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KUMARAGURU COLLEGE OF TECHNOLOGY, COIMBATORE-641049

(An Autonomous Institution affiliated to Anna University, Chennai)

Action Taken **Report -Alumni**

Department of Electronics and Communication Engineering

Academic Year: 2017 – 2018

Date: 11.04.2018

S.No	Feedback	Action Taken
1.	RF and Microwave, Wireless Communication and Optical communication are the fundamental concepts and needs to be retained in the core content.	Included in the curriculum and syllabus as professional core courses. U17ECT7002-Wireless Communication, U17ECI7203-Optical Communication, U17ECI6202-RF and Microwave Engineering
2.	More professional electives to be included in each module	Domain specific professional electives are added. Each module has five professional elective courses.
3.	For Advanced Radiation Systems, embedded lab can be added	P18COI2202 - Advanced Radiation Systems is included in R-18 curriculum.
4.	In Advanced Digital Communication Techniques, modules should be rearranged as source coding, channel coding, modulation techniques.	Incorporated the changes in P18COI1203-Advanced Digital Communication Techniques course.

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

Proof for Action taken 1: Included in the curriculum and syllabus as professional core courses. U17ECT7002-Wireless Communication, U17ECI7203-Optical Communication, U17ECI6202-RF and Microwave Engineering

Semester VII										
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U17ECP7701	Project Phase I	Project only Course	PW	0	0	0	6	3	-
2	U17ECT7002	Wireless Communication	Theory	PC	3	0	0	0	3	U17ECI6201
3	U17ECI7203	Optical Communication	Embedded - Theory & Lab	PC	3	0	2	0	4	-
4	U17ECE...	Professional Elective III	Theory	PE	3	0	0	0	3	-
5	U17ECE...	Professional Elective IV	Theory	PE	3	0	0	0	3	-
6	U17INT7000	Professional Communication & Analytical Reasoning	Theory	HS	3	0	0	0	3	-
								Total Credits	19	
								Total Contact Hours/week	23	

Semester VIII										
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U17ECP8701	Project Phase II	Project only Course	PW	0	0	0	24	12	-
								Total Credits	12	
								Total Contact Hours/week	24	

Total Credits	160

Signature of BOS chairman, ECE

Semester V										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17ECI5201	Communication Engineering- I	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ECT3101
2	U17ECI5202	VLSI and HDL Programming	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ECI3203
3	U17ECI5203	Communication Networks	Embedded - Theory & Lab	PC	3	0	2	0	4	-
4	U17ECT5004	Control Systems	Theory	PC	3	0	0	0	3	-
5	U17ECT5005	Antenna and wave propagation	Theory	PC	3	0	0	0	3	U17ECT4104
6	U17INI5600	Engineering Clinic 3	Practical & Project	ES	0	0	4	2	3	U17INI4600
								Total Credits	21	
								Total Contact Hours/week	27	

Semester VI										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17ECI6201	Communication Engineering- II	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ECI5201
2	U17ECI6202	RF and Microwave Engineering	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ECT4103
3	U17INI6600	Engineering Clinic 4	Practical & Project	ES	0	0	4	2	3	U17INI5600
4	U17.....	Open Elective II	Theory	OE	3	0	0	0	3	-
5	U17ECE....	Professional Elective I	Theory	PE	3	0	0	0	3	-
6	U17ECE....	Professional Elective II	Theory	PE	3	0	0	0	3	-
								Total Credits	20	
								Total Contact Hours/week	25	

Signature of BOS chairman, ECE

Proof for Action Taken 2: Domain specific professional electives are added. Each module has five professional elective courses.

Professional Electives									
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C
Communication System									
1	U17ECE0001	Cognitive Radio	Theory	PE	3	0	0	0	3
2	U17ECE0002	Satellite Communication	Theory	PE	3	0	0	0	3
3	U17ECE0003	MIMO systems	Theory	PE	3	0	0	0	3
4	U17ECE0004	Advanced Wireless Communication	Theory	PE	3	0	0	0	3
5	U17ECE0005	RADAR and Navigational Aids	Theory	PE	3	0	0	0	3
Signal Processing									
1	U17ECE0011	Digital Image Processing	Theory	PE	3	0	0	0	3
2	U17ECE0012	Multimedia and Compression	Theory	PE	3	0	0	0	3
3	U17ECE0013	Biomedical Signal Processing	Theory	PE	3	0	0	0	3
4	U17ECE0014	Machine Learning	Theory	PE	3	0	0	0	3
5	U17ECE0015	Statistical Signal processing	Theory	PE	3	0	0	0	3
Communication Networks									
1	U17ECE0021	Adhoc wireless networks.	Theory	PE	3	0	0	0	3
2	U17ECE0022	High speed networks.	Theory	PE	3	0	0	0	3
3	U17ECE0023	Network security	Theory	PE	3	0	0	0	3
4	U17ECE0024	Wireless system and standards	Theory	PE	3	0	0	0	3
5	U17ECE0025	Graph theory and its applications.	Theory	PE	3	0	0	0	3
RF and Antenna									
1	U17ECE0031	RF MEMS	Theory	PE	3	0	0	0	3
2	U17ECE0032	RF System Design	Theory	PE	3	0	0	0	3
3	U17ECE0033	Electromagnetic Interference and Compatibility	Theory	PE	3	0	0	0	3
4	U17ECE0034	Computational Electromagnetics	Theory	PE	3	0	0	0	3
VLSI									
1	U17ECE0041	VLSI testing and testability	Theory	PE	3	0.	0	0	3
2	U17ECE0042	System design with FPGA	Theory	PE	3	0	0	0	3
3	U17ECE0043	System on Chip	Theory	PE	3	0	0	0	3
4	U17ECE0044	Nano Electronics	Theory	PE	3	0	0	0	3
5	U17ECE0045	Low power VLSI	Theory	PE	3	0	0	0	3
Embedded System									
1	U17ECE0051	Industrial Robotics	Theory	PE	3	0	0	0	3
2	U17ECE0052	Industrial Automation	Theory	PE	3	0	0	0	3
3	U17ECE0053	Virtual Instrumentation	Theory	PE	3	0	0	0	3
4	U17ECE0054	Real time Embedded Systems	Theory	PE	3	0	0	0	3
5	U17ECE0055	Automotive Electronics	Theory	PE	3	0	0	0	3

Signature of BOS chairman, ECE

Proof for Action Taken 3: P18COI2202 - Advanced Radiation Systems is included in R-18 curriculum.

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE – 641 049

REGULATIONS 2018

M.E. COMMUNICATION SYSTEMS

CURRICULUM

SEMESTER I

Course Code	Course Title	Course Mode	L	T	P	J	C
P18INT0001	Research Methodology and Statistics	Theory	3	0	0	0	3
P18COT1001	RF and Microwave Integrated Circuits	Theory	3	0	0	0	3
P18COI1202	Advanced Signal Processing	Embedded	3	0	2	0	4
P18COI1203	Advanced Digital Communication Techniques	Embedded	3	0	2	0	4
P18MAT0101	Applied Mathematics	Theory	3	1	0	0	4
						Total Credits	18
						Total Hours per week	20

SEMESTER-II

Course Code	Course Title	Course Mode	L	T	P	J	C
P18COT0004	High Performance Networks	Theory	3	0	0	0	3
P18COT2001	Wireless Sensor Networks	Theory	3	0	0	0	3
P18COI2202	Advanced Radiation Systems	Embedded	3	0	2	0	4
P18COI2203	Wireless Communication Systems	Embedded	3	0	2	0	4
P18COE___	Professional Elective I	Theory	3	0	0	0	3
						Total Credits	17
						Total Hours per week	19

SEMESTER-III

Course Code	Course Title	Course Mode	L	T	P	J	C
P18COE___	Professional Elective II	Theory	3	0	0	0	3
	Audit Course						
P18COP3701	Project Phase I / Industry Project	Project	0	0	0	24	12
						Total Credits	15
						Total Hours per week	27

SEMESTER-IV

Course Code	Course Title	Course Mode	L	T	P	J	C
P18COP4701	Project Phase II/ Industry Project	Project	0	0	0	36	18
						Total Credits	18
						Total Hours per week	36

Grand Total Credits: 68

Signature of BOS chairman, ECE

Proof for Action Taken 4: Incorporated the changes in P18COI1203-Advanced Digital Communication Techniques course.

P18COI1203 **ADVANCED DIGITAL COMMUNICATION TECHNIQUES**

L	T	P	J	C
3	0	2	0	4

Course Outcomes (COs):

Upon completion of the course, the student should be able to:

- **CO1:** Apply appropriate channel model for design and analysis of digital communication system (K3).
- **CO2:** Design, analyze and implement channel encoder and decoder for the given specification by applying channel coding algorithms (K4)
- **CO3:** Analyze signaling schemes and equalizers for band limited channels (K4)
- **CO4:** Develop and analyze Mathematical model for pass band signals (K4)
- **CO5:** Design Coherent and non-coherent receiver for digital modulation schemes using modern tools (K3).

Pre-requisites: -

CO/PO Mapping:
(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak

COs	Programme Outcomes										
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11
CO1	S	M	M		S						M
CO2	S	M	M		S						M
CO3	S	M	M		S						M
CO4	S	M	M		S						M
CO5	S	M	M		S						M

Course Assessment Methods:

Direct
1.Mid Term Examination (Theory component)
2.Research Assignment, Presentation (Theory component)
3. Pre/Post- Experiment Test/ Viva, Experiment Report for each experiment(Lab Component)
4. Model Examination
5. End Semester Examination(Theory and lab component)
Indirect
1. Course-end survey

COMMUNICATION CHANNEL MODELS **09 Hrs**

Review of Detailed block diagram of Digital Communication Systems –AWGN Channel Models: Discrete Memoryless Channel - Waveform and vector AWGN Channel, Channel Capacity. Wireless channel models: Large scale channel models- Small scale channel models - Time and Frequency coherence – Capacity of wireless Channel: Capacity of Flat Fading Channel.

Signature of BOS chairman, ECE

CHANNEL CODING **09 Hrs**

Linear block codes: Hamming – Golay – Cyclic - BCH - Reed – Solomon codes - Convolutional Codes: Representation of codes using Polynomial, State diagram, Tree diagram, and Trellis diagram – Decoding techniques using Maximum likelihood, Viterbi algorithm, Sequential and Threshold methods –Turbo Coding.

BAND LIMITED CHANNELS AND EQUALIZATION TECHNIQUES **09 Hrs**

Line Coding Techniques - Band Limited Channels- ISI – Nyquist Criterion- Controlled ISI-Partial Response signals-Equalization algorithms – Viterbi Algorithm – Linear equalizer – Decision feedback equalization – Adaptive Equalization algorithms.

DIGITAL MODULATION TECHNIQUES **09 Hrs**

Representation of Digitally Modulated signals, Memory less Modulation Methods, Signaling Schemes with Memory – CPFSK, CPM, Power Spectrum of Digitally Modulated Signals-PSD of a digitally modulated signal with memory, PSD of a linear modulated signal, PSD of a digitally modulated signal with Finite memory, PSD of a digitally modulation scheme with a Markov Structure

COHERENT AND NON COHERENT RECEIVERS **09 Hrs**

Optimal Detection and Error Probability for band limited Signaling, Optimal Detection and Error Probability for power limited signaling. Non-coherent detection of carrier modulated signals, Optimal Noncoherent detection of FSK modulated signals, Error probability of Orthogonal signaling with Noncoherent detection, Differential PSK (DPSK).

Theory: 45	Tutorial: 0	Practical: 0	Project: 0	Total: 45 Hours

REFERENCES:

1. John G. Proakis., and Masoud Salehi. **"Digital Communication"** , McGraw- Hill, International Edition 2008.
2. M.K.Simon, S.M.Hinedi and W.C.Lindsey, **"Digital communication techniques; Signaling and detection"**, Prentice Hall India, New Delhi.1995
3. Simon Haykin, **"Digital communications"**, John Wiley and Sons, 2006
4. B.P.Lathi**"Modern digital and analog communication systems"**, Oxford University press,3rd Edition 1998
5. Bernard Sklar, "**Digital Communications"**, Pearson Education, 2nd Edition 2001.
6. Theodore S.Rappaport, "**Wireless Communications**", Pearson Education, 2nd Edition 2002.

List of Experiments:

1. Design and Implementation of Block channel coding techniques
2. Design and implementation of Convolution encoder
3. BER analysis of channel coding techniques over AWGN and fading channel
4. Performance analysis of channel equalizers
5. BER performance of pass band modulation techniques over AWGN channel
6. BER performance of pass band modulation techniques over fading channel

Theory: 0	Tutorial: 0	Practical: 30	Project: 0	Total: 30 Hours

Signature of BOS chairman, ECE

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DEPARTMENT OF BIOTECHNOLOGY

Action Taken Report -"Employers Feedback"
Academic Year 2017-18

Date: 11-Apr 2018

S.No	Suggestions	Action Taken
1.	One-credit course can be offered for a longer period, distributed over a semester or a month	One-credit course is offered for 30 hours with industrial experts/ domain experts
2.	Sufficient time to be given to the students before conducting exam for one -credit courses	Exams are scheduled with an suitable time interval for preparation.
3.	Students are encouraged to undergo industry training during the course	Mandatory internship is provided to the students during the summer and winter vacation and its a part of the curriculum U17BTP4701 & U18BTP4701 Industry Internship/ Innovation project.

