NARSIMHA REDDY ENGINEERING COLLEGE
UGC AUTONOMOUS INSTITUTION
Maisammaguda (V), Kompally - 500100, Secunderabad, Telangana State, India

Accredited by NBA & NAAC with 'A' Grade
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SYLLABUS

EC4121OE :PRINCIPLES OF COMPUTER COMMUNICATIONS AND NETWORKS (Open Elective- II)

IV-I:CSE(DS)

Course Code	Category	Hours/Weak			Credits	Max Marks		
		L	T	P	C	CIE	SEE	Total
EC4121OE	Open Elective- II	3	0	0	3	30	70	100
Contact Classes:45	Tutorial classes: 15	Practical classes: Nill				Total Classes:60		
Prerequisites: None								

Course Objectives:
- To understand the concept of computer communication.
- To learn about the networking concept layered protocols.
- To understand various communications concepts.
- To get the knowledge of various networking equipment.

Course Outcomes:
- The student can get the knowledge of networking of computers, data transmission between computers.
- Will have the exposure about the various communication concepts.
- Will get awareness about the structure and equipment of computer network structures.
- Will get thorough awareness of physical and mac sublayer concepts.
- Thorough understanding of analog and digital systems.

UNIT-I

Overview of Computer Communications and Networking: Introduction to Computer Communications and Networking, Introduction to Computer Network, Types of Computer Networks, Network Addressing, Routing, Reliability, Interoperability and Security,Network Standards, The Telephone System and Data Communications.

UNIT-II

Essential Terms and Concepts: Computer Applications and application protocols, Computer Communications and Networking models,Communication Service Methods and data transmission modes,analog and DigitalCommunications ,Speed and capacity of a Communication Channel, Multiplexing and switching, Networkarchitecture and the OSI reference model.

UNIT-III

Analog and Digital Communication Concepts: Representing data as analog signals,representing data as digital signals,data rate and band width reduction, Digital Carrier Systems.

UNIT-IV

Physical and data link layer Concepts:The Physical and Electrical Characteristics of wire, Copper media, fiber opticmedia, wireless Communications. Introduction to datalink Layer, the logical link control and medium access control sub-layers.

UNIT-V

Network Hardware Components: Introduction to Connectors, Transreceivers and media convertors, repeaters, network interference cards and PC cards, bridges, switches, switches Vs Routers.

TEXTBOOKS:

1. Computer Communicationsand Networking Technologies, MichelA. Gallo and WilliamH.Hancock,Thomson Brooks/Cole.
2. Data Communications and Networking–Behrouz A.Forouzan, Fourth Edition MC GRAW HILL EDUCATION,2006.

REFERENCEBOOKS:

1. Principles of Computer Networks and Communications, M.Barry Dumas,Morris Schwartz, Pearson.
2. Computer Networking: A Top-DownApproach Featuring the Internet, James F.Kurose,K.W.Ross, 3rdEdition,PearsonEducation