PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P	External (70)	Internal (30)	Total (100)	External (Nil)	Internal (Nil)	Total
ECT-18101	Nanoelectronics	3	1	-			Min: 40 (D Grade)			Nil

Duration of Theory (Externals): 3 Hours

Theory Internal- Max Marks: 30	Best of Two Mid Semester Test – Max Marks: 20	Assignment/Quiz/Attendance – Max. Marks: 10
Practical Internal Max Marks: Nil	Lab work & Sessional – Max Marks: Nil	Assignment/ Quiz/Attendance – Max. Marks: Nil

Pre-Requisite	To give the knowledge of build and understand the relations between Nanoelectronic systems, devices and quantum phenomena.
Course Outcome	1. To give an information for nanoelectronic systems and devices.
	2. To provide the knowledge between these type of systems and quantum mechanical concepts.
	3. To provide the knowledge of fabrication technology of Nanoelectronics.

Unit	Contents (Theory)	Marks Weightage
I	**Introduction:** The 'Top down' and 'Bottom up' approach, Why Nan electronics?. Nanotechnology potential. Band structure and density of states at Nanoscale: energy bands, density of states at low dimensional structure. **Electrical Transport in Nanostructure:** Electrical conduction in metals, insulator/ionic crystals and semiconductors. Conduction mechanism in bulk, thin film and low dimensional system. Introductory quantum mechanics for Nanoscience: size effect in smaller systems, quantum behavior of nanometric world.	**14**
II	**Tunnel Junction and Application of Tunneling:** Tunneling through a potential barrier, potential energy profiles of material interfaces, applications of tunneling. **Quantum wells, wires and dots:** Semiconductor hetrostructure and quantum wells, quantum dots and nanoparticles.	**14**
III	**Single Electron Transistor:** Coulomb Blockade, single electron transistor, other SET and FET structures.	**14**
IV	**Ballastic and Spin Transport:** Classical and semi-classical transport, ballistic transport, carbon nano tubes and nano wires, transport of spin and spintronics. **The Era of New Nanostructures of Carbon:** Buck minsterfullerence, Nano diomond, BN Nano tubes, Molecular Machine, Nanobiometrics.	**14**
V	**Fabrication Technology:** Top-down vs bottom-up technology. **Lithographic process:** Lithography, Nanolithography, split gate technology, self assembly, limitation of lithographic process. **Non-lithographic Techniques:** Plasma arc discharge, sputtering, evaporation, chemical vapour deposition, pulsed laser deposition, molecular beam epitaxy, sol-gel technique, electrodeposition and other process.	**14**

Text Book/References Books/ Websites:-

1. G. W. Hanson; Fundamentals of Nanoelectronics;Pearson Education.
2. K. Chattopadhyay & A. N. Banerjee; Introduction to Nanoscience and Nanotechnology; PHI
3. Vlaadiniz U. Mitin; Introduction to Nanoelectronics; Cambridge University Press.

Suggested List of Laboratory Experiments :- (Expandable): Nil

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P	External (70)	Internal (30)	Total (100)	External (Nil)	Internal (Nil)	Total
ECT-18102	Wireless Communication & Networks	3	1	-			Min: 40 (D Grade)			Nil

Duration of Theory (Externals): 3 Hours

Theory Internal- Max Marks: 30	Best of Two Mid Semester Test – Max Marks: 20	Assignment/Quiz/Attendance – Max. Marks: 10
Practical Internal Max Marks: Nil	Lab work & Sessional – Max Marks: Nil	Assignment/ Quiz/Attendance – Max. Marks: Nil

Pre-Requisite	To provide an overview of Wireless Communication networks area and its applications in communication engineering.
Course Outcome	1. To understand the basics of Wireless Communication Networks.
	2. To the contribution of Wireless Comm. networks to overall technological growth.
	3. To understand the various terminology, principles, devices, schemes & concepts of Wireless.

