



## DEPARTMENT OF BIOTECHNOLOGY

Action Taken Report - "Students Feedback"  
Academic Year 2018-2019

Date: 15-Apr 2019

S.No	Suggestions	Action Taken
1.	Application level question can be discussed and included after each module	Question with higher-order thinking are included in the assessment
2.	Concepts of Manufacturing can be included	Manufacturing practices and related topics are part of all Chemical Engineering and Pharma-related subjects

Prepared by  
BOS Coordinator

Approved by  
Chairman BOS



## MID TERM EXAMINATION (Nov –2018)

(Regulation 2018)

### GENERAL INSTRUCTIONS TO THE CANDIDATES

1. Candidates are instructed to answer the questions as per Revised Bloom's Taxonomy knowledge level ( $K_1$  to  $K_6$ )
2. Candidates are strictly instructed not to write anything in the question paper other than their roll number.
3. Candidates should search their pockets, desks and benches and handover to the Hall Superintendent/ Invigilator if any paper, book or note which they may find therein as soon as they enter the examination hall.
4. Candidates are not permitted to bring electronic watches with memory, laptop computers, personal systems, walkie-talkie sets, paging devices, mobile phones, cameras, recording systems or any other gadget / device /object that would be of unfair assistance to him / her.
5. Corrective measures as per KCT examination policies will be imposed for malpractice in the hall.

### FIRST SEMESTER

### M.TECH - BIOTECHNOLOGY

### P18BTI1202: Bioprocess Modeling and Simulation

#### **COURSE OUTCOMES:**

CO1:	Conceptualize mathematical and engineering concepts in bioprocess modelling and simulation
CO2:	Identify and analyze mathematical model in biochemical engineering systems
CO3:	Educate the appropriate selection of components in SuperPro Designer

**Time: Two Hours**

**Maximum Marks: 50**

#### Answer all the Questions:-

#### PART A (5x 1 = 5 Marks)

#### (Multiple Choice Questions)

1.	Substances that are mixed together but are not chemically combined are called	[CO <sub>3</sub> K <sub>1</sub> ]
	a) Mixture	b) Solution
	c) Solute	d) Solvent
2.	Assertion: A dependent variable is what you measure in the experiment and what is affected during the experiment	[CO <sub>2</sub> K <sub>2</sub> ]



	Reason: You cannot have a dependent variable without an independent variable		
	a) Both A and R are Individually true and R is the correct explanation of A	b) Both A and R are Individually true but R is not the correct explanation of A	
	c) A is true but R is false	d) A is false but R is true	
3.	Process in which the dependent variable are kept uniform and varying only the independent variable is _____		[CO <sub>1</sub> K <sub>2</sub> ]
	a) Lumped Parameter Process	b) Distributed Parameter Process	
	c) Static Process	d) Fundamental Process	
4.	SI Unit of Volumetric flowrate is		[CO <sub>3</sub> K <sub>1</sub> ]
	a) m <sup>3</sup> /s	b) m/s <sup>-1</sup>	
	c) m/s	d) m <sup>2</sup> /s <sup>-1</sup>	
5.	Among them is not a material used in affinity chromatography 1. Avidin-Biotin 2. Glutathione 3. Nucleic Acid 4. Sephacryl		[CO <sub>3</sub> K <sub>2</sub> ]
	a) 1 and 2 only	b) 3 and 4 only	
	c) 3 only	d) 4 only	
<b>PART B (5x 2 = 10 Marks) (Short Answers)</b> <b>(Answers not exceed 40 words)</b>			
6.	Enlist the types of mathematical equations		[CO <sub>1</sub> K <sub>1</sub> ]
7.	Differentiate static and dynamic model with an example		[CO <sub>1</sub> K <sub>2</sub> ]
8.	Illustrate the various operational stages in bioprocess with the unit operations associated with it.		[CO <sub>1</sub> K <sub>2</sub> ]
9.	What are the main reason in channeling in column chromatography?		[CO <sub>3</sub> K <sub>3</sub> ]
10.	Enumerate the problems associated with the scale-up of fermentation process		[CO <sub>3</sub> K <sub>2</sub> ]

