

Course NO: MCA-4EL4
Course Title: Pervasive Computing

Unit I

Technologies : Past, Present, Future , Pervasive Computing , The pervasive computing market, m-Business , Conclusions and Challenges , Future , Application Examples , Device Technology : Hardware , Human-machine interfaces , Biometrics , Operating Systems , Java for Pervasive devices , Device Connectivity : Protocols , Security , Device Management , Web Application Concepts : History of World wide Web . World wide Web Architecture , Protocols , Transcoding , Client Authentication via the Internet.

Unit II

, WAP : Introduction , Components of the WAP architecture , WAP infrastructure , WAP Security Issues , Wireless Markup Language , WAP push , Products , i-mode , Voice Technology : Basics of Speech Recognition , voice standards , speech applications , speech and pervasive computing , security, Personal Digital assistants : History , Device Categories , PDA Operating Systems , Device Characteristics , Software Components , Standards , Mobile Applications , PDA browsers.

Unit III

Architecture : Server Side Programming in Java : J2EE and overview , Servlets, Enterprise Java Beans , Java Server Pages , Extensible Markup Language , Web services , Model-View-Controller Pattern, Pervasive web application architecture : Background , scalability and availability , Development of pervasive computing web applications , Pervasive application architecture.

Unit IV

Example Application : Introduction , User Interface overview , Architecture , Implementation. Access from PCs : Smart Card-based authentication via the Internet , Ordering goods , Access via WAP : WAP functionality , Implementation , Access from Personal Digital Assistants: Extending the example application to personal digital assistants. Implementation for synchronized devices, for intermittently connected devices , for connected devices. Access via voice : Extending the example application to voice access , Implementation.

Reference Books :

JochenBurkhardt, Dr. Horst Henn , Stefan Hepper , Klaus Rintdorff, Thomas schack “ Pervasive Computing “ Technology and Architecture of Mobile Internet Applications , Pearson Education.