Prepared by
BOS Coordinator

Approved by
Chairman BOS

Proof: One credit Industrial Course - Biobusiness Organized with Industry

KUMARAGURU COLLEGE OF TECHNOLOGY, COIMBATORE – 641 049

FORM No. AC/ORG/15-16

VERSION No. 5.0

ORGANISING EVENT / PROGRAMME - PERMISSION & EXPENDITURE APPROVAL FORM - ACADEMIC

Department Name :	Biotechnology	Faculty In-Charge:	Dr.K.Ram	Submission Date:	17.07.2019
1	Title of the Event :/ Programme	One Credit Course	2. Event Venue:		FINAL YR CLASSROOM.
3	Details of the Event / Programme. (Draft Agenda / Brouchure to be attached)	One Credit Course on Biobusiness Management	4. Event Date (s): Event Duration (days): Event Time (From.. To):		27,28 July 2019 2 days 9 AM - 4 PM
5	Purpose / Outcome of the Event / Programme (Details to be attached)	Develop a science, business and entrepreneurial knowledge for a success career in pharmaceutical or biotechnology industry	6. Resource persons: Name, Designation, Organisation (Details to be attached)		Dr. Lipin Dev, Scientific Director, VeeTee Ecogreen Pvt Ltd, Angamali

7	Details of Particpants expected	Departments concerned	No of Faculty expected	No of Students expected	No of Industry persons expected	Total No. of Particlpants	Registration Fee per head (Rs)	For Faculty	For Students	For Industry
	KCT- Particlpants	BT		55		55	KCT			
	External - Particlpants						External			

TASKS / REQUIREMENTS WITH STATUS, TARGET DATES, FACULTY RESPONSIBLE, EXPENSDITURE & REVENUE ESTIMATED

S. No	Task / Requirments	Details of Tasks / Requirements	Target Date for completion	Faculty Responsible	Qty required	Estimated expenditure (Rs)	Estimated Revenue (Rs)	Remarks / Status
1	Honorarium / Consultancy fee	Honorarirum for experts			2 experts	25000		
2	Momento / Prize, if required							
3	Postage expenses							
4	Media / Advertisement expenses, if required							
5	Printing & Stationery - Poster, Invitation, Banner, Backdrop							
6	Travel & Accomodation expenses, if required	Accommodation & Travel/ Local Travel				3500		
7	Food - Refreshments & Lunch, if required	Food and refreshment expenses				1500		
8	Miscellaneous expenses for Stage / Reception, if required							
9	Event Report / Press Release / Archieve submission							
10	Expected Revenue from Registrations fee						0	
11	Sponsorship / Funding expected / appled / obtained							

Total Funds Allotted for Revenue Organising (RO) budget head: (Rs)	5,23,000	Total Funds Utilized so far for Organising budget head: (Rs)	12,500	Total Expenditure Estimated (Rs) 30000	0
Budget Ref. code for RO Budget head (9 digits - xxD01ROxx)	entered in KCT budget 2019-20	Balance Funds available for Organising budget head: (Rs)	4,80,500	**Total Funds required from KCT (Rs)**	**30000**

Signature: Date: 18.7.19	Faculty In-charge	HOD	AAD Ref No.: (D)6606	Head-AAD	PRINCIPAL	JC
	18.7.19	19/7/19		19.7.19		

18/7/2019
(Budget Co-ordinator)


EXPOSU
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identify problem
product
pricing
promotion
3P

Proof : Mandatory Internship in R17 curriculum included

Semester IV										Pre-requisite
S.No	**Course code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	
1	UI7MAT4105	Biostatistics	Theory	BS	3	1	0	0	4	-
2	U17BTT4001	Fluid and Particle mechanics in Bioprocess	Theory	PC	3	0	0	0	3	U17BTT3003
3	U17BTI4202	Instrumental Method of Analysis	Embedded Theory & Lab	BS	3	0	2	0	4	-
4	U17BTI4203	Cell & Molecular Biology	Embedded Theory & Lab	PC	3	0	2	0	4	U17BTI3204
5	U17BTP4704	Industry Internship/Innovation project*	Project	PC	0	0	0	0	1	-
6	U17INI4600	Engineering Clinics II	Embedded Theory & Lab	ES	0	0	4	2	3	-
								Total Credits	19	
								Total Contact Hour/week	21	

Semester V										Pre-requisite
S.No	**Course code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	
1	U17BTI5201	Genetic Engineering and Genomics	Embedded	PC	3	0	2	0	4	U17BTI4203
2	U17BTI5202	Protein and Enzyme Technology	Embedded	PC	3	0	2	0	4	U17BTI3204
4	U17BTI5203	Heat and Mass Transport in Bioprocess	Embedded	PC	3	0	2	0	4	U17BTT3003 U17BTT4001
5	U17BTE----	Professional Elective-I	Theory	PE	3	0	0	0	3	-
6	U17INI5600	Engineering Clinics III	Embedded Theory & Lab	ES	0	0	4	2	3	-
7	U17----	Open elective -I		OE	3	0	0	0	3	-
								Total Credits	21	
								Total Contact Hour/week	25	

* Conducted during summer vacations

Signature of BOS chairman, BT

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Department of Electrical and Electronics Engineering

AY: 2017-18 **Date: 13-04-2018**

Action taken report -Alumni Feedback

S.No	Analysis	Action taken report
1.	Topics on Real Time Operating System (RTOS) to be included as professional elective.	Included in Embedded system and Automotive Electronics courses

Prepared By,

Dr,V.Kandasamy

BoS Coordinator

Approved By,

13/4/18

Dr.K.Malarvizhi

BoS Chairman

Proof for Action Taken: 1 - Included in Embedded system and Automotive Electronics courses

U17EET6001 **EMBEDDED SYSTEM**

L	T	P	J	C
3	0	0	0	3

COURSE OUTCOMES

After successful completion of this course, the students will be able to

CO1	Understand the fundamentals of Embedded systems and its communication protocols.	**K2**
CO2	Understand the architectural features of ARM processor.	**K2**
CO3	Apply the instructions to program ARM processor using Embedded C.	**K3**
CO4	Analyze the internal peripherals of ARM processor to design a product.	**K4**
CO5	Understand the basic concepts of RTOS in accessing shared resources for optimized CPU performance.	**K2**

PRE-REQUISITE

1. Microprocessors and Microcontrollers

CO/PO Mapping
(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak

COs	Programme Outcomes(POs)												PSOs	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2
CO 1	S	M											M	
CO 2	S	M											M	
CO 3		S	S	M	M				M		M	M	M	
CO 4			S	S	S				S		M	M	M	S
CO 5	S		M		M						M		M	M

COURSE ASSESSMENT METHODS

Direct
1. Continuous Assessment Test I, II 2. Assignment, Open Book Test, Cooperative Learning Report, Group Presentation, Problem based Learning, Project based Learning, Mini Projects, Project Report, Quiz, Role Play, Self-Explanatory Videos, Prototype or Product Demonstration etc. (as applicable) 3. End Semester Examination
Indirect
1. Course End Survey 2. Programme Exit Survey 3. Placement/Higher Education Record 4. Feedback (Students, Employers, Parents, Professional Body members, Alumni)

OVERVIEW OF EMBEDDED SYSTEMS **8 Hours**

Basics of Embedded Systems – I/O Devices: Types and Examples – Synchronous, Iso-synchronous and Asynchronous Communication – Serial Communication Devices – Serial Communication Protocols: I^2C, CAN, USB - Parallel Device Ports– Parallel Bus device Protocols: ISA, PCI, ARM bus.

ARM ARCHITECTURE **8 Hours**

Signature of the Chairman BOS EEE

ARM Programmer's model -Registers – Processor modes - Pipeline - Interrupts – ARM organization - ARM processor families –Instruction set – Thumb instruction set – ARM Memory Management Unit.

ARM LPC2148 PROCESSOR PROGRAMMING **10 Hours**

Writing and optimizing the embedded C Code – Profiling and Cycle Counting – Instruction Scheduling –Register Allocation – Conditional Execution – Looping Constructs – Bit Manipulation - Timers and counters -Watchdog timer. Programming Tools: KEIL IDE.

ARM LPC2148 PROCESSOR PERIPHERALS **12 Hours**

SPI and I^2C – USB - UART– Analog to Digital conversion – temperature sensor – light sensor – accelerometer - Digital to Analog conversion –Digital sensors - PWM – Motor speed control.

RTOS FOR EMBEDDED SYSTEMS **7 Hours**

Introduction to RTOS - Task and Task Scheduler - Scheduling policies – Interrupt Service Routines - Interprocess communication mechanisms - Introduction to µC/ OS II.

TEXT BOOKS

1. Raj Kamal, "Embedded Systems – Architecture, Programming and Design", 2nd Edition, Tata McGraw Hill, New Delhi, 2013.
2. Andrew N. Sloss, Dominic Symes, Chris Wright, John Ray field 'ARM System Developer's Guide Designing and Optimizing System Software', Morgan Kaufmann Publishers, 2009.

REFERENCES

1. Steve Furber, "ARM System-on-Chip Architecture", Pearson Education, 2013.
2. Trevor Martin, 'The Insider's Guide to the Philips ARM7-Based Microcontrollers, An Engineer's Introduction To The LPC2100 Series' Hitex (UK) Ltd.,
3. David E Simon, "An Embedded Software Primer", Pearson Education India, New Delhi, 2013.
4. https://www.nxp.com/docs/en/data-sheet/LPC2141_42_44_46_48.pdf.

Theory: 45 **Tutorial: 0** **Practical: 0** **Project: 0** **Total: 45 Hours**

Signature of the Chairman BOS EEE

U17EEE0009 AUTOMOTIVE ELECTRONICS

L	T	P	J	C
3	0	0	0	3

COURSE OUTCOMES

After successful completion of this course, the students would be able to

CO1	Gain the knowledge on electrical and electronics systems available in modern automobiles.	**K2**
CO2	Understand the role of various Electronics Control Units embedded in modern automobiles.	**K2**
CO3	Outline the various stages of Integrated development environment to design an embedded system and understand the various communication Protocols	**K2**
CO4	Understand the internals of various embedded systems design to ensure drivers safety and comfort.	**K2**
CO5	Understand the performance characteristics of Electric Vehicles by analyzing HEVs with conventional vehicles.	**K2**

PRE-REQUISITE

1. Basics of Electrical and Electronics Engineering
2. Microprocessor and Microcontrollers

CO/PO Mapping
(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak

COs	Programme Outcomes(POs)												PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	S													
CO2	S	M											S	S
CO3	M	S		M	M								S	S
CO4	S	M											S	M
CO5	S												S	M

COURSE ASSESSMENT METHODS

Direct

1. Continuous Assessment Test I, II
2. Assignment, Open book test; Cooperative learning report, Group Presentation, Problem based learning, Project based learning, Mini Projects, Project report, Quiz, Role play, Self-Explanatory videos, Prototype or Product Demonstration etc. (as applicable)
3. End Semester Examination

Indirect

1. Course-end survey
2. Programme Exit survey
3. Placement/Higher education record
4. Feedback (Students, Employers, Parents, Professional body members, Alumni)

Signature of the Chairman BOS EEE

AUTOMOBILE ELECTRICALS AND ELECTRONICS 9 Hours

Basic Electrical Components in an automobile - Starting system (Battery, Ignition Switch, Solenoid, Starter, Neutral Safety Switch), Charging system (Alternator Drive Belt, Battery, Alternator, Voltage Regulator), Fuses. Overview of Vehicle Electronic system - Driver -Vehicle - Environment system (Control and monitoring systems, Electronic systems of the vehicle and the environment)

ELECTRONICS CONTROL UNITS AND PROTOCOLS 9 Hours

ECUs and vehicle subsystems - Electronic systems of Power train subsystem – Electronic systems of Chassis subsystem - Multimedia subsystems. Automobile sensors and actuators - Engine management system - - Environmental legislation (Pollution Norms - Euro / Bharat standards). Introduction to Control networking - Communication protocols in embedded systems - SPI, I^2C, USB, -Vehicle communication protocols – Introduction to CAN, LIN, FLEXRAY, MOST, Details of CAN

INTEGRATED DEVELOPMENT ENVIRONMENT IN EMBEDDED SYSTEMS 9 hours

Integrated Development Environment (Introduction to IDE, Getting Started, Hardware / Software Configuration (Boot Service, Host – Target Interaction) - Booting (IDE-Interaction, target-Agent) – Reconfiguration - Managing IDE - Target Servers – Agents - Cross – Development, debugging) - Introduction to an IDE for the Laboratory board – RTOS – PC based debugger.

EMBEDDED SYSTEMS IN AUTOMOTIVE CONTEXT 9 Hours

Embedded systems in typical modern automobile - Distributed systems – Embedded components a) Engine Management system - Diesel / Gasoline system, Components - System architecture (H/W, S/W) - b) Vehicle safety systems - c) Body electronics systems - d) Infotainment systems – Navigation, Car radio.

HYBRID ELECTRIC VEHICLES 9 Hours

Introduction to Hybrid Electric Vehicles: History of hybrid and electric vehicles, social and environmental importance of hybrid and electric vehicles, impact of modern drive-trains on energy supplies, Basic concepts of hybrid traction, introduction to various hybrid drive-train topologies, power flow control in hybrid drive-train topologies, fuel efficiency analysis, AUTOSAR

REFERENCES

1. Robert Bosch, “Bosch Automotive Handbook”, 9th Edition, Bentley Publishers, 2014.
2. Joerg Schaeuffele, Thomas Zurawka, “Automotive Software Engineering – Principles, Processes, Methods and Tools”, 1st Edition, SAE International, 2005
3. Jean J. Labrosse, “µC/OS-II Real Time Kernel”, 2nd Edition, CMP Books, 2002.
4. Mehrdad Ehsani, YimiGao, Sebastian E. Gay, Ali Emadi, Modern Electric, Hybrid Electric and Fuel Cell Vehicles: Fundamentals, Theory and Design, CRC Press, 2004.
5. Iqbal Husain, Electric and Hybrid Vehicles: Design Fundamentals, CRC Press, 2010

Theory: 45 Tutorial: 0 Practical: 0 Project: 0 Total: 45 Hours

Signature of the Chairman BOS EEE

KUMARAGURU
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Department of Information Technology

AY: 2017-18 **Date : 11.04.2018**

Action taken report -Alumni Feedback

S.No	Analysis	Action taken report
1.	Course workload to be balanced in all the semesters	**R17 Curriculum:** 1. Swapped Probability and Statistics and Linear Algebra with embedded lab. 2. Swapped DBMS and Principles of Communication 3. Swapped Principles of Compiler Design and Discrete Mathematics 4. Big Data Analytics offered in sixth semester **R18 Curriculum:** 1. Digital Logic and Microprocessor moved to 2nd semester.

