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Name of Program: Bachelor of Technology in Electronics & Communication-IOT

SUBJECT CODE	Category	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTECIOT 701	EC	Real Time Operating System	60	20	20	30	20	3	1	2	5

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:-

The subject aims to provide the student with:
1. To understand the concepts of Operating System.
2. To obtain hands-on experience in programming Real time OS.

Course Outcomes:-
After completion of the course student will be able
1. Explain the operating system concepts and types of operating system.
2. Demonstrate deadlock and memory management techniques.
3. Demonstrate concepts of real time operating system implementation

Syllabus

UNIT I
Introduction to Operating System, Goals of an OS, Operation of an OS, Computer Architecture, Classes of Operating Systems, Structure of an Operating System, Memory Management: Single User Contiguous Scheme, Dynamic Partitions, Best-Fit Versus First-Fit Allocation, Deallocation, Paged Memory Allocation, Demand Paging, Page Replacement Policies, Segmented Memory Allocation.

UNIT II
Process Management: Processes and programs, Implementing processes, Threads, Process Synchronization, Semaphores, Monitors, Scheduling terminology and its concepts, Deadlock: Detection, Prevention and Avoidance.

UNIT III
Introduction to RTOS, Cortex-M Processor Architecture, ARM Cortex-M Assembly Language, Pointers in C, Memory Management,MSP432 I/O programming, Interrupts, First in First Out (FIFO) Queues, Edge-triggered Interrupts, UART Interface, Basic principles of Input Capture, Pulse Width modulation on MSP432, OS Considerations for I/O Devices, Debugging.

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UNIT IV

Thread Management: Parallel, distributed and concurrent programming, Introduction to threads, States of a main thread, Two types of threads, Thread Control Block, Creation of threads, Switching threads, Profiling the OS, Semaphores, Thread Synchronization, Process Management, Dynamic loading and linking

UNIT V

Time Management: Cooperation, Blocking semaphores, First in First out Queue, Thread Sleeping, Deadlocks, Monitors, Fixed Scheduling.

Real-time Systems: Data Acquisition Systems, Priority scheduler, Debouncing a switch, Texas Instruments RTOS, FreeRTOS

Text Books:

1. Dhananjay M. Dhamdhere, "Operating Systems: A Concept-Based Approach", Mcgraw Hill Education: Third Edition,2017
2. Ann Mciver Mchoes ,Ida M. Flynn , "Understanding Operating Systems"., Cengage Learning Sixth Edition
3. Jonathan W. Valvano, "Real-Time Operating Systems for ARM Cortex-M Microcontrollers", Volume 3, Fourth Edition, 2017

Reference Books:

1. Rob Williams, "Real Time Systems Development"., First Edition, Elsevier 2006
2. Phillip A. Laplante, Seppo J. Ovaska, "Real Time Systems Design And Analysis: Tools for the Practitioner", Fourth Edition IEEE Press, 2012
3. Andrew S. Tanenbaum, Herbert Bos "Modern Operating Systems", Pearson, Fourth Edition, 2012

List of experiments:

1. To develop the process scheduling algorithm.
2. TINY OS
3. Creation of tasks and task communication using TINY OS
4. Task pending and deletion from TINY OS
5. Task Suspension in TINY OS
6. Understand DEADLOCK in TINY OS
7. Porting TINY OS on microcontroller
8. Traffic light controller using TINY OS

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTECIOT702	EC	Security in IOT	60	20	20	30	20	3	1	2	5

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:
To learn the security principles and methodologies for Internet of Things.

Course Outcomes:
The students will be able to
1. Understand the Security requirements in IOT.
2. Understand the cryptographic fundamentals for IOT.
3. Understand the authentication credentials and access control.
4. Understand the various types Trust models and Cloud Security.