**PART C (5 x 5 = 25 Marks)**  
**(Answers not exceed 150 words)**

11.	State the significance of Thiele modulus and effectiveness factor	[CO <sub>2</sub> , K <sub>2</sub> ]
12.	Derive a modeling equation for the non-isothermal CSTR when the volume of the reactor (V) remains constant.	[CO <sub>2</sub> K <sub>3</sub> ]
13.	In a fermentation process involving production of enzyme, what is advantage of employing batch process over the continuous operation?	[CO <sub>3</sub> K <sub>5</sub> ]
14.	How would you define biomass in a pure component library?	[CO <sub>3</sub> K <sub>2</sub> ]
15.	"Freeze-drying is viewed as the optimal method of choice for dehydration because of the preservation of quality" - Justify the statement.	[CO <sub>3</sub> K <sub>4</sub> ]

**PART D (1 x 10 = 10 Marks)**  
**(Answers not exceed 300 words)**

16.	Derive a mathematical model for the Ideal Binary distillation column with 15 trays, a reboiler and a partial condenser. Assumptions: A) A partially vapourized feed of 1-propanol and ethanol is fed at the 5 <sup>th</sup> tray of the column B) Liquid hold-up varies at each tray. C) Each tray is assumed to be ideal (100 % efficient)	[CO <sub>2</sub> K <sub>4</sub> ]
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**U18BTT6001**

**BIOPHARMACEUTICAL  
TECHNOLOGY**

**L   T   P   J   C**  
**3   0   0   0   3**

**Course Objective**

- To understand the importance of regulatory affairs in drug control, standards and drug manufacture process.

**Course Outcomes**

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

**CO1** : Outline National, International drug Standards, Control and pharmacopoeia commission

**CO2** : Describe the principles of drug action and mechanism of action

**CO3**: Discuss and obtain knowledge on the drug development, manufacture process and Regulatory practices

**CO4** : Understand the importance of biopharmaceutical final products production using upstream downstream process and ensure the quality of the product analysis

**CO5** : Explain the principles and materials involved during the drug manufacture in pharmaceutical industries

**CO6** : Discuss the clinical uses of biopharmaceutical therapeutics

**Pre-requisites : Nil**

<b>CO/PO Mapping</b> (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	PSO1	PSO2
CO1	S		M		M						M			
CO2	M		M								M	S	S	
CO3	M		S		M							S	S	S
CO4			M								M	M	S	S
CO5	M			S									S	S
CO6	M	S		S										S

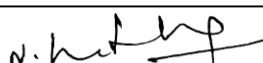
**Course Assessment methods**

<b>Direct</b>
1. Continuous Assessment Test
2. Assignment
3. End Semester Examination

**DRUG CONTROL AND STANDARDS**

**8 Hours**

Drug standards, regulation and control organizations: National agencies (Central Drug Standards and Control Organization (CDSCO); Indian Pharmacopoeia commission (IPC); Drugs Controller General of India (DCGI) and Indian Council for Medical Research (ICMR). International agencies (WHO guidelines on medicines policy; Food and Drug Administration (FDA); New Drug Application (NDA); Medicines and Healthcare products Regulatory Agency (MHRA).

  
 Signature of BOS chairman, BT



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**Department of Electrical and Electronics Engineering**

**AY: 2018-19**

**date: 11-12-2018**

**Action taken report -Students Feedback**

S.No	Analysis	Action taken report
1.	Language Lab and computer programming lab need to be enhanced.	Included language courses on English U18ENI1201- Fundamentals of Communication-I & II and computer programming course U18CSI1202- Problem solving and Programming using C & Python in R18 regulation
2.	Python programming to be introduced in the curriculum.	Python Programming is included in R18 regulation U18CSI12201- Python Programming
3.	Internet of Things (IOT) with both theory / lab component can be included.	U18EEE0008 internet of things along with practical components is Included in R18 as elective course
4.	Programmable Logic Controllers (PLC) course with both theory / lab component to be included.	PLC automation course is included In R17 & R18 regulation
5.	Embedded system lab can be included with Real time embedded coding.	U18EEI6201-Embedded system theory with practical components is Included in R18 regulation

Prepared By,

Dr.V.Kandasamy

**BoS Coordinator**

11/12/18

Approved By,

Dr.K.Malarvizhi


**BoS Chairman**

**Proof for Action Taken: 1** - Included language courses on English U18ENI1201- Fundamentals of Communication-I & II and computer programming course U18CSI1202- Problem solving and Programming using C & Python in R18 regulation