Unit	Contents (Theory)	Marks Weightage
I	**Introduction, Applications and Requirements of Wireless Services:** history, types of services, requirements for the services, economic and social aspects. **Technical Challenges in Wireless Communications:** multipath propagation, spectrum limitations, limited energy, user mobility, noise and interference-limited systems. **Propagation mechanism:** free space loss, reflection and transmission, diffraction, scattering by rough surfaces, wave guiding.	**14**
II	**Wireless Propagation Channels - Statistical Description of the Wireless Channel:** time invariant and variant two path models, small-scale fading with and without a dominant component, Doppler spectra, temporal dependence of fading, large scale fading. **Wideband and Directional Channel Characteristics:** causes of delay dispersion, system theoretic description of wireless channels, WSSUS model, condensed parameters, ultra-wideband channels, directional description.	**14**
III	**Channel Models:** Narrowband, wideband and directional models, deterministic channel-modeling methods. **Channel Sounding:** Introduction, time domain measurements, frequency domain analysis, modified measurement methods, directionally resolved measurements. **Antennas:** Introduction, antennas for mobile stations, antennas for base stations.	**14**
IV	**Transceivers and Signal Processing:** Structure of a wireless communication link: transceiver block structure, simplified models. Modulation formats, demodulator structure, error probability in AWGN channels, error probability in flat-fading channels, error probability in delay and frequency-dispersive fading channels.	**14**
V	**Diversity:** Introduction, micro diversity, macro diversity and simulcast, combination of signals, error probability in fading channels with diversity reception, transmit diversity. **Equalizers:** Introduction, linear equalizers, decision feedback equalizers, maximum likelihood sequence estimation (Viterbi detector), and comparison of equalizer structures, fractional spaced equalizers, blind equalizers.	**14**

Text Book/References Books/ Websites

1. A. F. Molisch: Wireless Communications, Wiley India Pvt. Ltd.
2. Taub and Schilling: Principles of Communication Systems, TMH.
3. P. M. Chidambara Nathan: Wireless Communication, PHI Learning.

Suggested List of Laboratory Experiments :- (Expandable):Nil

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P	External (70)	Internal (30)	Total (100)	External (Nil)	Internal (Nil)	Total
ECT-18103	Modern Display & Imaging Devices	3	1	-			Min: 40 (D Grade)			Nil

Duration of Theory (Externals): 3 Hours

Theory Internal- Max Marks: 30	Best of Two Mid Semester Test – Max Marks: 20	Assignment/Quiz/Attendance – Max. Marks: 10
Practical Internal Max Marks: Nil	Lab work & Sessional – Max Marks: Nil	Assignment/ Quiz/Attendance – Max. Marks: Nil

Pre-Requisite	To Give the knowledge of modern display & imaging devices.
Course Outcome	1. To understand the Elements of Light and Solid State Physics, lasers.
	2. To understand the Optical Detection Devices.
	3. To understand the Optoelectronic Integrated Circuits.

Unit	Contents (Theory)	Marks Weightage
I	**Elements of Light and Solid State Physics:** Wave nature of light, Polarization, Interference, Diffraction, Light Source, review of Quantum Mechanical concept, Review of Solid State Physics, Review of Semiconductor Physics and Semiconductor Junction Device.	**14**
II	**Display Devices and Lasers:** Introduction, Photo Luminescence, Cathode Luminescence, Electro Luminescence, Injection Luminescence, Injection Luminescence, LED, Plasma Display, Liquid Crystal Displays, Numeric Displays, Laser Emission, Absorption, Radiation, Population Inversion, Optical Feedback, Threshold condition, Laser Modes, Classes of Lasers, Mode Locking, laser applications.	**14**
III	**Optical Detection Devices:** Photo detector, Thermal detector, Photo Devices, Photo Conductors, Photo diodes, Detector Performance.	**14**
IV	**Optoelectronic Modulator:** Introduction, Analog and Digital Modulation, Electro-optic modulators, Magneto Optic Devices, Acoustoptic devices, Optical, Switching and Logic Devices.	**14**
V	**Optoelectronic Integrated Circuits:** Introduction, hybrid and Monolithic Integration, Application of Opto Electronic Integrated Circuits, Integrated transmitters and Receivers, Guided wave devices.	**14**

Text Book/References Books/ Websites:-

1. Bhattacharya ;Semiconductor Opto Electronic Devices; Prentice Hall of India Pvt., Ltd., New Delhi, 1995.
2. Jasprit Singh; Opto Electronics – As Introduction to materials and devices; McGraw-Hill International Edition, 1998.
3. J. Wilson and J.Haukes; Opto Electronics – An Introduction; PHI, New Delhi,1995.

