



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

[Sponsored by Lavu Educational Society, Affiliated to JNTUH & Approved by AICTE, New Delhi]

Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3



Department of Electronics and Communication Engineering

Regulation: R22

III B. Tech I Semester

COURSE TITLE: MICROCONTROLLERS

COURSE CODE: EC501PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Known the internal architecture, organization and assembly language programming of 8086 processors.	2
CO2	Known the internal architecture, organization and assembly language programming of 8051/controllers	2
CO3	Learn the interfacing techniques to 8086 and 8051 based systems.	2
CO4	Known the internal architecture of ARM processors and basic concepts of advanced ARM processors.	2
CO5	Analyze architecture and interrupt structure of RISC microcontrollers	4

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	2	2	2	1	-	-	-	-	1	1	3	2	1
CO2	3	3	2	1	2	1	-	-	-	-	1	2	2	3	1
CO3	2	3	2	2	1	2	-	-	-	-	-	1	3	3	1
CO4	3	3	3	1	2	1	-	-	-	-	2	2	2	2	-
CO5	3	2	2	2	2	1	-	-	-	-	1	-	3	1	1
Average	2.8	2.8	2.2	1.6	1.8	1.2	-	-	-	-	1.2 5	1.5	2.6	2.2	1



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III B. Tech I Semester

COURSE TITLE: IOT ARCHITECTURES AND PROTOCOLS

COURSE CODE: EC502PC

After completion of this course the student will able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Explore the Evolution of IoT, its Growth and Applications.	2
CO2	Know the components of IoT and Compare the various architectures of IoT.	2
CO3	Acquire the knowledge on data management of IoT.	2
CO4	Establish the knowledge on various IoT protocols like Data link, Network, Transport, Session, Service layers.	2
CO5	Understand the different components and Architectures from M2M to IoT.	2

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	2	2	2	2	-	-	-	-	-	-	2	3	2	-
CO2	3	2	2	2	2	-	-	-	-	-	-	2	2	2	-
CO3	3	1	2	-	2	-	-	-	-	-	-	2	2	3	-
CO4	3	3	2	-	-	-	-	-	-	-	-	2	2	2	-
CO5	3	3	3	2	-	-	-	-	-	-	-	2	2	3	1
Average	3	2.2	2.2	2	2	-	-	-	-	-	-	2	2.2	2.4	1



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III B. Tech I Semester

COURSE TITLE: CONTROL SYSTEMS

COURSE CODE: EC503PC

At the end of this course, students will demonstrate the ability to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Model the linear-time-invariant systems using transfer function and state-space representations.	3
CO2	Understand the concept of stability and its assessment for linear-time invariant systems.	2
CO3	Design simple feedback controllers.	6
CO4	Estimate the system performance using time domain analysis and methods for improving it	5
CO5	Estimate the system performance using frequency domain analysis and techniques for improving the performance	5

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	3	3	3	1	1	-	2	-	2	-	2	2	1
CO2	2	3	3	2	3	1	1	-	2	-	2	-	2	2	1
CO3	3	2	3	2	3	1	1	-	2	-	2	-	3	2	1
CO4	3	3	2	1	3	1	2	-	2	-	1	-	1	1	2
CO5	3	3	3	2	3	1	1	-	2	-	2	-	2	2	1
Average	2.8	2.8	2.8	2	3	1	1.2	-	2	-	1.8	-	2	1.8	1.2



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III B. Tech I Semester

COURSE TITLE: BUSINESS ECONOMICS AND FINANCIAL ANALYSIS

COURSE CODE: SM504MS

The students will understand

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	The various Forms of Business and the impact of economic variables on the Business.	2
CO2	The Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt.	2
CO3	The firm's financial position by analysing	4
CO4	The Financial Statements of a Company.	2
CO5	Analyze the Business from the Financial Perspective.	4

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	-	-	-	-	2	1	1	2	2	-	2	-	-	-	3
CO2	-	-	-	-	2	1	1	2	2	-	2	1	1	-	3
CO3	-	-	-	-	2	2	1	2	2	-	2	1	-	-	3
CO4	-	-	-	-	2	1	1	2	2	-	2	1	1	-	3
CO5	-	-	-	-	2	1	1	2	2	-	2	1	1	-	3
Average	-	-	-	-	2	1.2	1	2	2	-	2	1	1	-	3



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COURSE TITLE: COMPUTER ORGANIZATION & OPERATING SYSTEMS
(Professional Elective – I)

COURSE CODE: EC511PE

After completion of this course the student will able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Visualize the organization of different blocks in a computer.	2
CO2	Utilize the micro-level operations to control different units in a computer.	3
CO3	Understanding the concepts of I/O and memory organization and operating systems.	2
CO4	Implement Operating systems in a computer.	3
CO5	Understand how to communicate with I/O devices and the organization of I/O systems.	2

