

**VIGNAN INSTITUTE OF TECHNOLOGY AND SCIENCE**  
**DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING**  
**IV YEAR I SEMESTER**

<b>ANALYTICAL INSTRUMENTATION-A71004 - C401</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C401.1	Acquire the knowledge is instruments used in pharma and chemical industries.
C401.2	Chromatography, different types of chromatography: Gas, Liquid chromatography
C401.3	Spectrophotometers :UV, VIS spectrophotometers
C401.4	Principles of nuclear magnetic resonance
C401.5	About special analytical instruments, Conductivity meters ,PH meters

<b>EMBEDDED SYSTEMS -A70439 - C402</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C402.1	Understanding the basics of embedded systems
C402.2	Design, implement and test an embedded systems
C402.3	8051 family architecture , interrupts knowledge.
C402.4	ARM processor fundamentals
C402.5	Introduction to the ARM processor instruction set, Designing of real time operating

<b>VLSI DESIGN-A70432 - C403</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C403.1	Acquire qualitative knowledge about the fabrication process of integrated circuit
C403.2	Choose an appropriate inverter depending on specifications required for a a circuit
C403.3	Draw the layout of any logic circuit which helps to understand and estimate parasitic
C403.4	Design different types of logic gates using CMOS inverter and analyze their transfer
C403.5	Provide design concept required to design building blocks of data path using gates, Design simple memories using MOS transistors

<b>PC BASED INSTRUMENTATION- A71005 - C404</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C404.1	Acquire qualitative knowledge about computer instrument communication
C404.2	Know about different types of busses like VXI,PCI
C404.3	Acquire qualitative knowledge about programmable logic controllers
C404.4	PLC programming concepts.
C404.5	Applications of PLC like robot controlling PID controller, Alternate programming languages ladder logic

<b>TELEMETRY AND TELECONTROL -A71117 - C405</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C405.1	Application of different telemetry systems
C405.2	Control to any process.
C405.3	Know about optical telemetry
C405.4	Know about satellite telemetry
C405.5	Different types of telecontrol methods, Different types of frequency and time

<b>OPTO ELECTRONICS &amp; LASER INSTRUMENTATION - A70445 - C406</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C406.1	Able to apply his instrumentation knowledge and understand how light and LASER can be used for instrumentation
C406.2	Know about laser instrumentation
C406.3	Industrial applications of optical fibers
C406.4	Optical fibers and their properties
C406.5	Industrial applications of lasers – Lasers for measurement of distance, length,

<b>ROBOTICS AND AUTOMATION-A70357 - C407</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C407.1	Various parts of robots and fields of robotics
C407.2	Various kinematics and inverse kinematics of robotics
C407.3	Euler, lagrangain formulation of robot dynamics
C407.4	Trajectory planning of robot
C407.5	Control of robots for some specific applications

<b>COMPUTER NETWORKS -A70515 - C408</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C408.1	Explore the basis of computer networks and various protocols
C408.2	Able to understand the world wide web concepts
C408.3	Administrate a network
C408.4	Concepts of network security, mobile and ad hoc networks
C408.5	Know about internet transport protocols, Know about inter networking and transport

<b>DIGITAL CONTROL SYSTEMS- A70435 - C409</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C409.1	Fundamentals of digital control systems
C409.2	Z-transforms, State space analysis
C409.3	Concepts of controllability and observability
C409.4	Estimation of stability in different domains
C409.5	Design of discrete time control systems, Compensators, state feedback controllers

<b>MEDICAL INSTRUMENTATION - A71112 - C410</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C410.1	Know the basic levels of neuronal organization
C410.2	Different types of electrodes
C410.3	Differentiate the electrodes used to acquire biopotentials
C410.4	List the problems associated with acquisition
C410.5	Recognize physiological parameters, Bio amplifiers and basic recording systems

<b>EMBEDDED SYSTEMS LABORATORY - A70497 - C411</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C411.1	Experience with a set of tools for embedded systems programming and debugging.
C411.2	Experience with implementing several embedded systems with particular focus on
C411.3	Design products using microcontrollers and various analog and digital ICs
C411.4	Can read the datasheet for any embedded system, understand how it works.
C411.5	Circuit simulation software like Proteus, Multisim (MCU).

<b>ANALYTICAL INSTRUMENTATION LAB - A71084 - C412</b>	
<b>S.No.</b>	<b>Course Outcomes</b>
C412.1	Measurement of calorific value
C412.2	The basic principles of Gas and liquid chromatography
C412.3	The basic principles of pH Meter. Conductivity Meter, Bomb Calorimeter
C412.4	Measurement of Gas Pollutants- Co, No, So
C412.5	Measurement of turbidity, water purity .