Prepared by

BoS Coordinator

Approved by

BoS Chairman

CURRICULUM

SEMESTER – III										Pre-requisite
S.No	Course Code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17MAT3104	Discrete Mathematics	Theory	BS	3	1	0	0	4	-
2	U17ECT3011	Principles of Communication	Theory	ES	3	0	0	0	3	-
3	U17ITT3001	Computer Architecture	Theory	PC	3	0	0	0	3	-
4	U17ITI3202	Data Structures and Algorithms – I	Embedded - Theory & Lab	PC	3	0	2	0	4	-
5	U17ITI3203	Object Oriented Programming	Embedded - Theory & Lab	ES	3	0	2	0	4	-
6	U17INI3600	Engineering Clinic I	Embedded – Lab & Project	ES	0	0	4	2	3	-
								Total Credits	21	
								Total Contact Hours/week	26	

SEMESTER – IV										Pre-requisite
S.No	Course Code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17MAI4201	Probability and Statistics	Embedded - Theory & Lab	BS	3	0	2	0	4	-
2	U17ITT4001	Operating Systems	Theory	PC	3	0	0	0	3	-
3	U17ITI4202	Data Structures and Algorithms – II	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ITI3202
4	U17ITI4303	Database Management Systems	Embedded - Theory &Project	PC	3	0	0	2	4	-
5	U17ITI4204	Computer Networks	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ECT3011
6	U17INI4600	Engineering Clinic II	Embedded – Lab & Project	ES	0	0	4	2	3	-
								Total Credits	22	
								Total Contact Hours/week	29	

SEMESTER – V										Pre-requisite
S.No	Course Code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17ITT5001	Cryptography and Network Security	Theory	PC	3	0	0	0	3	U17ITI4204
2	U17ITI5202	Data Mining Techniques	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ITI4303, U17MAI4201
3	U17ITI5203	Mobile and Pervasive Computing	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ITI4204
4	U17ITI5304	Software Engineering	Embedded - Theory & Project	PC	3	0	0	2	4	-

5	U17ITE----	Professional Elective I	Theory	PE	3	0	0	0	3	-
6	U17-------	Open Elective	Theory	PE	3	0	0	0	3	-
7	U17INI5600	Engineering Clinic III	Embedded – Lab & Project	ES	0	0	4	2	3	-
								Total Credits	**24**	
								Total Contact Hours/week	**27**	

SEMESTER – VI										
S.No	**Course Code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	**Pre-requisite**
1	U17ITT6001	Information Security	Theory	PC	3	0	0	0	3	U17ITT5001
2	U17ITT6002	Internet of Things – Architecture and Protocols	Theory	PC	3	0	0	0	3	U17ITI4204
3	U17ITI6203	Web Technology	Embedded - Theory & Lab	PC	3	0	2	0	4	U17ITI3203
4	U17ITI6304	Big Data Analytics	Embedded - Theory & Project	PC	3	0	0	2	4	U17ITI5202
5	U17INI6600	Engineering Clinic IV	Embedded – Lab & Project	ES	0	0	4	2	3	-
6	U17-------	Open Elective	Theory	PE	3	0	0	0	3	-
								Total Credits	**20**	
								Total Contact Hours/week	**25**	

SEMESTER – VII										
S.No	**Course Code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	**Pre-requisite**
1	U17ITT7001	Social Media Marketing	Theory	HS	3	0	0	0	3	-
2	U17ITI7202	Cloud Computing	Embedded - Theory and Lab	PC	2	0	2	0	3	U17ITI4204
3	U17ITI7203	Machine Learning	Embedded - Theory and Lab	PC	3	0	2	0	4	U17ITI5202
4	U17INT7000	Professional Communication & Analytical Reasoning	Theory	HS	3	0	0	0	3	-
5	U17ITE----	Professional Elective II	Theory	PE	3	0	0	0	3	-
6	U17ITP7704	Project Phase I	Project	PW	0	0	0	6	3	-
								Total Credits	**19**	
								Total Contact Hours/week	**19**	

SEMESTER – VIII										
S.No	**Course Code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	**Pre-requisite**
1	U17ITP8701	Project Phase II	Project	PW	0	0	0	24	12	U17ITP7704
								Total Credits	**12**	
								Total Contact Hours/week	**0**	

Grand Total Credits: 161

LIST OF MANDATORY COURSES					
S.No	Course Code	Course Title	Course Mode	CT	Semester
1.	U17VEP3503	Human Excellence-Family Values	Lab	HS	3
2.	U17VEP4504	Human Excellence-Professional Values	Lab	HS	4
3.	U17INT5000	Constitution of India	Theory	MC	5
4.	U17VEP5505	Human Excellence-Social Values	Lab	HS	5
5.	U17VEP6506	Human Excellence-National Values	Lab	HS	6
6.	U17VEP7507	Human Excellence-Global Values	Lab	HS	7

PROGRAMME ELECTIVES									
S.No	Course Code	Course Title	Course Mode	CT	L	T	P	J	C
Data Analytics									
1.	U17ITE0001	Artificial Intelligence	Theory	PE	3	0	0	0	3
2.	U17ITE0002	Deep Learning	Theory	PE	3	0	0	0	3
3.	U17ITE0003	Data Visualization	Theory	PE	3	0	0	0	3
Cyber Security									
4.	U17ITE0004	Information Coding Techniques	Theory	PE	3	0	0	0	3
5.	U17ITE0005	Web Application Security	Theory	PE	3	0	0	0	3
6.	U17ITE0006	Biometric Systems	Theory	PE	3	0	0	0	3
7.	U17ITE0007	Blockchain Technology	Theory	PE	3	0	0	0	3
Network and IoT									
8.	U17ITE0008	Adhoc and Sensor Networks	Theory	PE	3	0	0	0	3
9.	U17ITE0009	Next Generation Networks	Theory	PE	3	0	0	0	3
10.	U17ITE0010	Software Defined Networks	Theory	PE	3	0	0	0	3
Other Electives									
11.	U17ITE0011	Distributed Systems	Theory	PE	3	0	0	0	3
12.	U17ITE0012	Principles of Compiler Design	Theory	PE	3	0	0	0	3
13.	U17ITE0013	Graphics and Multimedia	Theory	PE	3	0	0	0	3
14.	U17MAE0101	Partial Differential Equations and Transforms	Theory	BS	3	1	0	0	4

SEMESTER – II										Pre-requisite
S.No	Course Code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18MAI2201	Advanced Calculus and Laplace Transforms	Embedded - Theory & Lab	BS	3	0	2	0	4	U18MAI1201
2	U18PHI2201	Engineering Physics	Embedded - Theory & Lab	BS	3	0	2	0	4	-
3	U18CSI2201	PythonProgramming	Embedded - Theory & Lab	ES	2	0	2	0	3	U18CSI1201
4	U18ITI2201	Digital Logic and Microprocessor	Embedded - Theory & Lab	PC	3	0	2	0	4	U18EEI1201
5	U18ENI2201	Fundamentals of Communication II	Embedded - Theory	HS	2	0	2	0	3	U18ENI1201

			& Lab							
6	U18INI2600	Engineering Clinic II	Embedded - Lab& Project	ES	0	0	4	2	3	-
								Total Credits		21
								Total Periods per week		29

U18ITI2201 **DIGITAL LOGIC AND MICROPROCESSOR**

L	T	P	J	C
3	0	2	0	4

COURSE OUTCOMES

After successful completion of this course, the students should be able to

CO1: Demonstrate the knowledge of logic gates, Boolean algebra, minimization techniques and apply to design a combinational circuits

CO2: Analyse and design sequential circuits

CO3: Program 8086 for the given problems

CO4: Interface 8086 with peripheral devices

Pre-requisites :U18EEI1201 - BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

CO/PO Mapping (S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak													PSO		
COs	Programme Outcomes(POs)														
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	1	2	3
CO1	M	M	M		M							M	M		
CO2	M	M										M	M		
CO3	M	M	W		M							M	M		
CO4	M	M	W									M			

Course Assessment methods

Direct
1. Continuous Assessment Test I, II (Theory component) 2. Assignment, Group Presentation (Theory component) 3. Pre/Post - experiment Test/Viva; Experimental Report for each experiment (Lab component) 4. Model examination (Lab component) 5. End Semester Examination (Theory and Lab components)
Indirect
1. Course-end survey

Theory Component contents

COMBINATIONAL CIRCUITS **10 Hours**

Review of number systems - Logic gates: NAND, NOR gate as universal building blocks - Simplification of four-variable Boolean equations using Karnaugh maps - Half adder, Full adder, Half subtractor, Full subtractor - 4-bit parallel adder and subtractor - 3-bit binary decoder – Decimal to BCD encoder – 8-to-1 multiplexer, 1-to-8 Demultiplxer

SEQENTIAL LOGIC CIRCUITS **8 Hours**

Flip flops SR, JK, T, D and Master slave – Characteristic table and equation –Application table – Edge triggering –Level Triggering –Realization of one flip flop using other flip flops – Register – shift registers - Universal shift register .

DESIGN OF SEQUENTIAL CIRCUITS **9 Hours**

Design of synchronous sequential circuits: state diagram - State table – State minimization – State assignment. Counters: Synchronous Binary counters – Modulo n counter - Decade - BCD counters, Asynchronous counter, Ring counters.

8086 MICROPROCESSOR ARCHITECTURE AND INSTRUCTION SET **10 Hours**

Pin diagram - CPU architecture - Memory segmentation - Internal operations - Addressing modes -Instruction formats - Assembler instruction formats: Data transfer instructions, Arithmetic instructions, Logical instructions, Branch-and-loop instructions -- Interrupts: Software and Hardware interrupts, Software interrupt programming

PERIPHERAL CHIPS **8 Hours**

8255 (PPI), 8254 (Timer), 8257 (DMA), 8259 (PIC), 8251 (USART), 8279(Key Board Display Interface)

Theory: 45	Tutorial: 0	Practical: 0	Project: 0	Total: 45 Hours

LAB COMPONENT:

LIST OF EXPERIMENTS **30 Hours**

I. Digital Electronics

1. Implementation of Logic Circuits
2. Adder and Subtractor
3. Combinational Circuit Design
   a) Design of Decoder and Encoder
   b) Design of Code Converter
   c) Design of multiplexers and de multiplexers
4. Sequential Circuit Design
   a) Implementation of Shift registers, Serial Transfer
   b) 4-bit Binary Counter
   c) BCD Counter

II. Microprocessors

5. ALP Arithmetic programming
   a) Write an ALP to find out factorial of a given hexadecimal number using 8086 MP Data: OAH, OFH, 1OH
   b) Write an ALP to perform 16 bit arithmetic operations (ADD, SUB, MUL, DIV)
   c) Write an ALP to generate the sum of first 'N' natural numbers using 8086 MP
6. Sorting and Data Movement
   a) Write an ALP to order give set of hexadecimal numbers in ascending and descending order. Data: 0AH, 0FH, 0DH, 10H, 02H
   b) Write an ALP to move block of data from locations 1200H-1205H to 2200H – 2205H
   c) Write an ALP to reverse the given string Data: WELCOME
7. Write an ALP to generate square wave using 8255 PPI

8. Write an ALP to display the given message using 8279 PKI
9. Write an ALP to interface analog to digital converter.

Theory: 0	Tutorial: 0	Practical: 30	Project: 0	Total: 30 Hours

REFERENCES

1. M. Morris Mano, Digital Logic and Computer Design, 3rd Edition, Pearson Education, 2013.
2. Douglas V. Hall, Microprocessors and Interfacing, TMH, 2010.
3. Thomas L. Floyd, "Digital Fundamentals", Pearson Education, Inc, New Delhi, 2013
4. Yu-Cheng Liu, Glenn A. Gibson, Microcomputer Systems: The 8086/8088 Family, PHI, 2010.

Barry B. Brey, "The Intel Microprocessors: 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium, Pentium Pro Processor, Pentium II, Pentium III, Pentium 4 and Core2", Pearson, 2012.

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Department of Aeronautical Engineering

AY: 2017-18 **Date: 11.04.2018**

Action taken report -Alumni Feedback

S.No	Analysis	Action taken report
1	Heat Transfer course can be made as core subject	Will be considered in the next revision of Curriculum & Syllabi as suggested by member
2	In soft skills, presentation using basic macros and excel has to be taught	In soft skills, presentation using basic macros and excel has been taught.
3	Importance to be given for Java, Python, MATLAB basics	Python Programming and MATLAB are introduced

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

Proof for Action Taken: 3 Python Programming and MATLAB are introduced

Semester II										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18ENI2201	Fundamentals of Communication- II	Embedded-Theory & Lab	HS	2	0	2	0	3	U18ENI1201
2	U18MAI2201	Advanced Calculus and Laplace Transforms	Embedded-Theory & Lab	BS	3	0	2	0	4	U18MAI1201
3	U18CHI2201	Engineering Chemistry	Embedded-Theory & Lab	BS	3	0	2	0	4	-------
4	U18MET2003	Engineering Mechanics	Theory	ES	3	0	0	0	3	-------
5	U18CSI2201	Python Programming	Embedded-Theory & Lab	ES	2	0	2	0	3	U18CSI1202
6	U18AEI2201	Manufacturing Process	Embedded-Theory & Lab	PC	2	0	2	0	3	-------
7	U18INI2600	Engineering Clinic 2	Embedded-Practical & Project	ES	0	0	4	2	3	-------
								Total Credits	**23**	
								Total Contact Hours/week	**27**	

1. U18MAI1201 Linear Algebra and Calculus

Lab Component

List of MATLAB Programmes:

1. Introduction to MATLAB.
2. Matrix Operations - Addition, Multiplication, Transpose, Inverse
3. Rank of a matrix and solution of a system of linear equations
4. Characteristic equation of a Matrix and Cayley-Hamilton Theorem.
5. Eigenvalues and Eigenvectors of Higher Order Matrices
6. Curve tracing
7. Solving first order ordinary differential equations.
8. Solving second order ordinary differential equations.
9. Determining Maxima and Minima of a function of one variable.
10. Determining Maxima and Minima of a function of two variables.