**KUMARAGURU COLLEGE OF TECHNOLOGY  
B.E ELECTRICAL AND ELECTRONICS ENGINEERING  
CURRICULUM  
REGULATIONS 2018**

SEMESTER I										
S. No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U18MAI1201	Linear Algebra and Calculus	Embedded-Theory & Lab	BS	3	0	2	0	4	-
2	U18PHI1201	Engineering Physics	Embedded-Theory & Lab	BS	3	0	2	0	4	-
3	U18CSI1202	Problem solving and Programming using C	Embedded-Theory & Lab	ES	2	0	2	0	3	-
4	U18MEI1201	Engineering Graphics	Embedded-Theory & Lab	ES	2	0	2	0	3	-
5	U18ENI1201	Fundamentals of Communication-I	Embedded-Theory & Lab	HS	2	0	2	0	3	-
6	U18INI1600	Engineering Clinic 1	Embedded-Practical & Project	ES	0	0	4	2	3	-
									<b>Total Credits</b>	<b>20</b>
									<b>Total Contact Hours/week</b>	<b>28</b>

SEMESTER II										
S. No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U18MAI2201	Advanced Calculus and Laplace Transforms	Embedded-Theory & Lab	BS	3	0	2	0	4	U18MAI1201
2	U18CHI2201	Engineering Chemistry	Embedded-Theory & Lab	BS	3	0	2	0	4	-
3	U18ENI2201	Fundamentals of Communication-II	Embedded-Theory & Lab	HS	2	0	2	0	3	-
4	U18CSI2201	Python Programming	Embedded-Theory & Lab	ES	2	0	2	0	3	-
5	U18EEI2201	Electric Circuit Analysis	Embedded-Theory & Lab	PC	3	0	2	0	4	-
6	U18INI2600	Engineering Clinic 2	Embedded-Practical & Project	ES	0	0	4	2	3	-
									<b>Total Credits</b>	<b>21</b>
									<b>Total Contact Hours/week</b>	<b>29</b>



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**Proof for Action Taken: 2** - Python Programming is included in R18 regulation U18CSI12201- Python Programming

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**CURRICULUM**  
**REGULATIONS 2018**

SEMESTER I										
S. No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U18MAI1201	Linear Algebra and Calculus	Embedded-Theory & Lab	BS	3	0	2	0	4	-
2	U18PHI1201	Engineering Physics	Embedded-Theory & Lab	BS	3	0	2	0	4	-
3	U18CSI1202	Problem solving and Programming using C	Embedded-Theory & Lab	ES	2	0	2	0	3	-
4	U18MEI1201	Engineering Graphics	Embedded-Theory & Lab	ES	2	0	2	0	3	-
5	U18ENI1201	Fundamentals of Communication-I	Embedded-Theory & Lab	HS	2	0	2	0	3	-
6	U18INI1600	Engineering Clinic 1	Embedded-Practical & Project	ES	0	0	4	2	3	-
									<b>Total Credits</b>	<b>20</b>
									<b>Total Contact Hours/week</b>	<b>28</b>

SEMESTER II										
S. No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	Pre-requisite
1	U18MAI2201	Advanced Calculus and Laplace Transforms	Embedded-Theory & Lab	BS	3	0	2	0	4	U18MAI1201
2	U18CHI2201	Engineering Chemistry	Embedded-Theory & Lab	BS	3	0	2	0	4	-
3	U18ENI2201	Fundamentals of Communication-II	Embedded-Theory & Lab	HS	2	0	2	0	3	-
4	<b>U18CSI2201</b>	<b>Python Programming</b>	Embedded-Theory & Lab	ES	2	0	2	0	3	-
5	U18EEI2201	Electric Circuit Analysis	Embedded-Theory & Lab	PC	3	0	2	0	4	-
6	U18INI2600	Engineering Clinic 2	Embedded-Practical & Project	ES	0	0	4	2	3	-
									<b>Total Credits</b>	<b>21</b>
									<b>Total Contact Hours/week</b>	<b>29</b>


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**Proof for Action Taken: 3** - U18EEE0008 internet of things along with practical components is Included in R18 as elective course