Syllabus:

UNIT I
Introduction: Securing the Internet of Things:
Security Requirements in IOT Architecture, Security in Enabling Technologies, Security Concerns in IOT Applications, Security Architecture in the Internet of Things,Security Requirements in IOT and challenges, Authentication and Authorization in IOT, Access Control in IOT,ThreatstoAccessControl,Privacy,andAvailabilityAttacksSpecifictoIOT.Vulnerability and Risk in IOT, Attack and Counter measures.

UNIT II
Cryptographic Fundamentals for IOT:
Cryptographic primitives and its role in IOT, Encryption and Decryption, Hashes,Digital Signatures,Random number generation, Cipher suites,key management fundamentals,cryptographic controls built into IOT messaging and communication protocols,IOT Node Authentication.

UNIT III
Identity & Access Management Solutions for IOT:
Identity lifecycle, authentication credentials, IOT IAM infrastructure, Authorization with Publish / Subscribe schemes, access control

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UNIT IV

Privacy Preservation and Trust Models for IOT:

Concerns in data dissemination, Lightweight and robust schemes for Privacy protection, Trust and Trust models for IOT, self-organizing Things, Preventing unauthorized access.

UNIT V

Cloud Security for IOT:

Cloud services and IOT, offerings related to IoT from cloud service providers, Cloud IOTsecurity controls, An enterpriseIOT cloud security architecture, New directions in cloud enabled IoT computing.

Text Books:

1. Securing the Internet of Things, Shancang Li, Li Da Xu Elsevier
2. Practical Internet of Things Security, Brian Russell, Drew Van Duren Packt Publication, 2016

References:

1. Security and Privacy in Internet of Things (IOTs): Models, Algorithms, and Implementations

List of Experiments:

1. Network Discovery with Port Scanning
2. Packet Sniffing and Wireshark
3. Buffer Overflows and Defences
4. IOT Communication
5. Analyzing MQTT Packets
6. OS Security for the Internet of Things
7. Vulnerability Assessment
8. Wireshark, Scripting and Replay Attack
9. Wireless Exploitation &Defenses
10. Firewall Configuration
11. Firewalls & Intrusion Detection Systems

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SUBJECT CODE	Category	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTECIOT703	EC	Wireless Sensor Network	60	20	20	30	20	3	1	2	5

Legends: **Th** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):
This course discusses protocols and architectures for wireless sensor network design. It covers wireless sensor node and network architectures, and communication protocols in different layers. The course focuses on topics for wireless sensor networks such as time synchronization, localization, and topology management.

Course Outcomes (COs):
After the completion of this course, the student should be able to:
1. List various applications of wireless sensor networks,
2. Describe the concepts, protocols, and differences underlying the design, implementation, and use of wireless sensor networks, and
3. Propose, implement, and evaluate new ideas for solving wireless sensor network design issues.

Syllabus

Unit-I

Introduction: Definition, challenges and constraints of Wireless Sensor Networks (WSN), Advantages of Sensor Networks, Applications of Sensor Networks, Enabling technologies for WSN, Operating systems and execution environments.

Unit-II

Node architecture: Sensor Node Technology, sensing subsystem, processor subsystem- architectural overview, communication interfaces. Sensor Node Hardware and Network Architecture: Single-node architecture, Hardware components & design constraints.

Unit-III

Deployment and Configuration: Localization and positioning, Coverage and connectivity, Single-hop and multihop localization, self configuring localization systems, sensor management, ranging techniques.

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Unit-IV

Routing protocols: Classification of routing protocols, Routing Challenges and Design issues in WSN, Routing Strategies in WSN, Data Dissemination and Gathering, Concepts of Flooding, Directed Diffusion, Negotiation and Clustering Hierarchy.

Unit-V

Data Storage and Manipulation: Data centric and content based routing, Energy-efficient routing, Geographical routing. Storage and retrieval in network, compression technologies for WSN, data aggregation techniques. Security attacks in wireless sensor networks.