2. U18MAI2201 Advanced Calculus and Laplace Transforms

Lab Component

List of MATLAB Programmes:

1. Evaluating double integral with constant and variable limits.
2. Area as double integral
3. Evaluating triple integral with constant and variable limits
4. Volume as triple integral
5. Evaluating gradient, divergence and curl
6. Evaluating line integrals and work done
7. Verifying Green's theorem in the plane

8. Evaluating Laplace transforms and inverse Laplace transforms of functions including impulse.
9. Heaviside functions and applying convolution.
10. Applying the technique of Laplace transform to solve differential equations.

3. U18AEI4202 Automatic Control Systems

Lab Component:

List of Experiments/Exercises

1. Analysis of Time Response of First-order and Second-order Systems in MATLAB.
2. Design of compensators for given specifications for control systems in MATLAB.
3. Analysis of longitudinal displacement autopilot for conventional transport aircraft in MATLAB.
4. Analysis of velocity (airspeed) control system (Auto-throttle) in MATLAB.
5. Analysis of Altitude hold mode of flight control system in MATLAB.
6. Analysis of coordination turn with Dutch roll damper and Sideslip elimination in MATLAB.
7. Analysis of Automatic Flare Control System in MATLAB.

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Department of Textile Technology

AY: 2017-18 **Date: 11.04.2018**

Action taken report –Alumni Feedback

S.No	Analysis	Action taken report
1.	Embedded course concept can be done	Embedded course introduced for yarn manufacture, Fabric manufacture and woven fabric structure and design
2.	Minor research project can be introduced	Project Phase I concept introduced

Approved by

Dr.Bharathi Dhurai

BoS Chair person

KUMARAGURU college of technology
character is life

Department of Textile Technology

AY: 2017-18 **Date: 11.04.2018**

Action taken report –Alumni Feedback

S.No	Analysis	Action taken report
1.	Embedded course concept can be done	Embedded course introduced for yarn manufacture, Fabric manufacture and woven fabric structure and design
2.	Minor research project can be introduced	Project Phase I concept introduced

Proof

Embedded course introduced for yarn manufacture, Fabric manufacture and woven fabric structure and design

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE – 641 049

REGULATIONS 2017

B.TECH TEXTILE TECHNOLOGY

CURRICULUM

Semester III										Pre-requisite
S.No	**Course code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	
1	U17MAT3103	Numerical Methods	Theory & Tutorial	BS	3	1	0	0	4	--
2	U17EII3203	Measurements and Instrumentation	Embedded - Theory & Lab	PC	3	0	2	0	4	--
3	U17TXT3001	Physical Properties of Textile Fibres	Theory	PC	3	0	0	0	3	--
4	U17TXI3202	Yarn Manufacturing Technology I	Embedded - Theory & Lab	PC	3	0	2	0	4	--
5	U17TXI3203	Computer Applications in Textiles	Embedded - Theory & Lab	PC	2	0	2	0	3	--
6	U17INI3600	Engineering Clinic I	Practical & Project	ES	0	0	4	2	3	--
								Total Credits	**21**	
								Total Contact Hours/week	**27**	

Semester IV										Pre-requisite
S.No	**Course code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	
1	U17MAT4104	Operations Research	Theory & Tutorial	BS	3	1	0	0	4	--
2	U17MET4007	Basics of Mechanical Engineering	Theory	ES	3	0	0	0	3	--
3	U17TXT4001	Yarn Manufacturing Technology II	Theory	PC	3	0	0	0	3	U17TXI3202
4	U17TXT4002	Fabric Manufacture -I	Theory	PC	3	0	0	0	3	--
5	U17TXI4203	Woven Fabric Structure and Design	Embedded - Theory & Lab	PC	3	0	2	0	4	--
6	U17TXP4504	Yarn Manufacturing Technology Lab	Lab	PC	0	0	2	0	1	U17TXI3202
7	U17TXP4505	Fabric Manufacture-I Lab	Lab	PC	0	0	2	0	1	--
8	U17INI4600	Engineering Clinic II	Practical & Project	ES	0	0	4	2	3	U17INI3600
								Total Credits	**22**	

Dr.J.Srinivasan

Signature of BOS chairman, TXT

Total Contact Hours/week	**28**

Semester V										Pre-requisite
S.No	**Course code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	
1	U17TXI5201	Fabric Manufacture-II	Embedded - Theory & Lab	PC	3	0	2	0	4	U17TXT4002
2	U17TXT5002	Mechanics of Textile Machinery	Theory	ES	3	0	0	0	3	--
3	U17TXT5003	Textile Chemical Processing-I	Theory	PC	3	0	0	0	3	U17TXT4002
4	U17TXT5004	Knitting Technology	Theory	PC	3	0	0	0	3	U17TXT4001
5	U17TXP5505	Textile Chemical Processing Lab-I	Lab	PC	0	0	2	0	1	U17TXT4002
6	U17TXE….	Professional Elective-I	Theory	PE	3	0	0	0	3	-
7	U17TXO5….	Open Elective-I	Theory	OE	3	0	0	0	3	-
8	U17INI5600	Engineering Clinic III	Practical & Project	ES	0	0	4	2	3	U17INI4600
								Total Credits	**23**	
								Total Contact Hours/week	**28**	

Project Phase I concept introduced

Semester VII										Pre-requisite
S.No	**Course code**	**Course Title**	**Course Mode**	**CT**	**L**	**T**	**P**	**J**	**C**	
1	U17TXT7001	Process Control in Spinning and Weaving	Theory	PC	3	0	0	0	3	U17TXT6003
2	U17TXT7002	Technical Textiles	Theory	PC	3	0	0	0	3	U17TXI5201
3	U17TXT7003	Textile and Apparel Costing	Theory	HS	3	0	0	0	3	U17TXT4001
4	U17TXE….	Professional Elective-IV	Theory	PE	3	0	0	0	3	-
5	U17TXP7504	Product Development and Characterization Lab	Lab	PC	0	0	2	0	1	U17TXP6504
6	U17TXP7505	Textile and Apparel CAD Lab	Lab	PC	0	0	2	0	1	U17TXI6201
7	U17TXP7706	Project - Phase I	Project	PR	0	0	0	6	3	U17INI6600
								Total Credits	**17**	
								Total Contact Hours/week	**22**	

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Department of Automobile Engineering

AY: 2017-18

Date: 11.04.2018

Action taken report - Alumni Feedback

S.No	Analysis	Action taken report
1	New curriculum to support courses related to higher studies/ Abroad institute should be implemented.	Student exchange program is encouraged through International Partnership Cell.
2	More industry exposure needed.	Internship is arranged from third year onwards.
3	TQM and Project management course to be offered as a compulsory course.	Included as a core course in VI semester. U17AUT6004- TQM and Project management.

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

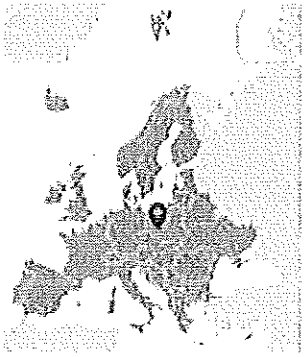
Vision of KCT International Partnerships

To actively internationalize the KCT through global partnerships for education, research and training preparing the students for global citizenship

We will achieve this vision as follows:

- Internationalizing the learning environment
- Offering International programs
- Enhancing International academic mobility
- Promoting International events
- Strengthening International research and graduate training
- Supporting Internationalization through service and outreach

Germany



KCT and International Network of Knowledge (IINK) sign MoU with RWTH Aachen

KCT and IINK have signed an MoU with RWTH Aachen University's International Academy represented by Shri. Shankar Vanavarayar and Dr. Helmut Dinger on May 23, 2016. The purpose of the memorandum is to build relations between the two partners in emphasizing the academic value of scientific interactions, and have agreed to initiate a visiting program for students to attend the International Summer School's in Engineering of RWTH Aachen University. The student exchange and academic-credit transfers have been detailed in the MoU.

SEMESTER 6

S.No	Course Code	Course Name	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U17AUI6201	Automotive Embedded Systems	Embedded - Theory & Lab	PC	3	0	2	0	4	U17AUI5201
2	U17AUI6202	Vehicle Dynamics	Embedded - Theory & Lab	PC	3	0	2	0	4	U17AUT5104
3	U17AUT6003	Hybrid and Electric Vehicles	Theory	PC	3	0	0	0	3	U17AUI5201
4	U17AUT6004	Total Quality Management and Project Management	Theory	HS	3	0	0	0	3	Nil
5	U17AUE__	Professional Elective - I	Theory	PE	3	0	0	0	3	Nil
6	U17___	Open Elective - II	Theory	OE	3	0	0	0	3	Nil
7	U17INI6600	Engineering Clinic IV	Embedded - Practical & Project	ES	0	0	4	2	3	U17INI5600
								Total Credits	23	
								Total Contact Hours/week	29	

SEMESTER 7

S.No	Course Code	Course Name	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U17AUI7201	Vehicle Maintenance and Reconditioning	Embedded - Theory & Lab	PC	2	0	2	0	3	U17AUI3201

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Department of Civil Engineering

AY: 2017-18 **11.04.2018**

Action taken report -Alumni Feedback

S.No	Analysis	Action taken report
1.	Flexibility must be given to choose the electives from various groups of electives.	Recommended for implementation in next regulation by offering domain based electives.
2.	Number of open electives can be reduced in numbers and other core courses can be introduced.	Recommended for implementation in next regulation by reducing one open elective courses.
3.	Course on Engineering Geology must be offered to facilitate the students to gain knowledge in this course.	U17CET2001 Engineering Geology and Construction Materials has been introduced in Curriculum
4.	Experimental Methods and Model Analysis can be offered as elective course.	P18SEE0006/ Experimental Methods and Model Analysis offered in R18 Curriculum

Prepared by,

BoS Coordinator

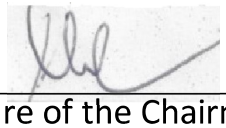
Approved by,

BoS Chairman

List of Mandatory courses

S.No	Couse Code	Course Title	Course Mode	CT	Sem
1	U18VEP1501	Human Excellence-Personal Values	Lab	HS	1
2	U18VEP2502	Human Excellence-Interpersonal Values	Lab	HS	2
3	U18VEP3503	Human Excellence-Family Values	Lab	HS	3
4	U18VEP4504	Human Excellence-Professional Values	Lab	HS	4
5	U18CHT4000	Environmental Science & Engineering	Theory	MC	4
6	U18VEP5505	Human Excellence-Social Values	Lab	HS	5
7	U18INT6000	Constitution of India	Theory	MC	6
8	U18VEP6506	Human Excellence-National Values	Lab	HS	6
9	U18VEP7507	Human Excellence-Global Values	Lab	HS	7

Professional Electives									
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C
Structural Engineering									
1	U18CEE0001	Concrete Technology	Theory	PE	3	0	0	0	3
2	U18CEE0002	Prefabricated Structures	Theory	PE	3	0	0	0	3
3	U18CEE0003	Design of Reinforced Concrete structures	Theory	PE	3	0	0	0	3
4	U18CEE0010	Prestressed Concrete structures	Theory	PE	3	0	0	0	3
5	U18CEE0011	Pre Engineered Buildings	Theory	PE	3	0	0	0	3
6	U18CEE0012	Earthquake Engineering	Theory	PE	3	0	0	0	3
Environmental & Water Resources Engineering									
1	U18CEE0004	Environmental Impact Assessment and Life Cycle Analysis	Theory	PE	3	0	0	0	3
2	U18CEE0005	Surface water Hydrology	Theory	PE	3	0	0	0	3
3	U18CEE0006	Air and Noise Pollution Control	Theory	PE	3	0	0	0	3
4	U18CEE0013	Industrial Wastewater Treatment	Theory	PE	3	0	0	0	3
5	U18CEE0014	Climate change and Sustainable Management	Theory	PE	3	0	0	0	3

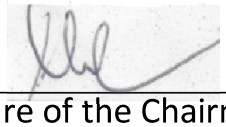


Signature of the Chairman
BOS/Civil Engineering

6	U18CEE0015	Waste Management	Theory	PE	3	0	0	0	3
Construction Management & Transportation Engineering									
1	U18CEE0007	Housing Planning and Management	Theory	PE	3	0	0	0	3
2	U18CEE0008	Intelligent Transportation Systems	Theory	PE	3	0	0	0	3
3	U18CEE0009	Sustainable Construction Methods	Theory	PE	3	0	0	0	3
4	U18CEE0016	Building Information Management	Theory	PE	3	0	0	0	3
5	U18CEE0017	Mass Transit Management	Theory	PE	3	0	0	0	3
6	U18CEE0018	Railways Airport Dock and Harbour Engineering	Theory	PE	3	0	0	0	3

Open Electives
(OFFERED TO STUDENTS OF OTHER DEPARTMENTS)

S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C
1	U18CEO001	Climate Change Impact on Water Resources	Theory	OE	3	0	0	0	3
2	U18CEO002	Fundamentals of Soil and Water Conservation Engineering	Theory	OE	3	0	0	0	3
3	U18CEO003	Green Building Concept and Design	Theory	OE	3	0	0	0	3
4	U18CEO004	Landscape Designing	Theory	OE	3	0	0	0	3
5	U18CEO005	Green Building Desing- Civil Engineering Focussed Tools and Techniques	Theory	OE	3	0	0	0	3
6	U18CEO0006	SUSTAINABLE TECHNOLOGIES AND CIRCULAR ECONOMY	Theory	OE	3	0	0	0	3



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PROOF NO .03

KUMARAGURU COLLEGE OF TECHNOLOGY
DEPARTMENT OF CIVIL ENGINEERING
Regulation 2017 - B.E CE - Curriculum

