

Devi Ahilya University, Indore, India Institute of Engineering & Technology				IV Year B.E. (INFORMATION TECHNOLOGY)			
Subject Code & Name	Instructions Hours per Week			Credits			
<b>ITR8G6</b> <b>Principles of Mobile Computing</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>
	<b>3</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>Duration of Theory Paper: 3 Hours</b>							

**Objectives:** To understand the principles and techniques of how computers use and share data in an environment in which location is not fix.

**Prerequisites:** Basic knowledge of Wireless communication and Networks.

### CourseContents

#### Unit-I

Review of Wireless communication technologies. Mobile computing definition, difference between mobile communication and mobile computing, Adaptability-key to mobile computing, mechanisms for adaptation, Support for building Adaptive Mobile Applications-Transcoding Proxy, Odyssey, Rover models

#### Unit-II

##### Mobility Management:

Mobility Management, Location Management principles and techniques: registration area based location management, dynamic update schemes, location caching, replicating location information, flat and hierarchical organization, location management case studies PCS, Mobile IP

#### Unit-III

##### Data Dissemination and Management

Challenges, Publish-subscribe mode, information caching, Data Dissemination, mobile data caching, mobile cache Maintenance schemes, Mobile Web Caching

#### Unit-IV

##### Context Aware Computing:

Ubiquitous or Pervasive Computing, Context: various definitions and Types, Context Aware Computing and Applications, Middleware support, Middleware for application development: Adaption and Agents.

#### Unit-V

Service Discovery Middleware: Finding needed Services, Services, Discovery and Advertisement Protocols, Garbage Collection, Eventing, Security, Interoperability.

**Learning Outcomes:**

Upon Completing the Course, students will gain the knowledge of various issues involved in mobile computing environment and techniques to resolve.

**Books Recommended:**

1. Frank Adelstein, Sandeep K. Gupta, Golden G. Richard, Loren Schwiebert, Fundamentals of Mobile and Pervasive Computing, McGraw-Hill Education (India), 2005.
2. Reading material from other online sources.

