GUJARAT TECHNOLOGICAL UNIVERSITY

SUBJECT NAME: Pervasive computing
SUBJECT CODE: 3715506
Semester I

Type of course: NA

Prerequisite:

1. Mobile Computing
2. Networking
3. Adhoc networks

Rationale: NA

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE(E)	PA (M)	ESE	PA(I)	
3	2	0	4	70	30	30	20	150

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment;

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	PERVASIVE COMPUTING AND SYSTEMS Pervasive Computing and Its Significance, Research Trends in Pervasive Computing and Networking, Mobile Agent Technology, Sensor Networks , Collaboration and Interoperability Among Sensor Networks Applications, Models for Service and Resource Discovery in Pervasive Computing, Pervasive Learning Tools and Technologies, Service Management in Pervasive Computing Environments, Wireless Sensor Cooperation for a Sustainable Quality of Information, An Opportunistic Pervasive Networking Paradigm: Multi-Hop Cognitive Radio Networks, Wearable Computing and Sensor Systems for Healthcare, Standards and Implementation of Pervasive Computing Applications,	10	20
2	PERVASIVE NETWORKING SECURITY Security and Privacy in Pervasive Networks, UnderstandingWormhole Attacks in Pervasive Networks, An Experimental Comparison of Collaborative Defense Strategies for Network Security, Smart Devices, Systems and Intelligent Environments.	10	25
3	PERVASIVE NETWORKING AND COMMUNICATIONS Autonomic and Pervasive Networking, An Adaptive Architecture of Service Component for Pervasive Computing, On Probabilistic k-Coverage in Pervasive Wireless Sensor Networks, On the Usage of Overlays to Provide QoS Over IEEE	10	25

	802.11b/g/e Pervasive and Mobile Networks, Performance Evaluation of Pervasive Networks Based on WiMAX Networks, Implementation Frameworks for Mobile and Pervasive Networks.		

Reference Books:

1. Pervasive Computing and Networking Mohammad S. Obaidat (Editor), Mieso Denko (Editor), Isaac Woungang (Editor) ISBN: 978-0-470-74772-8, wiley.
2. Pervasive computing Burkhardt Jochen Pearson Education,
3. Pervasive Computing: The Mobile World (Springer Professional Computing)[Hardcover] By Uwe Hansmann, Lothar Merk , Martin S. Nicklous , Thomas Stober, P. Korhonen, P. Kahn, N. Shelness

Course Outcome:

After learning the course the students should be able to:

1. Demonstrate the basics of pervasive and Mobile Computing
2. Discuss in details about the pervasive environment
3. Study in detailed about the security provided for the pervasive environment
4. Study the networking done between pervasive computing
5. Study the different ways of communication in the pervasive networking environment