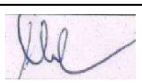
Semester I										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17ENI1201	English for Cognizance	Embedded - Theory & Lab	HS	1	0	2	0	2	Nil
2	U17CSI1211	Structured Programming using C	Embedded - Theory & Lab	BS	3	0	2	0	4	Nil
3	U17MAT1101	Linear Algebra and Calculus	Theory	BS	3	1	0	0	4	Nil
4	U17PHT1004	Physics for Civil Engineering	Theory	BS	3	0	0	0	3	Nil
5	U17CHT1003	Chemistry for Civil Engineering	Theory	BS	3	0	0	0	3	Nil
6	U17MET1101	Engineering Graphics	Theory	ES	2	1	0	0	3	Nil
7	U17PHP1501	Physics Laboratory	Lab	BS	0	0	2	0	1	Nil
8	U17MEP1501	Engineering Practices Laboratory	Lab	ES	0	0	2	0	1	Nil
9	U17VEP1501	Human Excellence - Personal Values	Lab	HS	0	0	2	0	1	Nil
								Total Credits	22	
								Total Contact Hours/week	27	

Semester II										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17ENE2201	Language Electives	Embedded - Theory & Lab	HS	1	0	2	0	2	U17ENI 1201
2	U17MAT2101	Advanced Calculus and Laplace Transforms	Theory	BS	3	1	0	0	4	U17MAT 1101
3	U17PHT2003	Material Science for Civil Engineering	Theory	BS	3	0	0	0	3	Nil
4	U17EET2012	Electrical and Electronics Engineering	Theory	ES	3	0	0	0	3	Nil
5	U17MET2102	Engineering Mechanics	Theory	ES	3	1	0	0	4	Nil
6	U17CET2001	Engineering Geology and Construction Materials	Theory	ES	3	0	0	0	3	Nil
7	U17CHP2501	Chemistry Laboratory	Lab	BS	0	0	2	0	1	Nil
8	U17CEP2501	Building Planning and Drawing	Lab	PC	0	0	2	0	1	Nil
9	U17ISR2001	Social Immersion Project	Lab	BS	0	0	2	0	1	Nil
10	U17VEP2502	Interpersonal Values	Lab	HS	0	0	2	0	1	Nil
								Total Credits	24	
								Total Contact Hours/week	31	

PROOF NO .04

List of Mandatory Audit Courses									Semester Offered
S.No	Course code	Course Title	Course Mode	L	T	P	J	C	
1	P18SEA0001	Disaster Management	Audit	3	0	0	0	0	2

List of Electives									Pre-requisite
S.No	Course code	Course Title	Course Mode	L	T	P	J	C	
1	P18INT0001	Research Methodology and Statistics	Theory	3	0	0	0	3	-------
2	P18SEE0001	Design of Bridges	Theory	3	0	0	0	3	-------
3	P18SEE0002	Design of Pre-Stressed Concrete Elements	Theory	3	0	0	0	3	P18SEI1202
4	P18SEE0003	Earthquake Resistant Design of Structures	Theory	3	0	0	0	3	P18SEI2202
5	P18SEE0004	Smart Materials for Construction	Theory	3	0	0	0	3	-------
6	P18SEE0005	Structural Health Monitoring	Theory	3	0	0	0	3	-------
7	P18SEE0006	Experimental Methods and Model Analysis	Theory	3	0	0	0	3	-------
8	P18SEE0007	Design of Plates, Shells and Spatial Structures	Theory	3	0	0	0	3	-------
9	P18SEE0008	Design of Structures for Dynamic Loads	Theory	3	0	0	0	3	P18SEI2202



Signature of BOS Chairman, CE

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Department of Computer Science and Engineering

AY: 2017-18 **Date: 11.04.2018**

Action Taken Report -Alumni Feedback

S.No	Analysis	Action Taken Report
1.	Alumni suggested to rename, modify and reduce the course content in the "Biology for computer science".	U18BTI2201 -Computational Biology course name modified as suggested.
2.	Suggested to include few experiments involving programming and tools.	Biology course syllabus modified to include tools wherever possible.

Prepared By

(Feedback/BoS Coordinator)

(Dr. D. Chandrakala)

Approved By

(Signature of Bos Chairman)

(Dr. J. Cynthia)

Professor & Head
Department of
Computer Science and Engineering
Kumaraguru College of Technology
COIMBATORE-641 006. INDIA

Proof ATR 1 & 2

U18BTI2201 **COMPUTATIONAL BIOLOGY**
(Common to CSE, IT)

L	T	P	J	C
3	0	2	0	4

COURSE OUTCOMES

AFTER SUCCESSFUL COMPLETION OF THIS COURSE, THE STUDENTS SHOULD BE ABLE TO

CO1: Understand the fundamentals of evolution theory, and classify the type of organisms [K3].
CO2: Draw and differentiate the type of cell organelles using functional characteristics [K3, S2]
CO3: Analyze and appraise the functional impact of biological macromolecules [K5, S2]
CO4: Understand the structural and functional characteristics of nucleic acids, differentiate the impact of biological information process, and evaluate the derangement of information flow due to mutation [K5]
CO5: Apply the fundamental concepts of pattern matching methods and interpret the alignment of biological sequences [K5, S2]
CO6: Understand, apply and evaluate the molecular phylogeny of biological sequences [K5, S2]

Pre-requisites :Nil

CO/PO MAPPING (S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak													CO/PSO Mapping		
COs	PROGRAMME OUTCOMES (POs)												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	S	S											M		
CO2	S	S										M	M		
CO3	S	S	M	M	M	S			S	S		S	S		
CO4	S	S				S						M	M		
CO5	S	S	M	S	S	M			S	S		S	S		
CO6	S	S		S	S	M			S	S		S	S		

COURSE ASSESSMENT METHODS

DIRECT
1. Continuous Assessment Test I, II (Theory component)
2. Open Book Test; Cooperative Learning Report, Assignment; Journal Paper Review, Group Presentation, Project Report, Poster Preparation, Prototype or Product Demonstration etc (as applicable) (Theory component)
3. Pre/Post - Experiment Test/Viva; Experimental Report for each Experiment (lab Component)
4. Model Examination (lab component)
5. End Semester Examination (Theory and lab components)

S. Murali
Signature of BOS chairman, CSE

INDIRECT
1. Course-end survey

THEORY COMPONENT CONTENTS

BASIS OF LIFE **9 Hours**

Origin of life–theory of evolution, Uniqueness of life on earth; Characteristics of living organisms,

Tree of life classification –archaea, prokaryotes,eukaryotes.

INTRODUCTION TO BIOMOLECULES AND CYTOLOGY **12 Hours**

Biomolecules (Carbohydrates, lipids and proteins, nucleic acids) – Functions; Cells and its organelles (plasma membrane, mitochondria, nucleus, Golgi apparatus) – structure and functions.

INFORMATION STORAGE AND TRANSFER **12 Hours**

Heredity and DNA; organization of DNA in cells; Genes and chromosomes; Central dogma of information transfer; transcription and Protein synthesis; Cell division and cell cycle. Mutation and cancer.

ANALYSIS OF DNA AND PROTEIN SEQUENCES **12 Hours**

Basics of Sequence analysis-Pairwise sequence alignment, Basic Local Alignment Search Tool, Multiple sequence alignment, Molecular phylogeny and evolution; High throughput Gene expression analysis.

Theory: 45	Tutorial: 0	Practical: 0	Project: 0	Total: 45 Hours

REFERENCES

1. Satyanarayan, U.,&Chakrapani, U.(1999) Ed. June 2017. Textbook of Biochemistry.
2. Verma, P. S., Agarwal,V. K., &Verma, P. S. (2007). *Cell biology, genetics, molecular biology, evolution and ecology*. S. chand &Company Limited.
3. Taylor,D.J.,Green,N.P.,Stout,G.W.,&Soper,R.(1997).*Biologicalscience*(Vol.983). Cambridge,United Kingdom: Cambridge University Press.
4. Campbell, N. A., Mitchell,L. G., Reece, J. B.,& Taylor, M. R. (2000).*Biology: concepts& connections* (No. QH308. 2 C35 1996). Benjamin/Cummings.
5. Rastogi, S. C., Rastogi, P., &Mendiratta, N. (2008). *Bioinformatics Methods And Applications: Genomics Proteomics And Drug Discovery3RdEd*. PHI Learning Pvt. Ltd..
6. Fumento, M. (2003).Bioevolution: how biotechnology is changing our world.

S. Murali.

Signature of BOS chairman, CSE

LAB COMPONENT CONTENTS

30 Hours

Wet Lab Experiments:

1. Isolation and Quantification of DNA byuv-vis method (MS-Excel: Calculation using simple regression equation and analysis of Karl pearson correlation coefficient values)
2. Quantification of protein by colorimetry/ Uv-vis method (MS-Excel: Calculation using simple regression equation and analysis of Karl pearson correlation coefficient values)
3. Qualitative analysis of carbohydrates (glucose, sucrose and starch)
4. Separation of cell organelles using centrifugation [DEMO]

***In silico* based Experiments:**

1. Retrieval of data from public biological databases
2. Sequence alignment using EMBOSS tool (Percent similarity finding method)
3. Sequence alignment using k-tuple method (BLAST or FASTA(Database search method using percent similarity).
4. Phylogenetic analysis using EMBOSS/ BLAST tool (Clustering sequence using percent similarity).
5. Development of a simple sequence analysis tool

Theory: 0	Tutorial: 0	Practical: 30	Project: 0	Total: 30 Hours

S. Sumali.

Signature of BOS chairman, CSE

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Department of Electronics & Instrumentation Engineering

AY: 2017-18 11.04.2018

Action taken report - Alumni Feedback

S.No	Analysis	Action taken report
1.	Introduction to machine learning and deep learning shall be included	Included in the course DSP and Deep learning. Also, an elective Artificial Intelligence and machine learning is planned to offer as an elective.
2.	To include the word 'International' in the mission statement	The word global platform (International) is added in the mission statement.
3.	The Title for the elective course U17EIE0012 should be renamed to System identification, Modelling and Simulation	The course U17EIE0012 - Modelling and simulation is renamed as System identification, Modelling and Simulation as per the suggestion from BOS members.

Prepared by

V. Manimekalai AP-EIE

BoS Coordinator

Approved by

BoS Chairman

Proof for ATR point No. 1

U17EII6202 **DIGITAL SIGNAL PROCESSING AND DEEP LEARNING**

L	T	P	J	C
3	0	2	0	4

Course Outcomes (CO):

After Successful completion of this course, the students will be able to :

CO 1: Understand the characteristics of discrete-time signals and discrete systems
CO 2: Analyze signal / system properties using mathematical tools
CO 3: Apply and develop algorithms for digital systems
CO 4: Illustrate efficient computation of DFT
CO 5: Discuss advanced features and architecture of generic P-DSP
CO 6: Design FIR and IIR filters

Pre-requisite: U17EII4203- Modelling and Analysis of Dynamic Systems.

COs	PO												PSO	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	M													
CO2		S											S	
CO3			S											S
CO4	S													
CO5				S										
CO6	M													

Course Assessment Methods:	
Direct	**Indirect**
• Internal Tests • Assignment • Model Lab Exam • End Semester Theory & Practical Exam	• Course Exit Survey

Course Content:

DISCRETE TIME SIGNALS AND SYSTEMS **9 Hours**

Representation of a CT signal by samples – Sampling theorem – Reconstruction of a signal from its samples – Aliasing – DT Signals – Impulse, Step, Pulse, Sine, Exponential – Properties of DT signals - Transformation of independent variable – Shifting, scaling, folding - Discrete Time LTI systems – Properties – Impulse response – Convolution sum – Properties of Convolution

Z-TRANSFORM AND SYSTEM ANALYSIS **9 Hours**

DTFT – Properties - Z transform – Forward Transform - Inverse Transform using Partial Fractions - Properties – Pole-Zero plot – Difference Equations - Transfer function - Analysis of Discrete Time systems using DTFT and Z Transform.

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DISCRETE FOURIER TRANSFORM **9 Hours**

Introduction to DFT– Properties of DFT – Efficient computation of DFT – FFT algorithms – Introduction to Radix-n algorithms - Radix-2 FFT – Decimation-in-Time and Decimation–in-Frequency algorithms – Butterfly diagram.

DESIGN OF DIGITAL FILTERS **9 Hours**

FIR filter design: Linear phase characteristics - Windowing Technique –Rectangular, Hamming, Hanning, Blackmann windows – IIR filter design: Analog filter design - Butterworth and Chebyshev approximations – Impulse invariance and Bilinear transformations - FIR and IIR filter structures – Direct form I and II - cascade and parallel forms – Finite Precision effects.

ADVANCED TOPICS IN DSP AND MACHINE LEARNING **9 Hours**

Concepts of multi-rate signal processing – Decimation and interpolation by integer factor – Sampling rate conversion – Introduction to DSP architecture - Harvard, Modified Harvard architectures –Machine learning – AI revolution – Block chain – Using AI to augment human intelligence.

List of Experiments:

1. Matlab Primer – 1D and 2D array manipulations
2. Signal generation and sampling analysis
3. Audio signal – Frequency domain analysis
4. Audio capture and processing
5. Design of filters – FIR
6. Design of filters - IIR
7. Noise removal using filtering of audios
8. Implementation of simple neural networks
9. Implementation of neural networks with hidden layers
10. Simple regression applications.

Theory Hours: 45	**Practical Hours: 30**	**Total Hours: 75**

References:

1. Mrinal Mandel and Amir Asif, "Continuous and Discrete Time Signals and Systems", Cambridge International Student Edition, Cambridge University Press, 2007.
2. Leonard Eddison, "Machine Learning – A technical approach to machine learning for beginners", 2017
3. JohnG.ProakisandDimitrisG.Manolakis, "DigitalSignalProcessing,Principles AlgorithmsandApplications",PHI, 3rdEdition.2000.
4. B. Venkataramani, M. Bhaskar, "Digital Signal Processors, Architecture, Programming and Applications", Tata McGraw Hill, New Delhi, 2003. (Unit V)
5. JohnyR.Johnson,"IntroductiontoDigitalSignalProcessing",PHI, 2009.
6. Won Y. Yang et. Al., "Signals and Systems with MATLAB", Springer International Edition, 2009
7. Steven W. Smith, "The Scientists and Engineer's Guide to Digital Signal Processing", California Technical Publishing, 1997.
8. James H. McClellan, Ronald W. Schafer, Mark A. Yoder, "Signal Processing First", 2nd Edition

BOS Chairman

Proof for ATR Point 2

Department of Electronics and Instrumentation Engineering

VISION

The Department of Electronics and Instrumentation Engineering (EIE) envisions a holistic education that transforms the learners into responsible engineers which shall enable them to identify significant problems both in industry and society to arrive at creative and sustainable solutions through collaborative team efforts.