Text Books:

1. Kazem, Sohraby, Daniel Minoli, Taieb Zanti, "Wireless Sensor Network: Technology, Protocols and Application", John Wiley and Sons 1st Ed., 2007 (ISBN: 978-0-471-74300-2).
2. Waltenegus Dargie, Christian Poellabauer, "Fundamentals of Wireless Sensor Networks: Theory & Practice", John Wiley and Sons, (ISBN: 978-81-265-5125-5).

References Books:

1. Holger Kerl, Andreas Willig, "Protocols and Architectures for Wireless Sensor Network", John Wiley and Sons, 2005 (ISBN: 978-0-470-09511-9)
2. Raghavendra, Cauligi S, Sivalingam, Krishna M., Zanti Taieb, "Wireless Sensor Network", Springer 1st Ed. 2004 (ISBN: 978-4020-7883-5).
3. Feng Zhao, Leonidas Guibas, " Wireless Sensor Network",Elsevier, 1st Ed. 2004 (ISBN: 13- 978-1-55860-914-3)
4. B. Krishnamachari, "Networking Wireless Sensors", Cambridge University Press.
5. N. P. Mahalik, "Sensor Networks and Configuration: Fundamentals, Standards, Platforms, and Applications" Springer Verlag.

List of Experiments:

1. Study of various open source network simulator tools.
2. Study of the Network Simulator tool selected and learning its installation process.
3. Study of GUI for the packet transmission between different nodes.
4. Study of various routing protocols/algorithms available for wireless sensor networks.
5. Simulating the simple routing protocols/algorithm for transmitting packet between two nodes.
6. Simulating the Flooding routing protocol.
7. Simulating the Directed Diffusion routing protocol.
8. Comparing the above two protocols based on different quality of service parameters (QoS) w.r.t to network area and network size.

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SEMESTER VII

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTEC723	**EC**	**Advanced Microcontroller and Embedded Systems**	60	20	20	30	20	3	1	2	5

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
*__Teacher Assessment__ shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:

1. To teach programming for MSP432 using high level language such as C.
2. To teach students how a microcontroller can be used as a computer within a single integrated circuit.
3. To present the microcontrollers input/output interface capabilities for developing embedded systems with microcontrollers.
4. To illustrate how a microcontroller is a component within embedded systems controlling the interaction of the environment with system hardware and software.

Course Outcomes:

After successful completion of the course, student will be able:

1. To understand the generalized architecture of advanced microcontroller MSP432 and its programming.
2. To interface MSP432 with analog peripherals & communication systems.
3. To design an embedded system using MSP432 for a particular task.

Syllabus:

UNIT I **9 Hrs**

Introduction to Microcontrollers & Embedded System

Background of Microcontrollers: Definition, Classification, Features & Applications, Architecture of Cortex M4 and its features, MSP–EXP432P401R and its Booster Packs, Energia: Development Environment, Libraries, Fundamental Programming Concepts.

Embedded System: Definition, Characteristics, Block diagram, Design Process, Case study: Weather monitoring system.

UNIT II **7 Hrs**

MSP432 Operating Parameters and Interfacing

Operating Parameters, Input Devices, Output Devices, High Power DC Interfaces, Interfacing to DC Devices, AC Devices, Educational Booster Pack Mk-II, Grove Starter Kit for LaunchPad Application.

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UNIT III **9 Hrs**

MSP432 Memory System and Power System

Memory System: Basic Memory Concepts, Memory Operations in C Using Pointers, Memory Map, Flash Memory, Direct Memory Access (DMA), External Memory: Bulk Storage with an MMC/SD Card.

Power Systems: Operating Modes and Speed of Operation, Power Supply System, Power Control Module, Operating Modes, Transition PSS and PCM Registers, Battery Operation.

UNIT IV **8 Hrs**

Time-Related Systems, Resets and Interrupts

Time-related Signal Parameters: Frequency, Period, Duty Cycle, MSP432 Clock System, Energia-related Time Functions, Watchdog Timer, Timer32, Timer A, Real-Time Clock, MSP432 Resets, Interrupts, MSP432 Interrupt System, Energia Interrupt.

