

Ad-on Course	: Data Communication & Networking	IA Marks	: 05
Total no. of Hrs.	: 30	Semester: 3 rd Sem	Staff Member : Prof. A V Kolaki

Course Content

Part-A		
Module 1	1. Introduction to Data Communication: 1.1 Data and information 1.2 Data Communication and its characteristics 1.3 Representation of Data 1.4 Digital-to-Digital Conversion 1.4.1 Line Coding 1.4.2 Line Coding Schemes 1.4.3 Block Coding 1.5 Computer Network 1.6 PERFORMANCE 1.6.1 Bandwidth 1.6.2 Throughput 1.6.3 Latency (Delay) 1.6.4 Bandwidth-Delay Product 1.6.5 Jitter	10.00 hrs
Module 2	2. Network Models: 3.1 Open System Interconnection Model (OSI) 3.2 TCP-Internet Protocol Model (TCP/IP) 3. Types of Computer Networks: 2.1 Local Area Network 2.2 Metropolitan area Network 2.3 Wide Area Network 4. Networking devices: 4.1 Hub, Switch 4.2 Router, Gateway	10.00 hrs
Module 3	5. Computer Network Topologies: 5.1 Point-to-Point 5.2 Bus Topology 5.3 Star Topology 5.4 Ring Topology 5.5 Mesh Topology 6. Network addresses: 6.1 IP Addressing 6.1.1 Classful Addressing 6.1.2 Classless Addressing 6.2 Subnetting 7. Network Model Implementation Using Nctuns GUI	10.00 hrs

Text Book :

1. Data Communications and Networking, Forouzan, 5th Edition, McGraw Hill, 2016 ISBN: 1-25-906475-3

Reference Books:

1. Computer Networks, James J Kurose, Keith W Ross, Pearson Education, 2013,ISBN: 0-273-76896-4
2. Introduction to Data Communication and Networking, Wayarles Tomasi, Pearson Education, 2007, ISBN:0130138282

Course Outcomes (COs):

At the end of the course students should be able to:

1. Understand the fundamental concept of Data Communication and Networking performance parameters.
2. Understand Network Models like OSI model/TCP IP protocol suite with different layers involved, Types and Networking Devices.
3. Understand the Computer Network Topologies and Network Addresses.



COURSE PLAN

Semester: Add-On

Year: 2021-22 (Even)

Course Title	Pspice and its Applications	Course Code	Add-On
Total Teaching Hours	30	Teaching hours/week	04
CIA:	SEE:	Prerequisites	AEC and LIC
Course Plan prepared by	Prof. Vasantkumar K. U	Approved by	Prof. A.V.Kolki
Course Outcomes			
CO1: To apply the fundamental knowledge of diodes and their applications			
CO2: To apply the fundamental knowledge of feedback amplifier and oscillators			
CO3: To apply the fundamental knowledge of Op-Amp and their applications			

CO's And PO's Mapping Matrix

CO	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02
1		2											2	
2		2											2	
3		2											2	

Text /Reference Books

- T1:** Op-Amps and linear Integrated Circuits by. Ramakant A. Gayakwad
T2: Op-Amps and linear Integrated Circuits by. David A. Bell
T3: Electronic Devices and Circuit Theory by. Robert L Boylestad Louis Nashelsky

Course Content

Sl.No	Name of the Experiment	No. of Hours
1	To study half-wave rectifier circuits using simulation package Pspice.	3 Hrs
2	To study Full wave rectifier circuit using simulation package Pspice.	
3	To study Positive Clamper circuit using simulation package Pspice.	3 Hrs
4	To study Positive shunt Clipper circuit using simulation package Pspice.	
5	To study the effect of resistance on bandwidth in a series resonance circuit by using the simulation package Pspice	3 Hrs
6	To study non-inverting amplifier circuits using UA741 Op-Amp by using simulation package Pspice.	3 Hrs
7	To study inverting amplifier circuits using UA741 Op-Amp by using simulation package Pspice.	3 Hrs
8	To study RC Coupled amplifier frequency response by using simulation package Pspice.	3 Hrs
9	To study Non -Inverting Schmitt trigger circuits by using simulation package Pspice.	3 Hrs
10	To study Inverting Schmitt trigger circuit by using simulation package Pspice.	3 Hrs
11	To study RC phase Shift oscillator circuit by using simulation package Pspice.	3 Hrs
12	To study half wave rectifier circuit using simulation package Pspice.	3 Hrs
13	To study Full wave rectifier circuit using simulation package Pspice.	3 Hrs