Suggested List of Laboratory Experiments :- (Expandable):Nil

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P	External (70)	Internal (30)	Total (100)	External (Nil)	Internal (Nil)	Total
ECT-1802	Advance Communication System	3	1	-			Min: 40 (D Grade)			Nil

Duration of Theory (Externals): 3 Hours

Theory Internal- Max Marks: 30	Best of Two Mid Semester Test – Max Marks: 20	Assignment/Quiz/Attendance – Max. Marks: 10
Practical Internal Max Marks: Nil	Lab work & Sessional – Max Marks: Nil	Assignment/ Quiz/Attendance – Max. Marks: Nil

Pre-Requisite	To give the knowledge of fundamental concepts and techniques used in the design, performance analysis, and implementation of current communication systems.
Course Outcome	1. Use probability theory and stochastic processes in communication system applications.
	2. Use mathematical tools to analyze the performance of communication systems.
	3. Analyze the design parameters of a single and multi-carrier communication system.

Unit	Contents (Theory)	Marks Weightage
I	**Channel Coding:** Introduction, Block codes, Convolutional codes, Trellis-coded modulation, Turbo-codes, Low density parity check codes, coding for the fading channels. **Speech coding:** Introduction, the sound of speech, stochastic models for speech, quantization and coding, from speech transmission to acoustic telepresence.	**14**
II	**Orthogonal Frequency Division Multiplexing (OFDM):** Introduction, principle of OFDM, implementation of transceivers, frequency-selective channels, channel estimation, peak ro average power ratio, intercarrier interference, adaptive modulation and capacity, multiple access, multicarrier code division multiple access, single carrier modulation with frequency-domain equalization. **Multiantenna System:** smart antennas, multiple input multiple output systems.	**14**
III	**Interim Standard 95 (IS-95) and Code Division Multiple Access (CDMA 2000):** Historical overview, system overview, the air interface, coding, spreading and modulation, logical and physical channels, handover. **Third Generation (3G):** Wideband Code Division Multiple Access (WCDMA) - Historical overview, system overview, the air interface, logical and physical channels, speech coding, multiplexing and channel coding, spreading and modulation, physical-layer procedures.	**14**
IV	**Fourth Generation (4G):** Introduction of 4G and All-IP Network. **Statistics of Cellular Systems:** Time delay spread, Noise figure, power limited and bandwidth-limited system, mobile and portable coverage, Ray-tracking and building block approach, coding scheme and variable burst-error intervals, antenna down-tilt, lnter-modulation, mobile location, angle spread with antenna height and its application.	**14**
V	**New Concepts:** Channel capacity in a Rayleigh fading environment, real-time running average, link capacities versus call drops between GSM and CDMA, data transmission via cellular systems, multiuser detection for CDMA, spectrum and technology of a WLL system, wavelet representation.	**14**

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Text Book/References Books/ Websites:-

1. A. F. Molisch; Wireless Communications; Wiley India Pvt. Ltd.
2. W. C. Y. Lee; Mobile Communications Engineering- theory and practices; TMH.
3. Upena Dalal; Wireless Communications,;Oxford University Press.

Suggested List of Laboratory Experiments :- (Expandable):Nil

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P			Total (100)			Total (50)
ECT-1803	TV & Radar Engineering	3	1	1	External (70)	Internal (30)	Min: 40 (D Grade)	External (35)	Internal (15)	Min: 20 (D Grade)

Duration of Theory (Externals): 3 Hours

Theory Internal- Max Marks: 30	Best of Two Mid Semester Test – Max Marks: 20	Assignment/Quiz/Attendance – Max. Marks: 10
Practical Internal Max Marks: 15	Lab work & Sessional – Max Marks: 10	Assignment/ Quiz/Attendance – Max. Marks: 05

Pre-Requisite	To give the knowledge of TV & Radar Systems.
Course Outcome	1. To familiarize the students with the fundamentals of TV Engineering and its applications.
	2. To familiarize the students with the fundamentals of Radar Engineering and its applications

