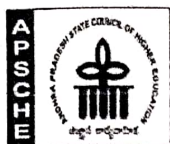


SRI VENKATESWARA UNIVERSITY :: TIRUPATI



ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

MINOR

Subject: Electronics

w.e.f. AY 2023-24

COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
I	II	1	Fundamental of Electricity and Electronics	3	3
			Fundamental of Electricity and Electronics Practical Course	2	1
II	III	2	Semiconductor devices and Materials	3	3
			Semiconductor devices and Materials Practical Course	2	1
	IV	3	Electrical and electronics instrumentation	3	3
			Electrical and electronics instrumentation Practical Course	2	1
		4	Microprocessor system	3	3
			Microprocessor system Practical Course	2	1
III	V	5	Cellular Mobile Communication	3	3
			Cellular Mobile Communication Practical Course	2	1
		6	Computer Network	3	3
			Computer Network Practical Course	2	1

SEMESTER-V
COURSE 5: CELLULAR MOBILE COMMUNICATION

Theory

Credits: 3

3 hrs/week

The students will learn:

- a. basics of digital cellular system, cordless telephony and cell structure
- b. GSM wireless protocol and markup language fundamentals
- c. basics of WLL and Bluetooth technology

UNIT-I

Advanced mobile phone service - Global system for mobile communication - Digital cellular system -

Cordless telephony - Third generation wireless systems.

UNIT-II

7 Cell structure - Hand off - roaming management - Hand off detection - Channel assignment techniques - Interference - ACI, CCI - Intersystem hand off and authentication - Network signaling - Cellular digital packet data

UNIT-III

GSM - Network signaling, mobility management, short message service - International roaming, administration and operation.

UNIT-IV

Wireless application protocol - Architecture - Datagram - Transport layer securities - Transaction protocol - Session protocol application environment, wireless markup language, WML - Script wireless telephony applications.

UNIT-V

Third generation mobile services - Wireless local loop - Bluetooth technology.

Text Books

1. Mobile Communications - Jochen Schiller, 7/e, Pearson Education, 2003.
2. Principles of Wireless Networks - Kauch Pahalavan & Prahanet Krishnamoorthy, 2/e, Pearson Education, 2004.

Reference Books

1. Wireless and Mobile Networks Architecture - Yi-Bing Lin & Imnch Chlantee, John Wiley, 2001.
2. Wireless and Mobile Communication - Rappaport, Pearson Education, 2001.

V. Balanubabu
(BOS chairman)

SEMESTER-V
COURSE 6: COMPUTER NETWORK

Theory

Credits: 3

3 hrs/week

Objective

The students will learn :

- a. provides a general introduction to computer networking that would be useful to all personnel who deal with distributed systems,
- b. encompassing both technical and managerial aspects.
- c. to help students better understand the challenges and opportunities faced by modern business,
- d. topics include LAN and WAN implementations, the Internet and internet applications.

UNIT-I

Network structure Point to Point, Broadcast, Multicast - Horizontal and vertical distribution - Star, Mesh, tree, bus structures - OSI 7 layer model - Architecture - Functions of layers - Packet switches, circuit switching and message switching.

UNIT-II

Physical layer - Transmission media - Channel allocation methods - ALOHA, S-ALOHA, FINITE ALOHA - LAN Protocols IEEE802.3, 802.4, 802.5, 802.6 and 802.11.

UNIT-III

Data link layer - Framing - Error detection - Error correction - CRC - Stop and wait - Go back N - Sliding window Protocol - Selective repeat.

UNIT-IV

Network layer - Routing algorithms and congestion control algorithms - Repeaters, Bridges, Routers and Gateways, Inter networking - Introduction to transport layer and session layer.

UNIT-V

Presentation layer - coding, compression and cryptography - Introduction to Application layer - High performance networks - ATM, Fast Ethernet, FDDI, DQDB, SONET and SDH.

Text Books

1. Computer Networks - *Andrew S. Tanenbaum*, 4/e, Pearson Education, 2005.
2. Data and Computer Communication - *W. Stallings*, 7/e, Pearson Education, 2006.

Reference Books

1. Introduction to Data Communications and Networking - *Behrouz & Forouzan*, 4/e, McGraw Hill Book Company, 2004.
2. Telecommunication Networks - Protocols Modeling and Analysis - *Misha Stewart*, 2/e, Pearson Education, 2002.

V. Balaram
(BOS CHAIRMAN)