Add-on course details

Title of the course: Electric Vehicles

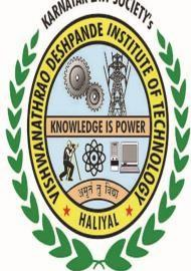
Semester: VI

Course: Electric Vehicles and its simulation using Sci Lab

Syllabus

Course content	Duration in hours	Mode of conduction
Module 1: Sustainable Transportation ,Population, Energy, and Transportation ,Environment ,Economic Growth,New Fuel Economy Requirement ,A Brief History of HEVs ,Why EVs Emerged and Failed in the 1990s, Architectures of HEVs ,Series HEVs ,Parallel HEVs, Series–Parallel HEVs,Complex HEVs,Diesel Hybrids ,Other Approaches to Vehicle Hybridization,Hybridization Ratio ,Interdisciplinary Nature of HEV.	08	Class room
Module 2: Electric Vehicles: Configurations of Electric Vehicles, Performance of Electric Vehicles, Tractive Effort in Normal Driving, Energy Consumption. Hybrid Electric Vehicles: Concept of Hybrid Electric Drive Trains, Architectures of Hybrid Electric Drive Trains.	08	Class room
Module 3: Electric Propulsion EV consideration, DC motor drives and speed control, Induction motor drives, Permanent Magnet Motor Drives, Switch Reluctance Motor Drive for Electric Vehicles, Configuration and control of Drives.	05	Class room
Module 4: Introduction to Sci-lab, Simple programming in Sci lab and modelling of simple systems, Introduction to Xcos and other facilities.	08	Practical
Examination on the same	02	

Staff in Charge: Prof. Vijay Bagewadi,

	KARNATAK LAW SOCIETY'S	
	Vishwanathrao Deshpande Institute of Technology, Haliyal-581 329	
	Doc. No.: VDIR/ACAD/CP/01a	Rev.No.:03
	Page 1 of 1	Rev. Dt: 25/03/2021
COURSE PLAN		

B. E. in Electrical & Electronics Engineering
Add-on Course: Fire Safety Engineering
Staff Name: S M Inamadar Semester - VII
Number of Hours/Week: 03 Total Hours: 30
Course Learning Objectives: <ol style="list-style-type: none"> 1. To learn fundamental aspects of Fire Safety Engineering 2. To learn utilisation of free and commercial soft wares used for fire safety engg. 3. To learn protection schemes and advances in fire safety engg.
Module 1:
Introduction to Fire Safety Engineering: Causes of Fire ,Environmental aspects,classification of fire ,Fire properties of solid, liquid and gas – Fire spread – Toxicity of products of combustion , Importance of Fire safety- 08 hours
Module 2:
Components of Fire Safety Engg: Fire Extinguishing system,Fire Alarm System,Sensors ,Fire load –Fire resistance materials and fire testing – Structural Fire protection – Exits and egress. Explosion protection systems – Explosion parameters – Explosion suppression system based on CO ₂ and Halon – Hazards in L.P.G handling Safety equipments Safety helmet, belt, hand gloves, goggles, safety shoe, gum boots, ankle shoes, face shield, nose mask, ear plug, ear muff, apron and leg guard- 08 hours
Module 3:
Free and Commercial soft wares used: Residential protection using Autocad symbol,List of free softwares,commercial softwares- 08 hours Demo;Practical demo of Fire protection during emergency situations- 06 hours
Course Outcomes: After learning this course student will be able to: <ol style="list-style-type: none"> 1] Understand the importance of fire saftey for residential and industrialpurpose. 2] Gain knowledge for free and commercial softwares used. 3] Gain knowledge about utilisation of saftey equipments
Text Books: <ol style="list-style-type: none"> 1. Fire Safety Management Hand book : Daniel E Dulla CRC Press-2014 third edition 2. Hand Book on National Building Code :G B .Menon 3. Principles of Fire Saftey Engineering :Akhil Kumar Das 4. Fire Protection Systems :A.Maurice Jones

Ad-on Course	: Computer Communication & Networking	IA Marks	: 10
Total no. of Hrs.	: 30	Semester: 8 th Sem	Staff Member : Prof. A V Kolaki

Course Content

Part-A		
Module 1	1. Introduction to Data Communication: 1.1 Data and information 1.2 Data Communication and its characteristics 1.3 Network Types 1.3.1 Local Area Network 1.3.2 Metropolitan area Network 1.3.3 Wide Area Network 1.4 Network Models: 1.4.1 Open System Interconnection Model (OSI) 1.4.2 TCP-Internet Protocol Model (TCP/IP) 1.5 Introduction to Physical Layer: 1.5.1 Data and Signals 1.5.2 Analog and Digital Signals 1.5.3 Performance	10.00 hrs
Module 2	2. Introduction to Data Link Layer: 2.1 Services 2.2 Link Layer Addressing 2.3 Three Types of Addresses 2.4 Address Resolution Protocol(ARP) 2.5 Data Link Layer Protocols 2.5.1 Simple Protocol 2.5.2 Stop and Wait Protocol 2.6 Introduction to Network Layer 2.6.1 IPV4 Addresses	10.00 hrs
Module 3	3. Routing Algorithms 3.1 Distance Vector Routing 4. Introduction to Transport Layer 4.1 Transport Layer Protocols 4.1.1 Simple Protocol 4.1.2 Stop-and-Wait Protocol 4.1.3 Go Back N Protocol	10.00 hrs

Text Book :

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Reference Books:

1. Computer Networks, James J Kurose, Keith W Ross, Pearson Education, 2013, ISBN: 0-273-76896-4
2. Introduction to Data Communication and Networking, Pearson Education, 2007, ISBN:0130138282

Course Outcomes (COs):

At the end of the course students should be able to:

1. Understand the fundamental concept of Data Communication, Network Models and Physical Layer.
2. Understand data Link, Network Layer Services and also Data Link Layer Protocols.
3. Understand the Network Layer Addressing, Routing protocols and Transport Layer Protocols.