**U18EEE0008**

**INTERNET OF THINGS**

**L T P J C**  
**2 0 2 0 3**

#### COURSE OUTCOMES

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

- |            |   |           |
|------------|---|-----------|
| <b>CO1</b> | Outline the Internet of Things Architecture, Sensor, Actuators and Networking | <b>K2</b> |
| <b>CO2</b> | Summarize various hardware and software elements of IoT                       | <b>K2</b> |
| <b>CO3</b> | Outline the various associated technologies of IoT                            | <b>K2</b> |
| <b>CO4</b> | Illustrate IoT for different Commercial and Industrial applications.          | <b>K2</b> |
| <b>CO5</b> | Model the IoT application   | <b>K3</b> |

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									
CO3					S									
CO4					S									
CO5					S								S	S

#### COURSE ASSESSMENT METHODS

Direct
<ol style="list-style-type: none"> <li>Continuous Assessment Test I, II</li> <li>Model Examination (For Practical Courses &amp; Embedded Courses)</li> <li>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)</li> <li>End Semester Examination</li> </ol>
Indirect
<ol style="list-style-type: none"> <li>Course End Survey</li> <li>Programme Exit Survey</li> <li>Placement/Higher Education Record</li> <li>Feedback (Students, Employers, Parents, Professional Body members, Alumni)</li> </ol>

#### THEORETICAL COMPONENT CONTENTS:


##### Introduction to IoT

**8 hours**

Architectural Overview, Design principles and needed capabilities, IoT Applications, Sensing, Actuation, Basics of Networking, M2M and IoT Technology Fundamentals- Devices and gateways, Data management, Business processes in IoT, Everything as a Service(XaaS), Role of Cloud in IoT, Security aspects in IoT.

##### Elements of IoT

**9 Hours**


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Hardware Components- Computing (Arduino, Raspberry Pi), Communication, Sensing, Actuation, I/O interfaces.

Software Components- Programming API's (using Python/Node.js/Arduino) for Communication Protocols-MQTT, BLE, CoAP, UDP, TCP, LoRa WAN.

#### **Associated Technologies**

**8 Hours**

Introduction to SDN-SDN for IoT, Data Handling and Analytics, Cloud Computing-Cloud Computing, Fog Computing-Edge Computing, Li-Fi.

#### **APPLICATIONS**

**5 Hours**

Smart Cities and Smart Homes-Connected Vehicles, Smart Grid, Industrial IoT, Precision Agriculture, Healthcare.

#### **PRACTICAL COMPONENT CONTENTS:**

##### **LIST OF EXPERIMENTS**

##### **Arduino I/O programming**

1. LED and DIP Switch
2. Interfacing with Sensor and Actuators
3. Interfacing with LCD Display
4. Communication over Bluetooth-MIT APP Inventor
5. Cloud Interfacing (Azure/Amazon web services/Think speak)

##### **Raspberry Pi Programming using Python**

6. LED and DIP Switch
7. Interfacing with Sensor and Actuators
8. To install MySQL database on Raspberry Pi and perform basic SQL queries.
9. Write a program to create TCP/UDP server on Arduino/Raspberry Pi and respond with humidity data to TCP client when requested.
10. Cloud Interfacing (Azure/Amazon web services/Think speak)

##### **Study on Industrial IoT Gateway and LoRa Communication**

#### **REFERENCES**

1. Vijay Madiseti, Arshdeep Bahga, Internet of Things, "A Hands on Approach", University Press
2. David Hanes, "IoT Fundamentals Networking Technologies, Protocols, and Use Cases for Internet of Things", CISCO Press, 2017
3. Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Press, 2017
4. Raj Kamal, "Internet of Things: Architecture and Design", McGraw Hill
5. NPTEL Reference: <https://nptel.ac.in/courses/106/105/106105166/>

**Theory: 30**

**Tutorial: 0**

**Practical: 30**

**Project: 0**

**Total: 60 Hours**



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**Proof for Action Taken: 4** - PLC automation course is included In R17 & R18 regulation

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**CURRICULUM**  
**REGULATIONS 2017**