MISSION

The Department of Electronics and Instrumentation Engineering (EIE) aims to

- Implement modern andragogical approach in academics, innovative research initiatives and collaborative projects that shall ethically address the societal needs.
- Develop knowledge and skills required to excel in manufacturing, automation and allied industries on a global platform.
- Expand the knowledge for higher studies and get inspired for lifelong learning.

Program Educational Objectives (PEOs)

Graduates of B.E (Electronics and Instrumentation Engineering) will

PEO 1	Excel in technical and professional career with core competence in automation.
PEO 2	Possess the passion for professional development by continuous learning in allied Engineering and Management fields.
PEO 3	Engage in resolving industrial and social issues using contemporary tools.
PEO 4	Exhibit professionalism and ethical attitude towards resolving automation issues to society at large.

Program Outcomes (POs)

Graduates of B.E (Electronics and Instrumentation Engineering) will be able to:		
PO 1	***Engineering Knowledge***	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to solve complex engineering problems.
PO 2	***Problem Analysis***	Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO 3	***Design / Development of Solutions***	Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO 4	***Conduct Investigations of Complex Problems***	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO 5	***Modern Tool Usage***	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO 6	***The Engineer and Society***	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

BOS Chairman

Proof for ATR point No 3

U17EIE0012 **SYSTEM IDENTIFICATION, MODELLING AND SIMULATION**

L	T	P	J	C
3	0	0	0	3

Course Outcomes (CO):

After Successful completion of this course, the students will be able to :

CO1: Choose the correct model structure

CO2: Design inputs (probe signals) for identification

CO3: Estimate the non-parametric and parametric models

CO4: Perform the data pre-processing for identification

Pre-requisite: Nil

COs	PO												PSO	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	S						W						S	
CO2		M			S									M
CO3	S	S			M								S	
CO4		M												

Course Assessment Methods:	
Direct	**Indirect**
• Internal Tests • Assignment • End Semester Theory	• Course Exit Survey

Course Content:

MODELS OF DETERMINISTIC LTI SYSTEMS **9 Hours**

Discrete-time convolution models, response-based models, difference equation descriptions, transfer function and state-space models, discretization. Stochastic processes: Review (auto- and cross-correlation functions, white- noise process and ARMA models).

BASICS OF ESTIMATION THEORY **9 Hours**

Estimators, bias and variance, convergence, consistency, asymptotic distribution of parameter estimates. Generic estimation methods: Ordinary least squares, Variants of LS methods, Maximum Likelihood Estimation.

INPUT-OUTPUT MODELS FOR IDENTIFICATION: **9 Hours**

non-parametric (step, impulse and frequency response) and parametric models (ARX, ARMAX, OE, B-J).Prediction: one-step ahead prediction, k-step ahead predictors, simulation

IDENTIFICATION OF NONPARAMETRIC AND PARAMETRIC MODELS:9Hours

Estimation of impulse response and frequency response functions; prediction-error minimization (PEM) methods, correlation methods, instrumental variable (IV) methods. Statistical and Practical Aspects: time-delay estimation, diagnostics for model quality checks, residual analysis, model validation, and handling drifts, outliers and missing data; input design.

IDENTIFICATION OF STATE-SPACE MODELS: **9 Hours**

Kalman filter, subspace identification methods, Grey-box modeling. Advanced topics:

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Recursive and closed-loop identification..

Theory Hours: 45	Practical hours : 0	Total Hours: 45

TEXT BOOKS:

1. System Identification: Theory for the User , 2nd Edition, Prentice Hall by Lennart Ljung, 1999.
2. System Identification: An Introduction , 2011by Karel J. Keesman, Springer
3. Mastering System Identification in 100 Exercises –2012 by Johan Schoukens , Wiley-IEEE Press
4. Principles of System Identification: Theory and Practice Hardcover –2014 by Arun K. Tangirala, CRC Press
5. The Elements of Statistical Learning: Data Mining, Inference, and Prediction, Second Edition –2017by Trevor Hastie, Springer.

BOS Chairman

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Department of Fashion Technology

AY: 2017-18

Action taken report -Alumni Feedback

Date : 11.04.2018

S.No	Analysis	Action taken report
1.	The content of the course apparel production planning should be modified and more content related cut order planning.	The content cut order planning is added in the updated syllabus of U17FTT6001 Apparel production planning and control.
2.	The course fabric technology has weaving and knitting components. It should be provided as two separate courses.	The content of the fabric technology can be modified as given as two courses namely U17FTT3001 weaving technology and U17FTT5003 knitting technology.
3.	The engineering clinic should be made relevant core area.	Most of the projects given to students in engineering clinic from semester III is from core area.

PreparedBy,

BoS Coordinator

Approved By,

BoS Chairman

Sl.No:1 The topic cut order planning is added in the course U17FTT6001 Apparel production planning and control.

U17FTT6001: APPAREL PRODUCTION PLANNING AND CONTROL

Course Outcomes

After successful completion of this course, the students should be able to

CO1	Explain the basic techniques of production planning & control in garment industry	K3
CO2	Choose production system for apparel industry based on style and quantity of merchandise	K5
CO3	Prepare and analyze the flow process grids, control forms and scheduling charts for production control in apparel industry	K4
CO4	Decide the suitable cut production analysis for various garment quantities	K4
CO5	Determine the capacity planning and line balancing techniques to achieve balanced production	K3
CO6	Update modern tools and methods of production planning and control	K2

Pre Requisite

U17FTT4001 Apparel Machinery and Equipment

CO/PO Mapping

(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak

COs	Programme Outcomes(POs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO1	S								M				S	
CO2		S	M						M		S		M	
CO3		S		S	S				M	S	M		S	
CO4		S		S	S				M				S	
CO5		S			S				M	M	S		S	
CO6	S	S		S	M				M	M	S		S	

Course Assessment methods

Direct	Indirect
1. Internal tests 2. Assignment 3. Group Presentation 4. End Semester Exam	1. Course Exit Survey

Course Content

PRODUCTION PLANNING AND CONTROL **9 Hours**

Definition, Objectives and functions ofproduction planning and productioncontrol, Functions of PPC in garment industry. Pre-production functions, Importance of Preproduction function, Product development - steps from prototype to production sample. Lead Time, Product data management,Order quantity to shipment quantity.

PLANNING IN CUTTING **9 Hours**

Cut order planning –

typesofspreads,spreadingmethods,markerutilization,economiccutquantities. Control forms in cutting department- cutting order, bundle ticket, bundlecontrolsheet.

APPAREL PRODUCTION SYSTEMS **3 Hours**

Section Production systems – wholegarmentproductionsystem,Progressivebundlesystem,Unitproductionsystem,Multipleflowsystem,modularmanufacturingsystems–theiradvantages anddisadvantages. Guide lines for choosing suitableproduction system.

FLOWPROCESSGRIDSANDCHARTS **6 Hours**

Operation Break Down and Production Sequence, Identification Of Bottle Necks And Critical Area, Operation Wise Machinery Allocation, Usage Of Special Attachments And Tools For Operation Simplifications, Production Grid And Flow Chart.

PRINCIPLES OF SCHEDULING **4 Hours**

Scheduling charts – GANTTchart,SchedulingtechniquesNetworkrepresentation– CPMandPERTTime&Action calendar

LINEBALANCING **5 Hours**

Determinationandallocationofmanpower andmachinesforbalancedproductioninexistingplantfora giventarget,applicationoflinebalancingtechniques– balancecontrol.

PLANT LOADING AND CAPACITY PLANNING **5 Hours**

Production line loading planning, Factory Capacity planning ,Determinationofmachinerequirements fora new factory -calculation of labor requirements

PRODUCTION CONTROL **4 Hours**

Production control forms, Modern Methods in Cut Piece Distribution and Tracking in different Manufacturing Systems, Production planning softwares.

Theory: 45 Tutorial: 0 Practical: 0 Project: 0 Total: 45 Hours

REFERENCES

1. GargR.K,andSharmaV.,"ProductionPlanningandControlManagement",DhanpatRaiPublishing,2003.
2. Jacob Solinger, "Apparel Production Handbook", ReinholdPublications,1998.
3. Telsang (Martand) "Industrial Engineering and Production Management" S. Chand & Company Limited, 2008
4. RajeshBheda"ManagingProductivityofApparelIndustry" CBIpublishersanddistributors,NewDelhi2002.
5. DavidJTyler,"MaterialManagementinClothingProduction",PrenticeHall,Newjersey,1991.
6. Churter, A.J., "Introduction to Clothing Production Management", Oseney Mead,2001
7. CarrHarold,LathamBarbara,"TheTechnologyofClothingManufacture",OmBookService, 2004.

Sl.No: 2 Two courses are introduced.

U17FTT3001 WEAVING TECHNOLOGY

COURSE OUTCOMES

After successful completion of this course, the students should be able to:

CO1	Acquaint with the objectives and acquire knowledge of working principles of machinery used for preparation of yarn for weaving	K2
CO2	Describe the working principle of beam preparatory machines for weaving.	K2
CO3	Acquire knowledge in the selection of sizing ingredients for different fibres.	K4
CO4	Understand the objectives and working principles of shuttle and shuttleless looms	K2
CO5	Develop knowledge in the selection of suitable preparatory processes for weaving	K4
CO6	Acquire knowledge on parameters for quality control in the preparatory processes and weaving.	K2

Pre Requisite:

1. U17FTT1001 Fibre Science
2. U17FTT2001 Yarn Technology
3. U17FTP1501 Fibre Analytical Laboratory

CO/PO Mapping

(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak

COs	Programme Outcomes(POs)												PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	S	S												
CO2	S	S												
CO3		S											M	W
CO4		S											W	M
CO5		S	S		S								M	M

Course Assessment methods

Direct	Indirect
1. Internal tests 2. Assignment 3. Group Presentation 4. End Semester Exam	1.Course Exit Survey

YARN PREPARATION FOR WEAVING **9 Hours**

ProcessFlow–objectives of winding; principles of cheese and cone winding Machines; concepts in yarn clearing – mechanical, optical and electronic clearers; knotters and splicers; Yarn quality requirements for weaving.

BEAM PREPARATION FOR WEAVING **9 Hours**

Objectives of warping, material flow in beam warping and creels used in warping machines; sectional warping machines.

objectives of sizing; sizing materials and recipes used for different types of fibers; sizing machines; control systems used in sizing machine; sizing filament yarns; concept of single end sizing

SHUTTLE WEAVING **9 Hours**

Objectivesandworkingprinciples– primary, secondary and auxiliary motions; Types of looms – Handloom, Non-automatic, Semi-automatic and Automatic looms; Drop box looms; Terry loom, mechanisms of Tappet, Dobby and Jacquard weaving.

SHUTTLELESS WEAVING **9 Hours**

Basic principles of various shuttleless weaving machines – Projectile, Rapier, Air-jet, Water-jet, Multi-phase; productivity and techno-economics of these machines.

PROCESS CONTROL IN WEAVING **9 Hours**

Process and quality control measures in pirn winding, cone winding, beam warping, sectional warping, sizing, and weaving. Computerised fabric inspection, Loom data system.

TOTAL: 45Hours

REFERENCES

1. AllanOrmerod,WalterS.Sondhelm,Weaving-TechnologyandOperations, TextileInstituteP ub., 1995.
2. LordP.R.andMohammed,Weaving:Conversionofyarntofabric, M.H. MerrowPub.CoLtd.,U.K.,1998.
3. Talukdar,Introductiontowindingandwarping,MahajanPub. (P)Ltd., 1998.
4. Talukdar, Wadekar and Ajgaonkar, Sizing–Materials, methods and machines, 2nd edition,Mahajan P ub. (P)Ltd.,1998.
5. Gokarneshan N., Weaving Preparation Technology, Abhishek Pub., 2009
6. Talukdar, SriramuluandAjgaonkar, Weaving–Machines, Mechanisms,Management, MahajanPub. (P) Ltd.,1998

L	T	P	J	C
3	0	0	0	3

U17FTT5003 KNITTING TECHNOLOGY

Course Outcomes

After successful completion of this course, the students should be able to

CO1	Recognize the weft knitted fabric production processes	K2
CO2	Outline the structure and properties of various weft knitted fabrics	K3

CO3	Acquire know ledge on the structure and properties of various advanced weft knitted fabrics	K3
CO4	Recognize the structure and properties and in warp knitting	K3
CO5	Recognize the Latest developments in warp knitting	K3
CO6	Acquire knowledge on the application of knitted structures for Technical Textiles	K3

Pre Requisite:

U17FTT2001 Yarn Technology

CO/PO Mapping

(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak

COs	Programme Outcomes(POs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PS01
CO1	S	M											M	M
CO2	S	M											M	M
CO3	S	M	W										M	M
CO4	S	M	W										M	M
CO5	S	M											M	M
CO6	S	M												

Course Assessment methods:

Direct	Indirect
1. Internal tests 2. Assignment 3. Group Presentation 4. End Semester Exam	1.Course Exit Survey

PRINCIPLE OF WEFT KNITTING: 9 Hours

Comparison of Weaving and Knitting and nonwoven-Terms anddefinitionsinweft knitting –Knitting elements-Needle sand its types,sinker, camKnitting action of latch, bearded and compound needles. –Working principle andpassage of Yarn in circular and Flat knitting machine -Classifications of knitting machines.-Comparison of Plain, circular rib,andinterlock fabrics and machines. - Yarn quality for knitting.-selection of weft knitted fabrics

WEFT KNIT STRUCTURES: 9Hours

Classificationof weft knit structures,-Symbolic and diagrammatic representation of weft knit structures.- Comparison of single jersey, rib and interlock and purl structures-comparison knit, tuck, float Stitches–unconventional stitches –Single jersey derivatives,

accordion, check and stripe effect.- Rib derivativesderbyribandSwiss rib, royal rib, polka rib- Rib gated structures Milano Rib,Doublepiqueand Pique poplin.- Knitted fabric Geometry Kc, Kw, Ks, R-knitted fabric defects-quality control

ADVANCED WEFT KNIT STRUCTURES: 9 Hours

Eight lockstructure, Interlock gated structures Singlepique, Ponte-di-Roma and Ottoman rib. - Derivatives of purl structure cross purl and basket purl - Blister fabrics – Introduction to Jacquard structures- socks knitting- flat bed knitting- weft knitting calculations for GSM and production- Latest developments in Weft knitting machines and fabrics, -Principles of seamless garment manufacture in circular and flat knitting- Application of weft knitted structures in technical textiles

WARP KNITTING BASICS : 9 Hours

Comparison of warp and weft knitting-basic warp knitting elements, knitting cycle-tricot, Rachel machines Comparison of tricot and Rachel Warp knitting –Basic stitches-pillar, blindlap,tricot, inlay, satin and atlas stitches.

