M.Sc. Electronics Program Outcomes **Students after completing their post-graduation in Electronics ---**	
PO1:	Will be eligible to get employment as an Assistant Professor, Teacher, etc. in private, semi government, government colleges.
PO2:	Can pursue their higher studies in related fields including M. Phill, Ph.D. in the national and international universities depending upon the eligibility conditions of the concerned universities.
PO3:	Work as research fellow, scientist in research institutes after qualifying NET/SET/PET examination.
PO4:	Can handle standard and advanced laboratory equipment, modern instruments.
PO5:	Be able to work as an electronic consultant, an electronic circuit designer, or as an entrepreneur.
PO6:	**Domain Specific knowledge:** Apply the knowledge of mathematics, science, electronics to the solution of complex science & engineering problems.
PO7:	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

M.Sc. Electronics Program Specific Outcomes	
PSO1:	**Professional Skills:** An ability to understand the basic concepts and to apply them into various areas, like Electronics, Communications, Signal processing, VLSI, Embedded systems etc., in the design and implementation of complex systems.
PSO2:	**Problem-Solving Skills:** An ability to solve complex Electronics Science and Engineering problems, using latest hardware and software tools, along with analytical skills to arrive cost effective and appropriate solutions.
PSO3:	**Successful Career and Entrepreneurship:** An understanding of social-awareness & environmental-wisdom along with ethical responsibility to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an Entrepreneur.

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: I
Subject Name: Physics of Semiconductor Devices(ELE-101)
Course Outcomes:
Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Acquire the basic knowledge of semiconductor physics	K1
CO2	Understand working principle and biasing concepts of BJTs and FETs; Apply the acquired knowledge to study various configurations, characteristics and basic applications of BJTs and FETs.	K2
CO3	Apply the Knowledge of semiconductor devices principles to determine the circuit parameters and mathematical expressions.	K4,K5

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)
K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
CO1	2	2	3	2	3		3	2	1	
CO2	1	2	3	3	2	2	1	1	2	1
CO3	2	3	2	3	2	2	1	2	2	1

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: I
Subject Name: Optoelectronics & Fiber Optics Communication(ELE-102)
Course Outcomes:
Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Comprehend and apply the fundamental concepts of optical fiber transmission, fiber modes and its components.	K3
CO2	Apply the optical fiber concepts in optical fiber connectors, networking aspects, transmission links, Amplifiers and WDM.	K3,K4
CO3	Differentiate losses in optical fiber link and state transmission characteristics of optical fiber.	K4
CO4	Describe optical fiber communication system and its performance measures.	K5

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)
K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
CO1	1	2	3	1	3	3	2	2	2	1
CO2	1	2	3	1	2	2	2	3	2	2
CO3		1	3	2		2	2	2	1	1
CO4	2	2	2	3	2	2	2		2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: I

Subject Name: Digital Logic Design(ELE-103)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Understand digital logic families and their characteristics.	K2
CO2	Analyze and design digital Combinational circuits like decoders, encoders,multiplexers, and de-multiplexers including arithmetic circuits (half adder, full adder, multiplier).	K4
CO3	Analyze sequential digital circuits like flip-flops, registers, counters.	K4,K3
CO4	Identify, analyze and design Combinational and sequential circuits.	K1,
CO5	Analyze, design and implement sequential logic circuits	K4,K1

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
CO1	2	1	2	1		1		2	2	1
CO2	1	2	3		1	2	1	3	1	2
CO3		1	1	2	0	1		2	1	1
CO4	2	1	2		2	1			2	

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: I

Subject Name: Arduino Platform (ELE-104A)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Development of skills to design and implement various smart system applications.	K5,K6
CO2	Able to a customization full Arduino project autonomously, from the beginning to the end.	K3
CO3	After the completion of the course, the students will be specialized in Embedded System Design using Arduino.	K2
CO4	Recall the basics of sensors, its functioning	K1,K2

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
CO1	2	2	3	3	2		2	3		2
CO2	2	3	1	2	2	1	2	3	3	3
CO3	1	3	3	3	2		3	3	3	3
CO4	2	2	2	2	1	1	1	1		