<b>SEMESTER III</b>										
<b>S. No</b>	<b>Course code</b>	<b>Course Title</b>	<b>Course Mode</b>	<b>CT</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>J</b>	<b>C</b>	<b>Pre-requisite</b>
1	U17MAT3101	Partial Differential Equations and Transforms	Theory	BS	3	1	0	0	4	-
2	U17EEI3201	DC Machines and Transformers	Embedded-Theory & Lab	PC	3	0	2	0	4	-
3	U17EET3002	Electromagnetic Fields	Theory	PC	3	0	0	0	3	-
4	U17EEI3203	Analog Electronics	Embedded-Theory & Lab	PC	3	0	2	0	4	-
5	U17EET3004	Measurements and Instrumentation	Theory	PC	3	0	0	0	3	-
6	U17INI3600	Engineering Clinic 1	Embedded-Practical & Project	ES	0	0	4	2	3	-
<b>Total Credits</b>									<b>21</b>	
<b>Total Contact Hours/week</b>									<b>26</b>	

<b>SEMESTER IV</b>										
<b>S. No</b>	<b>Course code</b>	<b>Course Title</b>	<b>Course Mode</b>	<b>CT</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>J</b>	<b>C</b>	<b>Pre-requisite</b>
1	U17MAT4101	Numerical Methods and Probability	Theory	BS	3	1	0	0	4	U17MAT3101
2	U17EEI4201	Induction and Synchronous Machines	Embedded-Theory & Lab	PC	3	0	2	0	4	U17EEI3201
3	U17EET4002	Generation, Transmission And Distribution	Theory	PC	3	0	0	0	3	U17EET3002
4	U17EEI4203	Digital Electronics	Embedded-Theory & Lab	PC	3	0	2	0	4	U17EEI3203
5	U17EET4004	Digital Signal Processing	Theory	PC	3	0	0	0	3	U17MAT3101
6	<b>U17EEI4205</b>	<b>PLC Automation</b>	Embedded-Theory & Lab	PC	2	0	2	0	3	-
7	U17INI4600	Engineering Clinic 2	Embedded-Practical & Project	ES	0	0	4	2	3	U17INI3600
<b>Total Credits</b>									<b>24</b>	
<b>Total Contact Hours/week</b>									<b>30</b>	


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**Proof for Action Taken: 5** - U18EEI6201-Embedded system theory with practical components is Included in R18 regulation

<b>U18EEI6201</b>	<b>EMBEDDED SYSTEM</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>J</b>	<b>C</b>
		<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>

#### COURSE OUTCOMES

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

<b>CO1</b>	Understand the fundamentals of Embedded systems and its communication protocols.	<b>K2</b>
<b>CO2</b>	Understand the basic concepts of RTOS for optimized CPU performance.	<b>K2</b>
<b>CO3</b>	Understand the architectural features of ARM processor.	<b>K2</b>
<b>CO4</b>	Apply the instructions to program ARM processor using Embedded C.	<b>K3</b>
<b>CO5</b>	Analyze the internal peripherals of ARM processor using an IDE.	<b>K4</b>

#### PRE-REQUISITE

Microprocessors and Microcontrollers

<b>O/PO Mapping</b> (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
CO1	S	M											M	
CO2	S	M											M	
CO3		S	S	M	M				M		M	M	M	
CO4			S	S	S				S		M	M	M	S
CO5	S		M		M						M		M	M

#### COURSE ASSESSMENT METHODS

<b>Direct</b>
1. Continuous Assessment Test I, II 2. Model Examination (For Practical Courses & Embedded Courses) 3. 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) 4. End Semester Examination
<b>Indirect</b>
1. Course End Survey 2. Programme Exit Survey 3. Placement/Higher Education Record 4. Feedback (Students, Employers, Parents, Professional Body members, Alumni)

#### THEORETICAL COMPONENT CONTENTS:


##### INTRODUCTION TO EMBEDDED SYSTEMS AND RTOS

**10 Hours**

Embedded Systems: Fundamentals, I/O Devices and Classification – Embedded product life cycle – Communication Devices and Ports – Serial Communication Protocols: SPI, I<sup>2</sup>C, CAN, USB – Wireless and Mobile System Protocols – RTOS for Embedded Systems – Task Scheduling and Policies.

##### ARM ARCHITECTURE

**10 Hours**

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ARM Programmer's model – Registers – Processor modes – Pipeline – Interrupts – ARM organization – ARM processor families – Overview of ARM and Thumb instructions – Instruction Scheduling – ARM Memory Management Unit – Register Allocation.