Unit	Contents (Theory)	Marks Weightage
I	**Introduction of Basic Television System:** Scanning principles: sound and picture transmission, scanning process, camera pick-up devices, video signal, transmission and reception of video signals, brightness perception and photometric quantities, aspect ratio and rectangular scanning, persistence of vision and flicker, vertical resolution, the Kell factor, horizontal resolution and video bandwidth, interlaced scanning. **Composite Video Signal:** Lines and scanning, video signal components, horizontal sync and blanking standards, vertical sync and blanking standards.	**14**
II	**Fundamentals of Colour Television:** mixing of colours and colour perception, chromaticity diagram, colour television camera, colour TV signals and transmission, NTSC, SECAM and PAL system, Trinitron picture tube, LCD displays. **Television Transmission and Reception**: requirement of TV broadcast transmission, design principle of TV transmitters, IF modulation, power output stages, block diagram of TV transmitter, antenna requirements for television system, block schematic and function requirements for television receivers, trends in circuit design, colour television receiver.	**14**
III	**Digital Television Technology:** Merits of digital technology, fully digital television system, digital television signals, digitized video parameters, digital video hardware, transmission of digital TV signals, bit rate reduction, digital TV receivers. **Other Television Systems:** Closed Circuit television system (CCTV), Cable television system (CATV), multiplexed analog component encoding television system (MAC TV), High definition television system (HDTV), High definition multiplexed analog component television (HD-MAC TV).	**14**
IV	**RADAR:** The Radar range equation, block diagram and operation, performance factors: prediction of range performance, minimum detectable signal, receiver noise, probability density functions, and signal to noise ratios. Radar cross section of targets, transmitter power, displays-type A and PPI representations and antenna parameters.	**14**
V	**Radar Receivers:** The radar receiver, **The CW radar:** the Doppler effect, FM-CW radar. **The Moving Target Indicator (MTI) Radar:** delay line cancellers. **Other Radar Systems:** Synthetic aperture radar, Air Surveillance Radar (ASR), Bistatic radar.	**14**

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Text Book/References Books/ Websites:-

1. R. R. Gulati; Monochrome and Colour Television; New Age International
3. M. Dhake; Television and Video Engineering, 2nd Edition; TMH, New Delhi.
3. P. Z. Peebles, Jr.; Radar Principles; Wiley India Pvt. LTD.

Suggested List of Laboratory Experiments :- (Expandable):

1. To study the circuit description of RF-Section (Tuner section)-color T.V.
2. To study the detail circuit description of video & CHROMA section.-color T.V.
3. To study the detailed circuit description of Horizontal oscillator section and horizontal output section.
4. To study the detailed circuit description of vertical oscillator section and vertical output section.
5. To study the detail circuit description of R-G-B video output section.
6. To study the circuit description of RF-section (Tuner section) - B&W T.V.
7. To study the detail circuit description of VIF section.-B&W T.V.
8. To study the detail circuit description of SIF section/sound output section.-B&W T.V.
9. To study of circuit description of synchronous/Horizontal oscillator section.-B&W T.V.
10. To study of the circuit description of (EHT) Horizontal output section.-B&W T.V.

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P			Total (100)			Total (50)
ECT-1804	Microcontroller & Embedded System	3	1	1	External (70)	Internal (30)	Min: 40 (D Grade)	External (35)	Internal (15)	Min: 20 (D Grade)

Duration of Theory (Externals): 3 Hours

Theory Internal- Max Marks: 30	Best of Two Mid Semester Test – Max Marks: 20	Assignment/Quiz/Attendance – Max. Marks: 10
Practical Internal Max Marks: 15	Lab work & Sessional – Max Marks: 10	Assignment/Quiz/Attendance – Max. Marks: 05

Pre-Requisite	To provide experience to integrate hardware and software for microcontroller applications systems.
Course Outcome	1. To understand the internal architecture and interfacing of different peripheral devices with Microcontrollers.
	2. To write the programs for microcontroller.
	3. To understand the design concept of embedded systems.