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: I

Subject Name: Seminar (ELE-105)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Assimilate the topic of their interest within ethical, environmental and social context.	K1, K2
CO2	Apply critical thinking to address the queries through professional, inclusive and respectful discussion.	K3
CO3	Analyze appropriate mode of presentation, employ elements of technical writing and present using suitable tools.	K4
CO4	Communicate technical information by means of written reports and presentations.	K4
CO5	To identify promising new directions of various cutting edge technologies.	K4, K5

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2			1		3	1	
CO2	2	2	3			2	2	2	1	
CO3	2	2	3			1	2	2	1	2
CO4	3	2	2			1		2	2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: II

Subject Name: Micro Controller and Interfacing (ELE-201)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Apply the internal architecture of 8051, addressing modes and operations of instruction sets for writing appropriate programs.	K2
CO2	Understand different inbuilt features of 8051 and way of writing assembly language programs and C Programming using instructions.	K2,
CO3	Understand LCD interfacing, Keyboard, LED interfacing. ADC/DAC interfacing, Relay Interfacing, DC and Stepper Motor Interfacing, C programming for 8255 Interfacing with 8051.	K2,K3
CO4	Understand the Working and Use of Sensors: LM35,PIR Sensor, IR Sensor.	K3,K4

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
CO1	2	3	2	3	3	1		3	3	
CO2	2	2	3	3	3	1	2	3	3	2
CO3	2	3	3	3	3	1	2	3	3	1
CO4	2	2	2	2	2	1	2	3	3	3
Average										

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: II

Subject Name: Op-amp & its Application(ELE-202)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Comprehend the knowledge of basic concepts and performance parameters of Op-Amp.	K2, K3, K4
CO2	Analyze and design electronic circuits for various linear and non-linear applications.	K2, K3, K4
CO3	Upon completion of the Course, students will be able to know Knowledge of different OPAMP circuits and types of amplifier circuit.	K2,K3,K4
CO4	Knowledge of different applications of OPAMP.	K5, K6

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
CO1	3	3	2	2	2	3	2	3	3	
CO2	2	2	3	2		3		3	3	2
CO3	2	3	3	2	2	2		3	3	1
CO4	3	3	2	2	2	2	2	3	3	3

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: II

Subject Name: VHDL(ELE-203)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Understand and apply the fundamentals of HDL and hierarchical modeling concepts.	
CO2	The student will be able to apply entity/architecture modeling approaches in VHDL for representation of component inputs and outputs as well as internal signals, variables and states of components.	
CO3	Model digital circuits with VHDL, simulate, synthesize and prototype in PLDs.	
CO4	Programming skill for VHDL and Various combinational circuits design and development using VHDL.	

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	2	2	1	2		3	3	
CO2	2	2	3	2	2	2	2	2	3	
CO3	2	2	3	2	2	2	2	2	3	2
CO4	1	2	2	3	3	3		2	2	2
Average										

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: II

Subject Name: Power Electronics (ELE-204A)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Understand the various power electronic devices, concepts and apply their impact upon the power network for control and conversion of electric power.	K2, K4
CO2	Design and critically assess key aspects of power converters by applying advanced knowledge and analysis techniques.	K3, K4
CO3	Analyze V-I characteristics of various power electronic devices.	K4
CO4	Analyze different circuit elements in power converters.	K4, K5, K6

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	3	2	2	2	
CO2	2	2	2	2	2	3	2	2	1	
CO3	3	3	3	3	2	3		2	2	
CO4	3	3	3	3	2	3		1	2	
Average										

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: II

Subject Name: Seminar (ELE-205)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Assimilate the topic of their interest within ethical, environmental and social context.	K1, K2
CO2	Apply critical thinking to address the queries through professional, inclusive and respectful discussion.	K3
CO3	Analyze appropriate mode of presentation, employ elements of technical writing and present using suitable tools.	K4
CO4	Communicate technical information by means of written reports and presentations.	K4,K5