### ARM LPC2148 PROGRAMMING

**10 Hours**

Writing and optimizing the embedded C Code – Profiling and Cycle Counting – Conditional Execution – Looping Constructs – Timers and counters – Watchdog timer – UART – ADC – DAC – PWM. Programming Tool: KEIL IDE.

### PRACTICAL COMPONENT CONTENTS:

#### LIST OF EXPERIMENTS ARM LPC2148

1. Program using Arithmetic operations
2. Program using logic operations
3. LED programming
4. Analog to digital conversion
5. PWM control
6. Timer programming
7. Interrupt programming
8. Interfacing with LCD
9. Interfacing with Seven segment display
10. Study on communication protocols


### TEXTBOOKS

2. Raj Kamal, "Embedded Systems – Architecture, Programming and Design", 2<sup>nd</sup> Edition, Tata McGraw Hill, New Delhi, 2013.
3. 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

2. Steve Furber, "ARM System-on-Chip Architecture", Pearson Education, 2013.
3. Trevor Martin, 'The Insider's Guide to the Philips ARM7-Based Microcontrollers, An Engineer's Introduction To The LPC2100 Series' Hitex (UK) Ltd.,
4. David E Simon, "An Embedded Software Primer", Pearson Education India, New Delhi, 2013.
5. [https://www.nxp.com/docs/en/data-sheet/LPC2141\\_42\\_44\\_46\\_48.pdf](https://www.nxp.com/docs/en/data-sheet/LPC2141_42_44_46_48.pdf).

**Theory: 30      Tutorial: 0      Practical: 30      Project: 0      Total: 60 Hours**


Signature of the Chairman BOS EEE



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**Department of Information Technology**

**AY: 2018-19**

**Date:15.04.2019**

**Action taken report -Student Feedback**

S.No	Analysis	Action taken report
1.	Courses like entrepreneurship ,salesforce can be offered as the elective or one credit course	Courses offered as one credit courses
2.	Project based lab courses can be included as it helps to gain confidence to students for doing final year project	In R17 and R18 Curriculum U17ITI4303 - Database Management system, U17ITI5304- Software engineering courses lab are offered as project based

Prepared by

BoS Coordinator

Approved by

BoS Chairman



Proof for Action Taken 1: entrepreneurship , salesforce Courses offered as one credit courses

One Credit course on “ **U15ITIN01INNOVATION AND ENTREPRENEURSHIP** ”

organized by Dr.N.Rajathi ASP/IT and Ms.M.N.Saroja ,AP/IT

on 03.12.2019 & 04.12.2019

Date	Session Details	Resource Person
03.12.2019	<ul style="list-style-type: none"><li>• Introduction to Entrepreneurship &amp; Business Plans</li><li>• Understanding Failures in Entrepreneurship</li><li>• Thinking Innovatively for Engineers</li><li>• Preparing your Business Plan effectively</li><li>• Branding &amp; Company Description</li><li>• Understanding your Target Market, industry analysis, trends and future Markets</li><li>• Risk Management, Sales Strategy, Marketing; Scenario Plans &amp; Elevator Pitch</li></ul>	1.Mr. R. Kesavamurthi, B.E, PGDM M/s VIRUKSH ASSOCIATES, Coimbatore 2. Ms. Nalina Keshav, B.E, MBA M/S GOVIND HRD PVT LTD, Coimbatore.
04.12.2019	<ul style="list-style-type: none"><li>• Operations, Technology, Management &amp; Organization</li><li>• Intellectual Property</li><li>• Venture Capital Financing Community Involvement, Social Responsibility, Milestones and Exit Plans</li><li>• The Lean Startup</li><li>• Types of Organizations to Consider while making a business plan</li></ul>	



Sales Force



## KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE - 641 049

(An Autonomous Institution Affiliated to Anna University,  
Chennai)

### DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

#### Submitted to The Principal

#### **Sub: Request to approve sales force elective course registration fee-Reg.**

We, the CSE department is working in setting up the Centre of Excellence in Salesforce platform, world's #1 CRM service provider. The main objectives of this initiative is to

- Train and equip our students on Salesforce platform and its related technologies
- Getting internships for our students in the Salesforce partnered companies
- Make our students to get placed in companies working on Salesforce platform

