PERVASIVE COMPUTING (Major Elective-III)

Semester III (Computer Engineering)
SUB CODE: MECE303-B

Teaching Scheme (Credits and Hours)

Teaching scheme				Total Credit	Evaluation Scheme					
L	T	P	Total		Theory		Mid Sem Exam	CIA	Pract.	Total
Hrs	Hrs	Hrs	Hrs		Hrs	Marks	Marks	Marks	Marks	Marks
04	00	02	06	05	3	70	30	20	30	150

LEARNING OBJECTIVES:

The objective of this course is

- To study the pervasive computing and its applications
- To study the pervasive computing web based applications
- To study voice enabling pervasive computing
- To study PDA in pervasive computing
- To study user interface issues in pervasive computing

OUTLINE OF THE COURSE:

Unit No	Topics
1.	Pervasive Computing Applications
2.	Pervasive Computing and web based Applications
3.	Voice Enabling Pervasive Computing
4.	PDA in Pervasive Computing
5.	User Interface Issues in Pervasive Computing, Architecture

Total hours (Theory): 60

Total hours (Practical): 30

Total hours: 90

DETAILED SYLLABUS:

Sr. No	Topic	Lecture Hours	Weight age (%)
1	**Pervasive Computing Applications:** - Pervasive Computing devices and Interfaces - Device technology trends, - Connecting issues and protocols	10	15
2	**Pervasive Computing and web based Applications:** - XML and its role in Pervasive Computing - Wireless Application Protocol (WAP) Architecture and Security - Wireless Mark-Up language (WML)	20	25
3	**Voice Enabling Pervasive Computing:** - Voice Standards - Speech Applications in Pervasive Computing and security	10	20
4	P**DA in Pervasive Computing:** – Introduction - PDA software Components, Standards, emerging trends - PDA Device characteristics - PDA Based Access Architecture	10	20
5	**User Interface Issues in Pervasive Computing, Architecture:** - Smart Card- based Authentication Mechanisms - Wearable computing Architecture	10	20

INSTRUCTIONAL METHOD AND PEDAGOGY (Continuous Internal Assessment (CIA) Scheme)

- At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
- Lectures will be conducted with the aid of multi-media projector, black board, OHP etc.
- Attendance is compulsory in lecture and laboratory which carries 10 marks in overall evaluation.
- One internal exam will be conducted as a part of internal theory evaluation.
- Assignments based on the course content will be given to the students for each unit and will be evaluated at regular interval evaluation.
- Surprise tests/Quizzes/Seminar/tutorial will be conducted having a share of five marks in the overall internal evaluation.
- The course includes a laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures.
- Experiments shall be performed in the laboratory related to course contents.

STUDENTS LEARNING OUTCOMES:

On successful completion of the course, the student will:

- Be able to learn pervasive computing devices and interfaces.
- Be able to learn XML role in pervasive computing.
- To get clear idea about WAP architecture and security.
- Be able to learn speech application in pervasive computing.
- Become familiar with different voice standards.
- Identify user interface issues in pervasive computing.

TEXT BOOKS:

1. Jochen Burkhardt, Horst Henn, Stefan Hepper, Thomas Schaec & Klaus Rindtorff. --- Pervasive Computing Technology and Architecture of Mobile Internet Applications, Addision Wesley, Reading, 2002.
2. Uwe Ha nsman, Lothat Merk, Martin S Nicklous & Thomas Stober: Principles of Mobile Computing, Second Edition, Springer- Verlag, New Delhi, 2003.

REFERENCE BOOKS:

1. Rahul Banerjee: Internetworking Technologies: An Engineering Perspective, Prentice –Hall of India, New Delhi, 2003. (ISBN 81-203-2185-5)
2. Rahul Banerjee: Lecture Notes in Pervasive Computing, Outline Notes, BITS-Pilani, 2003.