WARP KNIT STRUCTURES 9 Hours

Fulltricot, lock knit and loop raised fabrics. Basic RaschelWarpKnit structures-power nets, curtains and laces. – Latest developments in warp knitting machines. Warp knitting calculations for GSM, production- Application of warp knitted structures in technical textiles

Theory: 45 Tutorial: 0 Practical: 0 Project: 0 Total: 45 Hours

REFERENCES

1. DavidSpencer.,"KnittingTechnology",PergamonPress,Oxford2005
ISBN**(13):** 9781855733336

2.AnbumaniN, "Knitting – Fundamentals, Machines, Structures and Developments",NewAgeInternationalPublishers,2 0 1 0 .**ISBN(13):**978-81-224-1954-2

3AjgaonkarDB, "Principles ofKnitting", Universal Publishing Corporation, Mumbai, 1998, **ISBN**: 81-85027-34-X.

4. Chandrasekhar Iyer, Bernd Mammel and Wolfgang Schach., "Circular knitting", Meisenbach GmbH, Bamberg, 1995, **ISBN**: 3-87525-066-4.

KUMARAGURU
college of technology
character is life

KCT
BUSINESS SCHOOL

Department of Management Studies

AY: 2017-18 **Date: 30.03.2018**

Action taken report -Alumni Feedback

S.No	Analysis	Action taken report
1.	Practical knowledge should be increased and to be supported with	Retail field visits were initiated for better understanding as part of the Course. Case Study based learning was made a norm
2.	Courses on Operations/Finance should be strengthened conceptually and spectrum of courses are to be increased	Courses on Operations/Finance were enhanced and approved in Board of Studies
3.	Professional Development Course to be more activity based for enhancing the communication skills	Knowledge Hive was initiated and Debates on current topics and experience sharing by placed alumni was organized as Pre-placement talks

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

KUMARAGURU COLLEGE OF TECHNOLOGY
KCT BUSINESS SCHOOL
COIMBATORE - 49

Proof of Action Taken

1. Proof of Retail Visits Initiated

P17BAEEM03	Retail Management	4 Credits		
Objectives	1. Describe and analyse the way retailing works 2. Apply effective methods and strategies required for retail management. 3. Analyze and evaluate the economies of Store operations, visual merchandising and customer behaviour 4. Understand and contemplate latest retail technologies that drives the present and future			
Pre–req Courses	None			
Contents	**Topics**	**No.of sessions**	L	P
	Understanding Retailing: Retailer's Role, Relevance, and Functions & Trends. Types of modern retail institutions: By ownership, Store based, Non Store based, Web based – Omni channel retailing	**5**	5	0
	Retail Store Operations: Everyday Operations of a Retail Store, Store recording and accounting system - Category management - Assortment planning – Store logistics - Servicing the retail customer - POP and POS marketing	**12**	6	6
	Visual Merchandising: Experience Shopping - Types of Stores Layout –Store Design and Display- Image and visual mix - Thematic Communication - Graphics, Signage - Consumer analysis through Neuro marketing – techniques.	**14**	6	8
	Technology in Retail: Customer Tracking, Bar coding, PDA, RFID, GPS and GIS, Near Field Communication, Visual Stores.	**6**	4	2
	Retail hyper Markets:, Concept of Life style shopping - Managing Malls - Mall positioning strategies – Strategic location planning - Footfall measurement- Tenant management- Compliance and Issues– - Tenant mix – Measuring mall performance	**13**	5	8
	Industry Analysis and Trends: Fashion and apparel retailing, Food retailing, Super market retailing.	**5**	2	3
	E-commerce in Retail : Internet of things – SMAC - Mobile and social engagement – chat- bot technology - Intelligent automation – platform economy – predictable disruption – Digital trust	**5**	2	3
	Total hours	**60**	**30**	**30**
Course outcomes	1. Demonstrate the understanding of holistic retail management 2. Identify and examine critical functional areas of retail management 3. Develop retail plans for competitive decision making			
Reference Books	1. Bajaj, Chetan, Tuli, Rajnish and Srivastava, Nidhi; Retail Management; OUP; New Delhi 2. Berman, Barry & Evans, Joel R.; Retail Management – A strategic approach; Pearson Education 3. Levy, Michael & Weitz, Barton A.; Retailing Management; Tata McGraw Hill; New Delhi			
Pedagogy and Assessment	Pedagogy: Discussions, cases, Retail Plan Study for a select retail outlet Assessments: Retail plan report, presentations, tests, end semester exam			
Course Design	Dr.V.Kaarthiekheyan			

2. Proof of Enhancement of Courses on Operations/Finance

P17BAEEF01	Commercial Banking			4 credits
Objectives	1. Introduce the concept of banking and its varied products. 2. Overview on asset liability management of banks. 3. Highlight the fee based services and corporate banking 4. Outline the types of risk and mitigation strategies and the credit appraisal criteria.			
Pre-requisite Courses	None			
Content	Topics	No.of sessions	L	P
	Money - Banks and bankers. Commercial banking - Overview – Functions- commercial banking in India- banking in modern era, Small Banks, Payment Banks - Customer relationship. Retail banking- Type of consumer loans- evaluation- credit analysis-credit scoring and consumer credit regulations.	8	4	4
	Deposit products in India and abroad – types of bank deposits, computation of interest on deposits- composition of bank deposits. Loan Pricing – objectives, methodology, pricing models, priority sector lending.	10	5	5
	Asset Liability Management in Banks, Reading and interpreting bank Balance Sheet – BASEL CAR Norms, CIBIL.	10	5	5
	Fee based services – L/C, Bank guarantees, subsidiary services, modern banking services- Challenges and prospects for modern banking. Corporate banking – nature - development in corporate banking- Consortium finance.	8	4	4
	General appraisal criteria – Characteristics of credit- credit appraisal and analysis- principles of lending. Credit assessment- Fund & Non fund based limits. Credit disbursal & monitoring – NPA Assessment & provisioning- Recovery procedures.	8	4	4
	Payment and Collection of Cheques and Other Negotiable Instruments - NI Act; Role & Duties of Paying & Collecting Banks - Technology in Banking – Core Banking solutions- payment systems and Electronic banking -Data Communication Network and EFT systems – security considerations – IT act.	8	4	4
	Lending – principles and Credit Monitoring - Cardinal Principles; Non-fund Based Limits; estimation of WC; Term Loans; Credit Appraisal Techniques; Credit Monitoring & Its Management; Base Rate -Priority Sector Advances – Recent Developments	8	4	4
	Total Hours	60	30	30
Learning Outcomes	1. Explain the concept of banking and its varied products. 2. Examine the credit appraisal techniques used by banks. 3. Appraise asset liability management of selected banks.			
Reference Books	IIBF - Principles and practices in banking - 3rd edition- Macmillan education,			
Pedagogy and Assessment	Pedagogy: Lectures, Discussion , cases, Bank visit Assessment: MCQ tests, Case Based Assignments / Paper Presentation/ MOOC, Credit Transfer (IIBF) , End semester exam			
Course Design	Dr.S.Sangeetha			

P17BAEEF03	Accounting for Banking*		4 credits		
Objectives	1. Introduce the concept and accounting standards 2. Familiarize with the procedures bank l accountancy 3. Understand the importance of bill of exchange and BRS 4. Familiarizing the final accounts of banking companies and its operations.				
Pre req Course	Pre requisite course: Bridge course – Accounting				
Content	**Topics**		**No.of sessions**	L	P
	PRINCIPLES OF BOOKKEEPING & ACCOUNTANCY: Definition, Scope and Accounting Standards:Nature and Purpose of Accounting; Origins of Accounting Principles; Accounting Standards in India; Transfer Pricing; Overview of IFRS; Difference between GAAP & IFRS.		**2**	2	0
	Basic Accountancy Procedures:Concepts, Maintenance of Cash / Subsidiary Books and Ledger Record Keeping Basics; Account Categories; Debit and Credit Concepts; Accounting and Columnar Accounting Mechanics; Journals; Ledgers; subsidiary books.		**6**	3	3
	Bank Reconciliation Statement:Need; Causes of Differences; Preparation. Adjusting the Cash Book Balance. Trial Balance, Features and Purpose, Types and Preparation Disagreement; Classification of Errors; Location of Errors; Rectification of Errors; Suspense Account, Adjusting and Closing Entries. Capital and Revenue Expenditure. Distinction. Deferred Revenue Expenditure; Receipts; General Illustrations.		**6**	3	3
	Bills of Exchange: Types of Instruments of Credit; Term and Due Date of a Bill; Certain Important Terms; Accounting Entries to be Passed; Accommodation Bill .		**4**	3	1
	FINAL ACCOUNTS : Balance Sheet Equation; Computation of Balance Sheet Equation - Preparation of Final Accounts ;		**11**	5	6
	Ratio Analysis: Meaning, Classification, Uses, Limitations of Accounting Ratios; Calculation and interpretation.		**13**	6	7
	Final Accounts of Banking Companies: Definition and Functions of a Bank; Requirements – Accounts and Audit. Significant Features; Principal Books of Accounts; Preparation and Presentation of Financial Statements of Banks; CMA Format; Accounting Treatment of Specific Items; Preparation of Profit and Loss Account; Comments on Profit and Loss Account; Important Items of Balance Sheet; Disclosure Requirements of Banks; Additional Disclosures prescribed by RBI; Disclosures required under BASEL norms.		**18**	8	10
		Total hours	**60**	**30**	**30**
Learning Outcomes	1. Understand the concepts and accounting standards. 2. Construct Bills of exchange, Bank Reconciliation Statement and Final Accounts. 3. Compare and evaluate the performance of public and private sector banks.				
Reference Books	IIBF (2015), Accounting & Finance For Bankers - 3rd edition- Macmillan education				
Pedagogy and Assessment	Pedagogy: Lecture, Discussion and problem solving Assessment: Problem based Assignments, MCQ tests, end semester exam				
Course Design	Dr.V.R.Nedunchezhian				

P17BAEEF05	Legal & Regulatory Aspects of Banking*			4 credits
Objectives	1. Provision of required level of basic knowledge in banking and financial services, 2. Provide an overview of banking technologies, 3. Understanding basic accountancy and legal aspects necessary for carrying out day to day banking operations			
Pre-requisite Courses	Commercial banking			
Content	Topics	No.of sessions	L	P
	Regulations and Compliance Legal Framework of Regulation of Banks - Business of Banking; Constitution of Banks; RBI Act, 1934; Banking Regulation Act, 1949; Role of RBI; Govt. as a Regulator of Banks; Control over Cooperative Banks; Regulation by other Authorities.	4	4	0
	Legal Aspects Of Banking Operations Different Types of Borrowers - Types of Borrowers - Limited Liability Partnership -Types of Credit Facilities -Cash Credit, Overdraft, Demand Loans, Term Loans, Bill Finance	9	4	5
	Secured and Unsecured Loans -Definition of Secured and Unsecured loans; Need for Secured Loans; Registration of Firms; Consequences of Non-registration of Firms; Incorporation of a Company –Indemnities - Definition of Contract of Indemnity; Features of Indemnity Contract & Guarantee; Scope and Application of Indemnity Contracts to Banks; Obligations of a Banker; Precaution & Rights of an Indemnity Holder	11	6	5
	Bank Guarantees -Definition and Types of Bank Guarantees; Banker's Duty to Honour Guarantee - Precautions to be taken for Issuance of Bank Guarantee; Precautions to be taken for Payment under Bank Guarantee; Invocation & Enforcement. Letters of Credit -General Considerations of Letters of credit; Parties to a Letter of credit; Types of Letters of credit; Documents under a Letter of credit; UCPDC 600; Banks obligation for payment of Letter of credit. Deferred Payment Guarantees -Purpose of DPGs; Methods of Payment	20	8	12
	Laws Relating to Bill Finance Class of Bills and Laws Governing Bills; Classification of Bills; Categories of Bill Finance; Bill Finance and Legal Position of Banker Various Types of Securities -Types of Securities; Escrow Arrangements; Trust and Retention Arrangement - Recent amendments-Case Studies.	16	8	8
	Total Hours	60	30	30
Learning Outcomes	1. Outline the regulatory and compliance of banks. 2. Classify the bank guarantees and letter of credit. 3. Discuss the various laws related to different types of bills.			
Reference Books	IIBF (2015) ,Legal and Regulatory Aspects of Banking - 3rd edition- Macmillan education			
Pedagogy and Assessment	Pedagogy: Lecture, Discussion, cases Assessment: Case studies, MCQ tests, end semester exam			
Course Design	Dr.V.R.Nedunchezhian			