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	2	2	2	1	-	-	2	2	-	-	3	2	-
CO2	3	3	2	2	2	1	-	-	2	1	-	-	2	3	-
CO3	2	3	2	2	2	2	-	-	1	2	-	-	3	3	1
CO4	3	3	3	2	2	1	-	-	1	1	-	-	2	2	1
CO5	3	2	2	2	2	1	-	-	2	2	-	-	3	1	1
Average	2.8	2.8	2.2	2	2	1.2	-	-	1.6	1.6	-	-	2.6	2.2	1



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III B. Tech I Semester

**COURSE TITLE: MICROCONTROLLERS
LABORATORY**

COURSE CODE: EC505PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Write assembly language programs and implement on 8086.	3
CO2	Write assembly language programs and implement on 8051	3
CO3	Interface the I/O devices with 8051 micro controllers	3
CO4	Perform experiments on Cortex-M3 development boards using GNU tool-chain	3
CO5	Apply standard test and measurement equipment to evaluate digital interfaces	3

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	-	-	-	-	2	1	1	2	2	-	2	-	2	3	-
CO2	-	-	1	1	2	1	1	2	2	-	2	1	3	2	-
CO3	-	-	1	1	2	2	1	2	2	-	2	1	3	3	-
CO4	-	-	1	1	2	1	1	2	2	-	2	1	2	2	-
CO5	-	-	1	1	2	1	1	2	2	-	2	1	1	3	-
Average	-	-	1	1	2	1.2	1	2	2	-	2	1	2.2	2.6	-



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COURSE TITLE: IOT ARCHITECTURE AND PROTOCOLS LABORATORY

COURSE CODE: EC506PC

Upon completing this course, the students will be able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Understand the fundamentals of IoT, analyzing different architectures and protocols	2
CO2	Utilize the different sensors like room temperature, DHT, Humidity etc.,	3
CO3	Interface the sensors and processor for transmission of data.	3
CO4	Capture the images and process it on Arduino/NodeMCU/Raspberry Pi.	3
CO5	know the utilization of various protocols like I2c, UART communication etc.,	2

MAPPING

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CO1	3	1	1	3	2	-	-	-	-	-	-	2	2	3	1
CO2	3	1	2	-	2	-	-	-	-	-	-	1	2	3	1
CO3	3	2	2	1	3	-	-	-	-	-	-	3	3	2	-
CO4	2	2	1	2	1	-	-	-	-	-	-	2	2	2	2
CO5	3	3	3	2	-	-	-	-	-	-	-	-	3	3	1
Average	2.8	1.8	1.8	2	2	-	-	-	-	-	-	2	2.4	2.6	1.25



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**COURSE TITLE: ADVANCED ENGLISH
COMMUNICATION SKILLS
LABORATORY**

COURSE CODE: EN508HS

At the end of this course, students will demonstrate the ability to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Develop their LSRW skills	3
CO2	Enable them to listen to English spoken at normal conversational speed by educated English speakers	3
CO3	Express/interpret their views without hesitation	3
CO4	Lose their stage fear and develop self-confidence	3
CO5	Be able to reach corporate expectations	3

MAPPING

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CO1	3	3	2	2	2	1	-	-	2	2	-	-	-	-	3
CO2	3	3	2	2	2	1	-	-	2	1	1	-	-	-	3
CO3	2	3	2	2	2	2	-	-	1	2	1	1	1	1	3
CO4	3	3	3	2	2	1	-	-	1	1	-	1	1	1	3
CO5	3	2	2	2	2	1	-	-	2	2	-	-	1	1	3
Average	2.8	2.8	2.2	2	2	1.2	-	-	1.6	1.6	1	1	1	1	3



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COURSE TITLE: INTELLECTUAL PROPERTY RIGHTS

COURSE CODE: *MC510

After completion of this course the student will able to

CO No.	COURSE OUTCOME STATEMENT	BT Level
CO1	Distinguish and Explain various forms of IPRs.	2
CO2	Identify criteria to fit one's own intellectual work in particular form of IPRs.	3
CO3	Apply statutory provisions to protect particular form of IPRs.	3
CO4	Appraise new developments in IPR laws at national and international level	5
CO5	Evaluate various aspects relating to copyrights and its procedure for registration processes.	5

MAPPING

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	-	-	-	-	-	-	-	3	1	-	-	-	-	-	3
CO2	-	-	-	-	-	-	-	3	1	1	1	-	-	-	2
CO3	-	-	-	-	1	-	-	3	1	1	1	-	-	-	2
CO4	-	-	-	-	1	-	-	3	1	1	1	-	-	-	2
CO5	-	-	-	-	-	-	-	3	1	-	-	-	-	-	3
Average	-	-	-	-	1	-	-	3	1	1	1	-	-	-	2.4