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2			1		3	1	
CO2	2	2	3			2	2	2	1	
CO3	2	2	3			1	2	2	1	2
CO4	3	2	2			1		2	2	2
Average										

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: III
Subject Name: Industrial Process Control(ELE-301)
Course Outcomes:
Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Understand the basic principles & importance of process control in industrial Process plants.	K2, K4 K5.
CO2	Understand the Mathematical models of systems, concept of transfer function and its use.	K3, K4, K5.
CO3	Analyze the dynamic behavior of processes and develop good understanding of their behavior in different situations.	K2, K4, K5
CO4	Understand for defining controller structure with respect to controlled process and perform parameters tuning in order to assure required performance of the system.	K2

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)
K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	1	2		3	2	2		3	3	
CO2	2	2	2	1	2	1		2	2	
CO3	2	2	2	2	2	2	2	2	2	2
CO4	2	2	2	2	2	2	2	2	2	2
Average										

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: III
Subject Name: Network Analysis and Synthesis(ELE-302)
Course Outcomes:
Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Study the Network Analysis Mesh analysis, mesh equations, super-mesh analysis; nodal analysis, nodal equations.	K2, K4 K5.
CO2	Study the transient response of series and parallel A.C. circuits.	K2, K3, K4, K5.
CO3	Study the application of Laplace transforms to circuit analysis.	K2, K4, K5
CO4	Synthesize LC, RC & RL networks.	K2, K4

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)
K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	3	2	3	2		2	2	2
CO2	2	2	2		3	2		2	2	2
CO3	2	2	2		2	2	2	2	2	2
CO4	2	2	3	2	3	2	2	2	2	2
Average										

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: III

Subject Name: Python Programming for Electronics(ELE-303)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Write, test, and debug simple Python programs.	
CO2	Implement Python programs with conditionals and loops.	
CO3	Develop Python programs step-wise by defining functions and calling them.	
CO4	Use Python lists, tuples, dictionaries for representing compound data.	
CO5	Read and write data from/to files in Python.	

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2			2		3	3	2
CO2	2	2	2			2		3	3	2
CO3	2	2	2	2		2		2	2	2
CO4	2	2	2			2		3	3	2
CO 5	2	2	2			2		2	2	2
Average										

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: III

Subject Name: Virtual Instrumentation & Programming in Lab VIEW (ELE-304A)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Study the introduction to LabVIEW: advantages, front panel window, block diagram windows, icon/connector pane, palettes, data types	
CO2	Understand the Creating cluster control, creating cluster indicators, order of cluster elements, assembling clusters, disassembling clusters, conversion between arrays and clusters, error handling, error cluster.	
CO3	Study the Instrument I/o Assistant, VISA, instrument drivers, serial port Communication, serial port standard RS-232; other interfaces: GPIB, USB, fire wire, IEEE-1394 controllers and Ethernet.	
CO4	Understand the Processing and Tool Kits in Lab VIEWIMAQ vision: vision basics, image processing and analysis, particle analysis, machine vision, machine vision application areas.	

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2			2	2	3	3	2
CO2	2	2	2	2	2	2	2	3	3	
CO3	2	2	2	2		3	2	2	2	2
CO4	2	2	2	2	2	2	2	3	3	

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: III

Subject Name: Seminar (ELE-305)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Assimilate the topic of their interest within ethical, environmental and social context.	
CO2	Apply critical thinking to address the queries through professional, inclusive and respectful discussion.	
CO3	Analyze appropriate mode of presentation, employ elements of technical writing and present using suitable tools.	
CO4	Communicate technical information by means of written reports and presentations.	

