

Department of Computer Science & Engineering

Detailed Syllabus: Ph.D Course Work (Core Subject)

SUBJECT TITLE: Latest Trends in Computer Science & Engineering

SUBJECT CODE: PHDCSE 1103 A

SEMESTER: I

CONTACT HOURS/WEEK:

Lecture (L)	Tutorial (T)	Practical (P)	Credit (C)
5	0	0	5

Internal Assessment: 40

End Term Exam: 60

Duration of Exam; 3 Hrs

Module 1: Software Engineering

Object oriented Analysis and Design, SDLC, Visual Modelling, UML, Use Case diagrams, Object diagram, Class diagram, Software Reengineering, Reverse Engineering, Clean Room Software Engineering, Project Management, The management spectrum, The People; stakeholders, Software team, Agile teams, CBSE process, CASE tools.

Module 2: Cloud Computing

Cloud Computing definition, Cloud Types- Private, Public and Hybrid cloud, Cloud Services: Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS), Benefits and challenges of cloud computing.

Module 3: Big Data

Introduction to Big Data, Big Data Tools and Techniques, Applications of Big Data, Apache Hadoop, Map Reduce, SMAQ Stack.

Module 4: Network basics

Data communication system and its components, Computer network, Type of Computer Networks: LAN, MAN, WAN, Wired and Wireless system, Network topologies, Congestion control: Principles of Congestion control, Congestion prevention policies, Network security, Cryptography, OSI reference model, TCP/IP reference model

Module 5: Adhoc networks

Introduction to Adhoc Wireless Networks, Characteristics of MANETS, Applications of MANETS, challenges, QoS framework for Adhoc Networks, Routing protocols, Design issues, Table driven protocols: DSDV, WRP, CGSR, On demand protocols: DSR, AODV, TORA