEW:

This course is concerned with the design, evaluation, and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them. The knowledge of this subject is to practice system design, selection, installation, evaluation, and use along with the knowledge of human characteristics, interaction styles, use context, task characteristics, and design processes.

II. OBJECTIVES:

The students will try to learn:

I. The foundations of Human Computer Interaction
II. The design technologies for individuals and persons with disabilities
III. Aware of mobile Human Computer interaction.
IV. The guidelines for user interface.

III. COURSE OUTCOMES:

After successful completion of the course, students should be able to:

CO 1	**Apply** different HCI paradigms and design principles to create user-centered and engaging interfaces.	Apply
CO 2	**Make use of** interaction designs to create interventions in complex situations using software, and physical devices	Apply
CO 3	**Choose** various cognitive models used to represent user tasks and skills in the context of interactive systems.	Apply
CO 4	**Interpret** the Mobile Ecosystem for understanding its various components and stakeholders	Understand
CO 5	**Utilize** the key concepts and principles of contextual tools used in the design of web interfaces.	Apply

IV. SYLLABUS

UNIT-I	**INTRODUCTION**	**Classes: 08**

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

UNIT-II	**INTERACTIVE DESIGN**	**Classes: 09**

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	**COGNITIVE MODELS**	**Classes: 08**

Cognitive models –Socio-Organizational issues and stake holder requirements –Communication and collaboration models-Hypertext, Multimedia and WWW.

UNIT-IV	MOBILE ECOSYSTEM	Classes: 10

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.

UNIT-V	WEB INTERFACES	Classes: 10

Designing Web Interfaces – Drag & Drop, Direct Selection, Contextual Tools, Overlays, Inlays and Virtual Pages, Process Flow. Case Studies.

Text Books:

1. Alan Dix, Janet Finlay, Gregory Abowd, Russell Beale, "Human Computer Interaction", Pearson Education, 3rd Edition, 2004.
2. Brian Fling, "Mobile Design and Development", O Reilly Media Inc., 1st Edition , 2009
3. Bill Scott and Theresa Neil, "Designing Web Interfaces", O Reilly, 1st Edition, 2009.

Web References:

1. http://www.sctie.iitkgp.ernet.in/
2. http://www.rkala.in/softcomputingvideos.php
3. http://www.sharbani.org/home2/soft-computing-1
4. http://www.myreaders.info/html/soft_computing.html

E-Text Books:

1. https://www.books.google.co.in/books?id=bVbj9nhvHd4C
2. https://www.books.google.co.in/books?id=GrZHPgAACAAJ&dq=1.+J.S.R.Jang,+C.T.Sun+and+E .Mizutani,+Neuro,+Fuzzy+and+Soft+Computing,+PHI,+2004,Pearson+Education.