UNIT V **9 Hrs**

Analog Peripherals & Communication Systems

Programming the MSP432 ADC System, Voltage Reference, Comparator, Serial Communication Concepts, MSP432 UART, Serial Peripheral Interface-SPI, Inter-Integrated Communication - I2C Module

Text Books:

1. Dung Dang, Daniel J. Pack, Steven F. Barrett, "Embedded Systems Design with the Texas Instruments MSP432 32-bit Processor" Morgan & Claypool Publisher, 2017.
2. Ying Bai, "Microcontroller Engineering with MSP432: Fundamentals and Applications" Taylor & Francis,CRC Press, 2017

References:

1. Chris Nagy, "Embedded Systems Design using the TI MSP430 Series" Newnes, 2003.
2. John H. Davies, "MSP430 Microcontroller Basics" Newnes, 2008.
3. Manuel Jiménez, Rogelio Palomera, Isidoro Couvertier, "Introduction to Embedded Systems: Using Microcontrollers and the MSP430" Springer, 2014.
4. Raj Kamal, "Embedded Systems: Architecture, Programming and Design" TMH, 2008.

List of Practicals:

1. Introduction to MSP–EXP432P401R Launch Pad, Code Composer Studio and Energia.
2. Interfacing LED using MSP432.
3. Interfacing 7-segment display to MSP432.
4. Interfacing dot-matrix display to MSP432.
5. Setting up communication interface using IR sensors.
6. Interfacing MSP432 with various sensors
7. Driving stepper motor using MSP432.
8. Interfacing memory to MSP432
9. Setting up wireless communication Network.
10. Setting up IoT link for various sensors using MSP432.

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SUBJECT CODE	Category	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTECIOT 714	EC	**Data Analytics**	60	20	20	30	20	3	1	2	5

Legends: L - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

The objective of this course is to:
1. Explore the fundamental concepts of big data analytics.
2. Learn the different ways of data analysis.
3. Understand the various search methods and visualization techniques.
4. Learn to use various techniques for mining data stream.

Course Outcomes (COs):

After completion of this course the students are expected to be able to demonstrate following knowledge, skills and attitudes. The students will be able to
1. Analyze the big data using intelligent techniques.
2. Work with big data tools and its analysis techniques.
3. Perform analytics on data streams
4. Learn NoSQL databases and management.
5. Understand ethical and privacy issues in data science conduct and apply ethical practices.

Syllabus

Unit-I
Introduction To Big Data Platform, Challenges Of Conventional Systems, Web Data, Evolution Of Analytic Scalability, Analytic Processes And Tools, Analysis Vs Reporting – Modern Data Analytic Tools, Statistical Concepts: Sampling Distributions, Resampling, Statistical Inference, Prediction Error.

Unit-II
Regression Modeling, Multivariate Analysis, Bayesian Modeling, Inference And Bayesian Networks, Support Vector And Kernel Methods, Analysis Of Time Series: Linear Systems Analysis, Nonlinear Dynamics, Rule Induction.

Unit-III
Introduction To Streams Concepts, Stream Data Model And Architecture, Stream Computing, Sampling Data In A Stream, Filtering Streams, Counting Distinct Elements In A Stream, Estimating Moments, Counting Oneness In A Window, Decaying Window.

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Unit-IV

Real time Analytics Platform (RTAP) Applications, Case Studies – Real Time Sentiment Analysis, Stock Market Predictions, Data Science and Ethical Issues, Discussions on privacy, security, ethics.

Unit-V

NoSQL Databases : Schema-less Models, Increasing Flexibility for Data Manipulation, Key Value Stores, Document Stores, Tabular Stores, Object Data Stores, Graph Databases Hive, Sharding, Hbase, Basic Data Analytic Methods using R.

Text Books:

1. Michael Berthold, David J. Hand, Intelligent Data Analysis, Springer, 2007.
2. Anand Rajaraman And Jeffrey David Ullman, Mining Of Massive Datasets,Cambridge University Press, 2012.
3. David Loshin, "Big Data Analytics: From Strategic Planning to Enterprise Integration with Tools, Techniques, NoSQL, and Graph", Morgan Kaufmann/Elsevier Publishers, 2013.