Since KCT is an institute partner of ICT Academy, we have received a proposal from ICT Academy to offer 5 days training programme on Salesforce Platform App Builder (Dev 402). This has been mapped as Programme Elective and 50 students from III year, IV year (CSE/IT) and I year PG (CSE) have registered for this course. The course fee for the above mentioned course (Dev 402) is Rs. 5,000 per student. Since we are offering this course for the first time, in order to motivate the students and considering the employability opportunity, it is proposed that the institution may sponsor 50% of the fee and the rest will be borne by the student. Once the students completed this course, they will get internship and placement offers from the salesforce partnered companies. So far two companies are ready to offer internships to 15 students to work In salesforce platform.

The proposal from ICT Academy for the above mentioned course and the course plan is attached with this letter for your kind reference.

Estimated budget



To be borne by student 45\*2500 =1,12,500

**Enclosures:**

1. Salesforce (Dev 402) Proposal
2. Course Plan

Proof for Action Taken 2: R17 and R18 Curriculum U17ITI4303 -Database Management system, U17ITI5304-Software engineering courses lab are offered as project based in IV and V semester

SEMESTER – IV										Pre-requisite
S.No	Course Code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18MAI4201	Probability and Statistics	Embedded - Theory & Lab	BS	3	0	2	0	4	-
2	U18ITT4001	Operating Systems	Theory	PC	3	0	0	0	3	-
3	U18ITI4202	Design and Analysis of Algorithms	Embedded - Theory & Lab	PC	3	0	2	0	4	U18ITI3202
4	U18ITI4303	Data Base Management Systems	Embedded - Theory & Project	PC	3	0	0	2	4	-
5	U18ITI4204	Computer Networks	Embedded - Theory & Lab	PC	3	0	2	0	4	U18ECT3011
6	U18INI4600	Engineering Clinic IV	Embedded - Lab& Project	ES	0	0	4	2	3	-
Total Credits									22	
Total Periods per week									29	

SEMESTER – V										Pre-requisite
S.No	Course Code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18MAT5101	Partial Differential Equations and Transforms	Theory	BS	3	1	0	0	4	-
2	U18ITI5201	Data Mining Techniques	Embedded - Theory & Lab	PC	3	0	2	0	4	U18ITI4303, U18MAI4201
3	U18ITT5002	Cryptography and Network Security	Theory	PC	3	0	0	0	3	U18ITI4204
4	U18ITI5203	Mobile and Pervasive Computing	Embedded - Theory & Lab	PC	3	0	2	0	4	U18ITI4204



5	U18ITI5304	Software Engineering	Embedded - Theory & Project	PC	3	0	0	2	4	-
6	U18INI5600	Engineering Clinic V	Embedded - Lab & Project	ES	0	0	4	2	3	-
	U18-----	Open Elective	Theory	PE	3	0	0	0	3	-
<b>Total Credits</b>										<b>25</b>
<b>Total Periods per week</b>										<b>28</b>

U18ITI4303

## DATABASE MANAGEMENT SYSTEMS

L	T	P	J	C
3	0	0	2	4

### COURSE OBJECTIVES:

- To understand the different issues involved in the design and implementation of a database system.
- To study the physical and logical database designs, database and relational modeling
- To understand and use data manipulation language to query, update, and manage a database
- To develop an understanding of essential DBMS concepts such as: database security, integrity, concurrency,
- To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS situation.

### COURSE OUTCOMES:

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

- CO1 Outline an ER model for a defined problem
- CO2 Explain the basic concepts of query processing and query optimization algorithms.
- CO3 Describe the concepts of transaction and storage management.
- CO4 Explain the basic concepts of database security and NoSQL
- CO5 Design a database for a given problem.
- CO6 Develop an RDBMS application

Pre-requisites: Nil

CO/PO Mapping													
(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak													
COs	Programme Outcomes(POs)												PSO
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	
CO1	S	M											1
CO2	M	M					M						2
CO3	M	M											3
CO4	M												M
CO5	S	M											M
					M		M		M				M
								S	S				M
											M		M
												M	M
													M



CO6	S	M			M		M		S	S		M	M	M	M
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## **COURSE ASSESSMENT METHODS:**

<b>Direct</b>
1. Continuous Assessment Test I, II (Theory component)
2. Assignment, Group Presentation (Theory component)
3. Project report (Project Component)
4. Project Review and Presentation (Project Component)
<b>Indirect</b>
1. Course-end survey

## **THEORY COMPONENT CONTENTS**

### **INTRODUCTION**

**9 Hours**

**Database system Architecture:** Data Abstraction – Data Independence – Data Definition Language – Data Manipulation Language.