Unit	Contents (Theory)	Marks Weightage
I	**Microprocessors and Microcontroller:** Introduction, Microprocessors and Microcontrollers, A Microprocessors survey. RISC & CISC CPU Architectures, Harvard & Von-Neumann CPU architecture. **The 8051 Architecture:** Introduction, 8051 Microcontroller Hardware, Input / Output Pins, Ports and Circuits External Memory, Counter and Timers, Serial Data Input / Output, Interrupts.	**14**
II	**Addressing Modes and Operations:** Introduction, Addressing modes, External data Moves, Code Memory, Read Only Data Moves / Indexed Addressing mode, PUSH and POP Opcodes, Data exchanges, Example Programs; Byte level logical Operations, Bit level Logical Operations, Rotate and Swap Operations, Example Programs. Arithmetic Operations: Flags, Incrementing and Decrementing, Addition, Subtraction, Multiplication and Division, Decimal Arithmetic, Example Programs.	**14**
III	**Jump and Call Instructions:** The JUMP and CALL Program range, Jumps, calls and Subroutines, Interrupts and Returns, More Detail on Interrupts, Example Problems **8051 Serial Communication:** Basics of Serial Communication, 8051 connections to RS-232, 8051 Serial communication Programming, Programming the second serial port, Serial port programming in C.	**14**
IV	**8051 Interfacing and Applications:** Interfacing 8051 to LCD, Keyboard, parallel and serial ADC, DAC, Stepper motor interfacing, DC motor interfacing and PWM. **Other Microcontrollers:** Study of MCS-51, ATMEL 89c51/89s52, PIC-16F84XX/16F87XX.	**14**
V	**Embedded Systems:** Introduction, Classification, Processors, Hardware Units, Software Embedded into System, Applications and Products of Embedded Systems, Structural Units in Processor, Memory Devices, I/O Devices, Buses, Interfacing of Processor Memory and I/O Devices, Case Study of an Embedded System for a Smart Card.	**14**

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Text Book/References Books/ Websites:-

1. Kenneth J. Ayala; The 8051 Microcontroller Architecture, Programming & Applications; 2e, Penram International, 1996 /Thomson Learning 2005.
2. Muhammad Ali Mazidi and Janice Gillespie Mazidi and Rollin D. McKinlay; the 8051 Microcontroller and Embedded Systems – using assembly and C; PHI, 2006 / Pearson, 2006.
3. Dr.Ramani Kalpathi and Ganesh Raja; "Microcontroller and its applications", Sanguine Technical publishers, Bangalore-2005.

Suggested List of Laboratory Experiments :- (Expandable):

1. To study the development tools for PIC Microcontroller programme and architecture.

2. Write an assembly language programme to add, subtract, and multiply by Atmel microcontroller.

3. To study and analyze the interfacing of 16×2 LCD.

4. To study of implementation, analysis and interfacing of seven segment display.

5. To study of implementation of stepper motor angle control.

6. To study of implementation of DC motor control using PWM method.

7. To study and observation of position control of servo motor.

8. To study implementation and programming of pressure measurement.

9. To study implementation and programming of temperature measurement.

10. To study PWM based voltage regulator using PIC Microcontroller.

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P			Total			Total (50)
ECT-1805	Advance Communication System Lab	-	-	1	External (Nil)	Internal (Nil)	Min: Nil	External (Nil)	Internal (50)	Min: 20 (D Grade)

Duration of Theory (Externals): Nil

Theory Internal- Max Marks: Nil	Best of Two Mid Semester Test –Max Marks: Nil	Assignment/Quiz/Attendance – Max. Marks: Nil
Practical Internal Max Marks: 50	Lab work & Sessional – Max Marks: Nil	Assignment / Quiz/ Attendance – Max. Marks: 50

Pre-Requisite	Nil
Course Outcome	1. Discussion about channel coding and speech coding, OFDM.
	2. About fourth generation (4G) & statistics of cellular systems.
	3. Discussion about new concept of advance communication system.

Unit	Contents (Theory)	Marks Weightage
-	The Advanced Communication System Laboratory covers design and verification of the concepts of modern communication systems that operates in MHz-THz range. The main focus of the Advanced Communication System (ACS) Laboratory is to design next-generation wireless technologies and mobile computing systems. In particular, ACS Laboratory conducts research in the broad area of communication theory, wireless communications and networks, with focus on the physical layer and optical communication systems – Optical fiber based and integrated photonic waveguides based.	**50**

Text Book/References Books/ Websites: - Nil

Suggested List of Laboratory Experiments :- (Expandable):

1. Time Division Multiplexing and Demultiplexing of two band limited signals
2. Amplitude Shift Keying Modulation and Demodulation.
3. Frequency shift keying Modulation and Demodulation.
4. Phase Shift Keying Modulation and Demodulation.
5. Differential Phase Shift Keying Modulation and Demodulation
6. Measurement of frequency and power in a microwave test bench using Klystrone.
7. Study of Propagation loss, Bending loss and Measurement of Numerical Aperture in OFC.
8. Determination of coupling and isolation characteristics of a microstrip directional coupler.
9. Study Of Dipole Antenna Radiation Pattern (Simple Dipole and Folded Dipole antenna).
10. To find the Gain and Directivity of Yagi-Uda Antenna, Dipole antenna and Patch antenna.