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2			1		3	1	
CO2	2	2	3			2	2	2	1	
CO3	2	2	3			1	2	2	1	2
CO4	3	2	2			1		2	2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: IV

Subject Name: Programmable Logic Controller (ELE-401)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Study the PLC hardware, Types of PLC, CPU unit architecture	K2
CO2	Understand Timers programming, Counter programming PLC INSTRUCTIONS	K2, K3, K4
CO3	Solve the Ladder diagram & sequence listing; large process ladder diagram construction, flow charting as programming method, Industrial Examples.	K3, K4, K5

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	1	2	2	2	2	3	2	1
CO2	2	2	2	1	2	2	2	3	2	2
CO3	2	2	1	2	2	2	2	3	2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: IV

Subject Name: Measurement & Instrumentation (ELE-402)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Identify various types of electronic instrument suitable for specific measurement.	K2
CO2	Classify various errors present in measuring instruments.	K2
CO3	Understand construction, working principle and types of oscilloscopes.	K2, K3
CO4	Comprehend different types of signal generators and analyzers, their construction and operation.	K3, K4
CO5	Describe the working principle, selection criteria and applications of various transducers used in measurement systems.	K$,K5,K6

■

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1		2		1		2	2	
CO2	2	1		2		2		2	2	
CO3	2	2	2	2	2	2		2	2	
CO4	2	2	2	2	2	2	2	2	2	3
CO5	2	2	2	2	2	2	2	2	2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: IV

Subject Name: Advance Embedded System(ELE-403)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Understand what is a microcontroller, microcomputer,embedded system.	
CO2	Understand different components of a micro-controller and their interactions.	
CO3	Become familiar with programming environment used to develop embedded systems.	
CO4	Understand key concepts of embedded systems like IO,timers, interrupts, interaction with peripheral devices.	
CO5	Learn debugging techniques for an embedded system.	

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	3	2	3	3	1		3	3	
CO2	2	2	3	3	3	1	2	3	3	2
CO3	2	3	3	3	3	1	2	3	3	1
CO4	2	2	2	2	2	1	2	3	3	3
CO5	2	2	2	2	2	2	2	2	2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: IV

Subject Name: Digital Image Processing(ELE-404A)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Understandand apply the fundamentals of digital image processing and color models for solving image processing problems.	K1, K2
CO2	Analyze different image transforms, enhancement techniques, morphological operations and segmentation techniques used in Digital Image processing.	K4
CO3	Design different image transforms and enhancement techniques used in spatial and frequency domain.	K3
CO4	Apply image restoration techniques with different filtering methods.	K3,K4

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**	**PSO3**
CO1	2	1	2	2	1	2		3	3	
CO2	2	2	3	2	2	2	2	2	3	
CO3	2	2	3	2	2	2	2	2	3	2
CO4	1	2	2	3	3	3		2	2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: IV

Subject Name: Seminar (ELE-405)

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1	Assimilate the topic of their interest within ethical, environmental and social context.	K1,K2
CO2	Apply critical thinking to address the queries through professional, inclusive and respectful discussion.	K2,K3
CO3	Analyze appropriate mode of presentation, employ elements of technical writing and present using suitable tools.	K6
CO4	Communicate technical information by means of written reports and presentations.	

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2			1		3	1	
CO2	2	2	3			2	2	2	1	
CO3	2	2	3			1	2	2	1	2
CO4	3	2	2			1		2	2	2

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester:

Subject Name:

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1		K2
CO2		K1,K2
CO3		K2,K1
CO4		K2,K3,K5

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1								
CO2								
CO3								
CO4								
Average								

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester:

Subject Name:

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1		K1
CO2		K2,K3
CO3		K4,K5
CO4		K3

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1								
CO2								
CO3								
CO4								
Average								

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: VI

Subject Name:

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1		K2
CO2		K1,K2
CO3		K2,K1
CO4		K2,K3,K5

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1								
CO2								
CO3								
CO4								
Average								

■3 – High; 2 – Medium; 1 – Low

Yeshwant Mahavidyalaya, Nanded
Department of Electronics

Semester: VI

Subject Name: Electronic Instrumentation (Paper-XV(B))

Course Outcomes:

Upon the completion of this course, the student will be able to

Course Outcomes	Statement	Knowledge Level
CO1		K1
CO2		K2,K3
CO3		K4,K5
CO4		K3

■Bloom's Taxonomy Knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO & PSO Mapping:

CO/PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1								
CO2								
CO3								
CO4								
Average								

■3 – High; 2 – Medium; 1 – Low