References Books:

1. Bill Franks, Taming The Big Data Tidal Wave: Finding Opportunities In Huge Data Streams With Advanced Analystics, John Wiley & Sons, 2012.
2. Glenn J. Myatt, Making Sense Of Data, John Wiley & Sons, 2007 Pete Warden, Big Data Glossary, O"Reilly, 2011.
3. Jiawei Han, Micheline Kamber "Data Mining Concepts And Techniques", Second Edition, Elsevier, Re-printed 2008.

List of Experiments:

1. To implement Map Reduce programs for processing big data
2. To realize storage of big data using H base.
3. To analyse big data using linear models
4. To analyse big data using machine learning techniques such as SVM / Decision tree classification and clustering.
5. Implement Linear and logistic Regression
6. To study and implement basic functions and commands in R Programming.
7. To implement clustering program using R programming.
8. To find Term Frequency and Inverse Document Frequency (tf-idf) Matrix for Recommendation Systems and Plot TF Using R used.
9. To finding similar documents with Cosine Similarity in R.
10. To run a basic Word Count MapReduce program to understand MapReduce Paradigm: To count words in a given file, to view the output file, and to calculate execution time.

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			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTEC 701	EC	Optical & Satellite Communication	60	20	20	30	20	3	1	2	5

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:

1. The objective of this course is to have an introduction of optical and satellite communication with an increased emphasis on the various optical sources, detectors, amplifiers, test equipments & components.
2. Students will also get to know about the detailed working of satellite transmission & its applications.
3. This course will enable the students to understand the fundamentals of optical communication and detailed working of satellites.

Course Outcomes:

1. Will be able to classify optical source and detector & their characteristics.
2. Will be able to analyze various optical amplifiers and understand advance optical fiber systems.
3. Will be able to understand various optical components & test equipments.
4. Will be able to understand space segment of satellite & its link design.
5. Will be able to understand earth segment and the satellite applications.

Syllabus:

UNIT I **9 Hrs**

Overview of Optical fiber Communications: Elements of an optical fiber transmission link with the functional description of each block, WDM concepts, Light emitting diode (LEDs)-structures, materials, Figure of merits, characteristics & Modulation. Laser Diodes -Modes & threshold conditions, Diode Rate equations, resonant frequencies, structures, characteristics and figure of merits, Principles of operation.

UNIT II **7 Hrs**

Optical Amplifier & Advances in Optical Fiber Systems: Semiconductor optical Amplifier, EDFA, Raman Amplifier, Wideband Optical Amplifiers, Principles of WDM, DWDM, Telecommunications & broadband application, SONET/SDH, MUX, Analog & Digital broadband, optical switching.

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UNIT III **8 Hrs**

Optical Components & Measurement: Optical couplers, Tunable sources and Filters ,optical MUX/DEMUX, Arrayed waveguide grating, optical add drop multiplexer (OADM), optical cirulators, attenuators, optical cross connects, wavelength converter, Mach-Zender Interferometer Test Equipments, OTDR , Set ups for Measurement of Attenuation, Dispersion, NA and EYE pattern.

UNIT IV **9 Hrs**

Space Segment and Satellite Link Design: Spacecraft Technology- Structure, Primary power, Attitude and Orbit control, Thermal control and Propulsion, communication Payload and supporting subsystems, Telemetry, Tracking and command. Satellite uplink and downlink Analysis and Design, link budget, E/N calculation- performance impairments-system noise, inter modulation and interference, Propagation Characteristics and Frequency considerations- System reliability and design lifetime.