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P			Total			Total (200)
ECT-1806	Major Project-II	-	-	4	External (Nil)	Internal (Nil)	Nil	External (140)	Internal (60)	Min: 80 (D Grade)

Duration of Theory (Externals): Nil

Theory Internal- Max Marks: Nil	Best of Two Mid Semester Test –Max Marks: Nil	Assignment/Quiz/Attendance – Max. Marks: Nil
Practical Internal Max Marks: 60	Lab work & Sessional – Max Marks: 55	Assignment / Quiz/ Attendance – Max. Marks: 05

Pre-Requisite	Nil
Course Outcome	1. Able to understand the design and concerned software and tools.
	2. A basic understanding of project layout and its applications & presentation of publications.
	3. To design to get able to know how to develop hardware design according to software/tools.

Unit	Contents (Theory)	Marks Weightage
-	The student should prepare a working system or some design or understanding of a complex system that he has selected in the seventh semester using system analysis tools and submit the same in the form of a write-up i.e. detail project report. The student should maintain proper documentation of different stages of project such as need analysis, market analysis, concept evaluation, requirement specification, objectives, work plan, analysis, design, implementation and test plan wherever applicable. Each student is required to prepare a project report based on the above points and present the same at the final examination with a demonstration of the working system.	**200**

Text Book/References Books/ Websites:-Nil

Suggested List of Laboratory Experiments :- (Expandable):

PEOPLE'S UNIVERSITY, BHOPAL

(Applicable for Admitted from Academic Session 2019-20 onwards)

Programme: **Bachelor of Technology** **Semester –VIII**

Subject Code	Subject Title	Credit			Theory			Practical		
		L	T	P			Total			Total (50)
ECT-1807	Professional Ethics and Proficiency	-	-	1	External (Nil)	Internal (Nil)	Min: Nil	External (35)	Internal (15)	Min: 20 (D Grade)

Duration of Theory (Externals): Nil

Theory Internal- Max Marks: Nil	Best of Two Mid Semester Test –Max Marks: Nil	Assignment/Quiz/Attendance – Max. Marks: Nil
Practical Internal Max Marks: 15	Lab work & Sessional – Max Marks: 10	Assignment / Quiz/ Attendance – Max. Marks: 05

Pre-Requisite	Nil
Course Outcome	1. To understand the moral values that ought to guide the Engineering profession.
	2. To resolve the moral issues in the profession, and
	3. To justify the moral judgment concerning the profession.

Unit	Contents (Theory)	Marks Weightage
I	Ethics- Business ethics, Etiquettes in social and office settings, Email etiquettes, Telephone Etiquettes, Engineering ethics, Managing time, Role and responsibility of engineer, Work culture in jobs, Personal memory, Rapid reading, Taking notes, Complex problem solving, Creativity.	50
II	Communication and personality development covering, Psychological aspects of communication, cognition as a part of communication; Emotional Intelligence; Politeness and Etiquette in communication; Cultural factors that influence communication; Mannerisms to be avoided in communication; Language and persuasion; Language and conflict resolution;	
III	Career Oriental Communication covering, Resume and Biodata: Design & style; Applying for a job: Language and format of job application. Job Interviews: purpose and process;	
IV	Advanced Techniques in Technical Communication covering, Interview through telephone/video-conferencing;	
V	Power-point presentation: structure and format; Using e-mail for business communication; Standard e-mail practices; Language in e-mail; Using internet for collecting information; Referencing while using internet materials for project reports.	

Text Book/References Books/ Websites:-

1. Raju Ramachandran; Professional Ethics: Changing Profession and Changing Ethics; LexisNexis.
2. P.B. Mukharji; Professional Ethics of the Advocate; University of Burdwan.
3. Ross Grauston (ed.); Legal Ethics & Professional Responsibility; Clarendon Press, Oxford.

Suggested List of Laboratory Experiments :- (Expandable): Nil