



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR
(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
B. Tech. Scheme of Examination & Syllabus 2023-24
COMPUTER ENGINEERING

SIXTH SEMESTER

Course Code	Course Name	Th	Tu	Pr	Credits	Evaluation		
CE601T	Advanced Computer Networks	3	-	-	3	CA	ESE	Total
						30	70	100

Course Objectives	Course Outcomes
<p>This course is intended</p> <ul style="list-style-type: none"> To gain understanding of various aspects of Computer Network and explore the functions of related protocols. To enable the students to understand the importance of using cloud computing services via Internet. 	<p>Student will be able to</p> <ul style="list-style-type: none"> Understand the brief history of the Internet. Interpret and analyse TCP protocol. Understand the concepts of network addressing through problem solving. Interpret the various functions of UDP protocol. understand cloud computing fundamentals & AWS service knowledge.

Unit I **[7Hrs]**

TCP/IP protocol suite: layers in TCP/IP model, Comparison between OSI and TCP/IP model, Internet Standards, Internet Administration, Review of Underlying Technologies: Wired LAN: frame structures of IEEE 802.3, 802.4, FDDI, Wireless LAN: IEEE 802.11, Switched WAN: X.25, Frame Relay and ATM.

Unit II **[8Hrs]**

TCP segment format, TCP connection & State transition diagram, Flow & error control, congestion control, TCP timers, TCP timeout and Retransmission, Introduction to SCTP.

Unit III **[7Hrs]**

IPv4 addresses: address structure, CIDR: Subnet and Supernetting, special address conventions, IPv6 addressing: Addressing and Packet Format, Transition from IPv4 to IPv6.

Unit IV **[8Hrs]**

UDP header format, UDP messages, UDP services, UDP applications, UDP package, UDP checksum calculation, Unicast Routing protocols, Multicast routing protocol: MOSPF, MDVRP

Unit V **[7Hrs]**

AWS & Cloud Computing: Introduction to cloud computing, Cloud computing Deployment models, Introduction to AWS, Introduction to Simple Storage Service: S3, Creating Bucket on AWS, Uploading data in Bucket, VPC & Subnets, Elastic Compute Cloud: EC2, IAM

Text Books

S.N	Title	Authors	Edition	Publisher
1	Data Communications and Networking	Behrouz A Forouzan	Fourth Edition	McGraw Hil
2	Internetworking with TCP/IP principles protocols, and architectures	Douglas E. Comer	Fourth Edition	Prentice Hall
3	TCP/IP Protocol Suite	Behrouz A Forouzan	Fourth Edition	McGraw Hil
4	Cloud Computing : A Hands on Approach	Bahga, Arshdeep Medishetti, Vijay	-	Univ. Press India Pvt. Ltd
5	Aws Certified Sysops Administrator : Official Study Guide	Cole, Stephen Digby, Gareth Fitch, Chris Fiedberg, Steve	-	Wiley India Pvt. Ltd

Reference Books

S.N	Title	Authors	Edition	Publisher
1	Data and Computer Communication	William Stallings	Second Edition	McGraw Hil
2	A Course in Computer Networks	Dr. Sanjay Sharma	Third Edition	Katson Books
3	Computer Networks and Internet with Internet Applications	Douglas E. Comer	Fourth Edition	Prentice Hall
4	Computer Networking: A Top Down Approach	Kurose, Ross	Seventh Edition	Pearson

		July 2023	1.2	Applicable for 2023-24
Chairman - BoS	Dean – Academics	Date of Release	Version	