UNIT V **12 Hrs**

Earth Segment & Satellite Applications: Introduction, receive-only home TV systems, master antenna TV system, Community antenna TV system, transmit-receive earth station.
INTELSAT Series, INSAT, VSAT, Mobile satellite services: GSM, GPS, INMARSAT, LEO, MEO, Satellite Navigational System. Direct Broadcast satellites (DBS)- Direct to home Broadcast (DTH), Digital audio broadcast (DAB)- Worldspace services, Business TV(BTV), GRAMSAT, Specialized services – E –mail, Video conferencing, Internet.

Text Books:

1. John M Senior, "Optical Fiber Communication", Third Edition, , Pearson
2. Gerd Keiser, "Optical Fiber Communication", Fifth Edition, , Tata McGraw Hill
3. Timothy Pratt, "Satellite Communication" , Wiley India
4. Roddy, "Satellite Communications", TMH

References:

1. Ghatak and Thyagrajan, "Fiber Optics and Lasers", Macmillan India Ltd.
2. Agarwal, "Fiber Optic Communication Systems", Wiley India.
3. Agarwal, "Satellite Communications", Khanna Publishers
4. Monojit Mitra, "Satellite Communication", PHI Learning.

List of Experiments:

1. Launching of light into the optical fiber and calculate the numerical aperture and V-number.
2. Measurement of attenuation loss in an optical fiber.
3. Setting up a fiber optic analog link and study of PAM.
4. Setting up a fiber optic digital link and study of TDM and Manchester coding.
5. Measurement of various misalignment losses in an optical fiber.
6. To study the block diagram of Dish antenna receiver.
7. To set up a satellite communication link and study of change in uplink and downlink frequency.
8. To study Dish antenna and LNB section.
9. To study tuner section and Video amplifier section.
10. Study of Sound Section
11. Study of R.F. Modulator Section.

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			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BBAI501	ML	Human Values and Professional Ethics	60	20	20	0	0	4	0	0	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based on following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:

The objective of the course is to disseminate the theory and practice of moral code of conduct and familiarize the students with the concepts of "right" and "good" in individual, social and professional context

Course Outcomes:

1. Help the learners to determine what action or life is best to do or live.
2. Right conduct and good life.
3. To equip students with understanding of the ethical philosophies, principles, models that directly and indirectly affect business.

Syllabus:

UNIT I

Human Value

Definition, Essence, Features and Sources
Sources and Classification
Hierarchy of Values
Values Across Culture

UNIT II

Morality

Definition, Moral Behaviour and Systems
Characteristics of Moral Standards
Values Vs Ethics Vs Morality
Impression Formation and Management

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UNIT III

Leadership in Indian Ethical Perspective.

Leadership, Characteristics

Leadership in Business (Styles), Types of Leadership (Scriptural, Political, Business and Charismatic)

Leadership Behaviour, Leadership Transformation in terms of Shastras (Upanihads, Smritis and Manu-smriti).

UNIT IV

Human Behavior – Indian Thoughts

Business Ethics its meaning and definition

Types, Objectives, Sources, Relevance in Business organisations.

Theories of Ethics, Codes of Ethics

UNIT V

Globalization and Ethics

Sources of Indian Ethos & its impact on human behavior

Corporate Citizenship and Social Responsibility – Concept (in Business),

Work Ethics and factors affecting work Ethics.

Suggested Readings

1. Beteille, Andre (1991). Society and Politics in India. Athlone Press:New Jersey.
2. Chakraborty, S. K. (1999). Values and Ethics for Organizations. oxford university press
3. Fernando, A.C. (2009). Business Ethics - An Indian Perspective .India: Pearson Education: India
4. Fleddermann, Charles D. (2012). Engineering Ethics. New Jersey: Pearson Education / Prentice Hall.
5. Boatright, John R (2012). Ethics and the Conduct of Business.Pearson. Education: New Delhi.
6. Crane, Andrew and Matten, Dirk (2015). Business Ethics. Oxford University Press Inc:New York.
7. Murthy, C.S.V. (2016). Business Ethics – Text and Cases. Himalaya Publishing House Pvt. Ltd:Mumbai
8. Naagrajan, R.R (2016). Professional Ethics and Human Values. New Age International Publications:New Delhi.

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