*credit transfer option will be given (students will attend the classes and take the continuous assessments. The End semester exam may be taken with CoE of KCT or IIBF. IIBF marks will be converted to grades and submitted to CoE). This option was offered for the above three courses

<table>
<tr><td>P17BAEEO04</td><td colspan="2">Total Quality Management</td><td colspan="3">4 credits</td></tr>
<tr><td>Objectives</td><td colspan="5">1. Provide knowledge on various quality concepts
2. Introduce TQM concept and the techniques used for improving quality
3. Demonstrate cost of non-quality in an organisation
4. Discuss ISO related quality certification systems</td></tr>
<tr><td>Pre–req Courses</td><td colspan="5">Operations management</td></tr>
<tr><td rowspan="7">Contents</td><td colspan="2">Topics</td><td>No.of session</td><td>L</td><td>P</td></tr>
<tr><td colspan="2">Introduction - Definition – TQM framework, benefits, awareness and obstacles: Quality – vision, mission and policy statements: Customer Focus – customer perception of quality, Dimensions of product and service quality – Introduction to SERVQUAL</td><td>8</td><td>4</td><td>2</td></tr>
<tr><td colspan="2">Overview of the contributions – Philosophies of Deming, Juran Crosby, Masaaki Imai, Feigenbaum, Ishikawa - Concept of Quality circle - Cost of quality</td><td>10</td><td>6</td><td>4</td></tr>
<tr><td colspan="2">TQM Framework - culture, Leadership – quality council, employee involvement, motivation, empowerment, recognition and reward.</td><td>12</td><td>8</td><td>4</td></tr>
<tr><td colspan="2">Tools & Techniques - Kaizen, 5S, Quality function deployment (QFD) – Benefits, Voice of customer, information organization, Building a House of Quality (HOQ) , Bench marking and Poka-Yoke</td><td>8</td><td>6</td><td>2</td></tr>
<tr><td colspan="2">Quality Management – Definition - Dimensions of quality - Cost of quality - TQM Framework -7QC Tools - Statistical Process Control – Variable and Attribute charts Quality Management system certifications – International quality standards – ISO 9000, ISO 14000 – ISO Audit in organisation and implementation</td><td>24</td><td>6</td><td>18</td></tr>
<tr><td colspan="2">Total hours</td><td>60</td><td>30</td><td>30</td></tr>
<tr><td>Course outcomes</td><td colspan="5">1. Explain the concept of TQM and cost of quality
2. Analyse process quality through quality management tools and techniques
3. Recommend a quality control system for improving process and product quality</td></tr>
<tr><td>Reference Books</td><td colspan="5">• R. Ramakrishnan, 2005, Total Quality Management, Eswar Press
• James Evans, Ninth edition, Total Quality Management, Rex Bookstore, Inc.</td></tr>
<tr><td>Pedagogy and Assessment</td><td colspan="5">Learning: Lectures, Class Discussion, study visits for SPC, 7QC tools and ISO documentation
Assessments: Study report, presentations, quiz, tests, end semester exam</td></tr>
<tr><td>Course Design</td><td colspan="5">Dr.R.Vinayagasundaram</td></tr>
</table>

4. Initiation of K-Hive

K-Hive 1st warm up run

SR

kctbs2017-19@googlegroups.com
on behalf of
SHANKARA PRABU R <shankaraprabu.ramaraju@gmail.com>
Sat 9/8/2018 5:03 PM
To:

- kctbs2017-19@googlegroups.com;
- kctbs2018-20@googlegroups.com

Cc:

- Gokilavani Rajagopal <gokilavani@kctbs.ac.in>

Dear Friends,

As a part of Knowledge Hive initiative, we are ready with our first warm up run towards knowledge sharing and learning process.

We strongly believe in peer to peer knowledge sharing and we hope you also stand by that.

At this moment I like to thank Ms. Gokilavani mam for giving us the platform to explore and exceed. And we welcome you all to join hands with us

Date : 10 Sep 2018, Monday
Timing : 3.45 pm to 4.45 pm
Venue : LT 1

"some major jargon's of an economy is LEGAL TENDERS and derivatives of money" HAVE YOU EVER THOUGHT ABOUT HOW MONEY ORIGINATES AND HOW IT ATTAINS VALUE?

Come let's know about that

Thanks and Regards,
Team K-Hive

KUMARAGURU
college of technology
character is life

DEPARTMENT OF COMPUTER APPLICATIONS

AY: 2017-18 **Date: 11.04.2018**

Action taken report -Alumni Feedback

S.NO	ANALYSIS	ACTION TAKEN REPORT
1.	Teachers can be appointed as a part of curriculum development committee. Suggestions from all faculties regarding curriculum revision can be considered. Inputs can be taken for revision of syllabus.	Each Department has the Board of Studies (BoS) meeting twice a year. Feedback given by the subject teachers were put forward tothe committee for consideration and theirrecommendations wereimplemented
2.	Distributed Systems can be renamed as Big Data Framework or Analytics.	Course named as P17CAT4102 Big Data Analytic was introduced.
3.	Instead of having separate subjects like Data Analysis using R, Time Series Analysis, Health Care ,acourse on Domain Analytics can be introduced with the introduction of various domain analytics like healthcare, Spatial, Retail etc.	Course P17CAE0011 - Domain Analytics was Introduced.

PreparedBy,

BoS Coordinator

Approved By,

BoS Chairman

Proof for Action Taken 2: Big Data Analytic was introduced.

P17CAT4102	BIG DATA ANALYTICS	L	T	P	J	C
		3	1	0	0	4

Course Outcomes

After successful completion of this course, the students should be able to

CO1: Identify the need for big data analytics for a domain.
CO2: Use Hadoop and Map Reduce framework.
CO3: Apply big data analytics for a given problem.
CO4: Suggest areas to apply big data to increase business outcome.
CO5: Analyze real-time data and to apply in various domain.

Pre–requisite courses:
Nil

DIRECT
1. Continuous Assessment Test I, II 2. Assignment , Group Presentation 3. Demonstration etc (as applicable) 4. End Semester Examination
INDIRECT
1.Course-end survey

INTRODUCTION TO BIG DATA	8 Hours
Introduction to Big Data Platform – Challenges of Conventional Systems – Intelligent Data Analysis – Nature of Data – Analytic Processes and Tools – Analysis Vs Reporting – Modern Data Analytic Tools.	

MINING DATA STREAMS	6 Hours
Introduction to Streams Concepts – Stream Data Model and Architecture – Stream Computing – Sampling Data in a Stream – Filtering Streams. Case Studies – Real Time Sentiment Analysis, Stock Market Predictions.	

HADOOP CONCEPTS	7 Hours
History of Hadoop – The Hadoop Distributed File System (HDFS) – Components of Hadoop – Analyzing the Data with Hadoop – Scaling Out – Hadoop Streaming – Design of HDFS – Java Interfaces to HDFS Basics.	

MAP REDUCE	7 Hours
Developing a Map Reduce Application – Working of Map Reduce – Anatomy of a Map Reduce Job run – Failures – Job Scheduling – Shuffle and Sort – Task Execution – Map Reduce Types and Formats – Map Reduce Features.	

HADOOP ENVIRONMENT	8 Hours
Setting up a Hadoop Cluster – Cluster Specification – Cluster Setup and Installation – Hadoop Configuration – Security in Hadoop – Administering Hadoop – Hadoop Distributed File System – Monitoring – Maintenance – Hadoop Benchmarks – Hadoop in the Cloud.	

FRAMEWORKS	9 Hours

Applications on Big Data Using Pig and Hive – Data Processing Operators in Pig – Hive Services – HiveQL – Querying Data in Hive – Fundamentals of HBase and ZooKeeper .
Theory: 45 Hours **Tutorial: 15 Hours** **Total: 60 Hours**
REFERENCES
1. Tom White, "Hadoop: The Definitive Guide", 3rd Edition, O'reilly Media, 2012. 2. Chris Eaton, Dirk DeRoos, Tom Deutsch, George Lapis & Paul Zikopoulos, "Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data", McGrawHill Publishing, 2012. 3. Bill Franks,"Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams with Advanced Analytics", JohnWiley&Sons, 2012. 4. PeteWarden, "Big Data Glossary", O'Reilly, 2011. 5. Zikopoulos, Paul & Chris Eaton, "Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data", Tata McGraw Hill Publications, 2011

Proof for Action Taken 3: - Introduced Domain Analytics Course

P17CAE0011	DOMAIN ANALYTICS	L	T	P	J	C
		3	0	0	0	3

Course Outcomes

After successful completion of this course, the students should be able to

CO 1: Know the data acquisition, transformation and visualization of the data.
CO 2: Understand the need for data visualization in the organization.
CO 2: Identify and evaluate appropriate data analytics techniques to be used healthcare.
CO 3: Understand the components of the social network.
CO 4: Know various social network data and communities.
CO 5: Apply mining algorithms in social network data.

Pre–requisite : Nil

COURSE ASSESSMENT METHODS

DIRECT
1.Continuous Assessment Test I, II
2.Assignment; Group Presentation
3.End Semester Examination

INDIRECT
1.Course-end survey

DATA VISUALIZATION	**7 Hours**
Visualization Data Sets – Visualization Data Types – Visual Vs Data Dimensions – Data Visualization Tools – Multidimensional Data Visualization Tools – Hierarchical and Landscape Data Visualization Tools.	
JUSTIFYING AND PLANNING THE DATA VISUALIZATION	**6 Hours**
Classes of Projects – Project Justifications – Closed Loop Business Model – Project Resources and Roles – Case Study.	
HEALTHCARE DATA ANALYTICS	**5 Hours**
Introduction - Healthcare Data Sources and Basic Analytics - Advanced Data Analytics - Applications and Practical Systems- Components of EHR - Coding Systems - Benefits of HER - Barriers to Adopting HER - Challenges of Using EHR Data	
SOCIAL NETWORK ANALYSIS	**9 Hours**
Introduction to Web - Limitations of current Web – Development of Semantic Web – Emergence of the Social Web – Statistical Properties of Social Networks -Network analysis - Development of Social Network Analysis - Key concepts and measures in network analysis - Discussion networks - Blogs and online communities - Web-based networks.	
MODELING AND VISUALIZATION	**9 Hours**
Visualizing Online Social Networks - A Taxonomy of Visualizations - Graph Representation - Centrality- Clustering - Node-Edge Diagrams - Visualizing Social Networks with Matrix-Based Representations- Node-Link Diagrams - Hybrid Representations - Modelling and aggregating social network data – Random Walks and their Applications –Use of Hadoop and Map Reduce - Ontological representation of social individuals and relationships.	
MINING COMMUNITIES	**9 Hours**

Aggregating and reasoning with social network data, Advanced Representations – Extracting evolution of Web Community from a Series of Web Archive - Detecting Communities in Social Networks - Evaluating Communities – Core Methods for Community Detection & Mining - Applications of Community Mining Algorithms - Node Classification in Social Networks.

Theory: 45 **Tutorial: -Total Hours: 45 Hrs**

REFERENCES

1. Chandan K. Reddy and Charu C. Aggarwal, "Healthcare Data Analytics", CRC Press, 2015
2. Hui Yang and Eva K. Lee, "Healthcare Analytics – From Data to Knowledge to Healthcare Improvement", John Wiley & Sons, 2016.
3. Andy Kirk, "Data Visualization: A Successful Design Process", 1st Edition, Pearson, 2012.
4. Ajith Abraham, Aboul Ella Hassanien — Computational Social Network Analysis: Trends,Tools and Research Advancesl, Springer, 2012
4. BorkoFurht, —Handbook of Social Network Technologies and Applications, Springer, 1st edition, 2011

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Department of Mechanical Engineering

AY: 2017-18 **Date: 11 – 04 – 2018**

Alumni Feedback

It is suggested to use the Engineering clinics course to solve complex Mechanical Engineering Problems.

Prepared By,

Dr.M.Balaji

BoS Coordinator

Approved By,

Dr.V..Muthukumaran

BoS Chairman

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Department of Mechanical Engineering

AY: 2017-18 **Date: 11 – 04 – 2018**

Alumni Feedback analysis

1. It was suggested to use the Engineering clinics course to solve complex Mechanical Engineering Problems – **Response:** The suggestion is taken well into account and the purpose of this course is to integrate various domain knowledge (Ex. Sensors, motors, programming the controllers, etc.,)

Prepared By,

Dr.M.Balaji

BoS Coordinator

Approved By,

Dr.V.Muthukumaran

BoS Chairman

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AY: 2017-18 **Date: 11 – 04 – 2018**

Action taken report - Alumni Feedback

S.No	Analysis	Action taken report
1.	It is suggested to use the Engineering clinics course to solve complex Mechanical Engineering Problems	Engineering clinics is conducted with Interdisciplinary teams working on various projects to provide solutions for problems by integrating sensors and microcontrollers.

Prepared By,

Dr.M.Balaji

BoS Coordinator

Approved By,

Dr.V.Muthukumaran

BoS Chairman

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AY: 2017-18 **Date:(1.8.17)**

Action taken report -Alumni Feedback

S.No	Analysis	Action taken report
1.	Suggested to include few advanced topics related to U15MCT502 Control engineering.	Controller tunning was included in the course.
2.	The committee also suggested to include green concepts in U15MCT603 Thermo dynamics and heat Transfer course	It was included in the U15MCT603 Thermo dynamics and heat Transfer

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

Proof 1:

PROCESS CONTROL **12Hours**

Process definition, equation and dynamics - Discontinuous and continuous controllers- Realization of both the controllers using Electronics and pneumatics- Tuning of controller: Ziegler-Nicholas PID controller tuning- **Special controllers**: feed forward, ratio, cascade control and adaptive control.

Proof 2:

CONVECTION AND RADIATION **9 Hours**

Convection: Basic Concepts – Heat Transfer Coefficients – Boundary Layer Concept – Types of Convection – Forced Convection – External Flow and Internal Flow.

Radiation: Basic Concepts, Laws of Radiation – Stefan Boltzman Law, Kirchoffs Law – Black Body and Grey body radiation.