**Data Models:** E-R model - network model – relational and object oriented data models – integrity constraints – data manipulation operations.

### **DATABASE DESIGN**

**9 Hours**

**Relational query languages:** Relational algebra, Tuple and domain relational calculus, SQL3, DDL and DMK constructs, Open source and Commercial DBMS – MYSQL, ORACLE, DB2, SQL server.

**Relational Database Design:** Domain and data dependency - Armstrong's axioms - Normal forms – Dependency preservation – Lossless design.

### **DATA STORAGE AND QUERYING**

**9 Hours**

**Data Storage:** Overview of Physical Storage Media – RAID - File Organization - Organization of Records in Files - Data Dictionary Storage.

**Data Indexing and Hashing:** Basic Concepts - Ordered Indices - B+ Tree Index Files - Multiple Key Access - Static and Dynamic Hashing.

**Query Processing:** Evaluation of relational algebra expressions – Query equivalence – Join Strategies – Query optimization algorithms.

### **TRANSACTION MANAGEMENT**

**9 Hours**

**Transaction processing:** Transaction Concept - Transaction Model – ACID property – Serializability.

**Concurrency Control:** Lock Based Protocols - Time Stamped Based Protocols - Deadlock Handling.

**Recovery System:** Failure Classification – Storage - Log Based Recovery - Shadow Paging.

### **ADVANCED TOPICS**

**9 Hours**

**Database Security:** Authentication - Authorization and access control - DAC, MAC and RBAC models – Intrusion detection – SQL injection.

**NoSQL:** Working with Column oriented Databases – Hbase distributed storage architecture – Document store internals – Understanding Key-Value Stores in Memcache and Redis – Eventually consistent Non-Relational Databases – Performing CRUD operations: Creating Records, Accessing Data, updating and deleting Data



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

**Total: 45 Hours**

**REFERENCES:**

1. Abraham Silberschatz, Henry Korth, and S. Sudarshan, Database System Concepts, Sixth edition, McGraw-Hill.2011.
2. R. Elmasri and S. Navathe, Fundamentals of Database Systems, Sixth Edition, Pearson Education,2011
3. Thomas M. Connolly and Carolyn E. Begg, "Database Systems - A Practical Approach to Design, Implementation, and Management", fifth edition, Pearson Education, 2010.
4. C.J.Date, A. Kannan and S. Swamynathan, "An Introduction to Database Systems", Eighth Edition, Pearson Education, 2006.
5. Tiwari, Shashank. Professional NoSQL. John Wiley & Sons, 2011.(Unit V)

**Online Courses and Video Lectures:**

1. <http://nptel.ac.in>

**PROJECT COMPONENTS:**

**LIST OF EXPERIMENTS**

1. DDL and DML commands
2. Transaction control commands and aggregate functions
3. Joins and Nested Queries
4. Constraints and Views
5. High level programming language extensions (Control structures, Procedures and Functions).
6. Cursors and Triggers
7. Embedded SQL
8. Sample projects like
  - i. Hospital Management
  - ii. Railway Ticket Reservation
  - iii. Student Mark List Processing
  - iv. Employee Pay Roll Processing
  - v. Inventory Control

**Theory: 0   Tutorial: 0   Practical: 0   Project: 30**

**Total: 30 Hours**



**COURSE OBJECTIVES:**

- Knowledge of basic SW engineering methods and practices, and their appropriate application.
- Describe software engineering layered technology and Process frame work.
- A general understanding of software process models such as the waterfall and evolutionary models.

**COURSE OUTCOMES:**

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

- CO1** Apply software engineering principles and techniques  
**CO2** Translate end-user requirements in to software requirements  
**CO3** Develop, maintain and evaluate large-scale software systems  
**CO4** Implement an efficient, reliable, robust and cost-effective software solutions  
**CO5** Identify software project planning & Management activities  
**CO6** Model a simple application following software engineering principles.

**Pre-requisite: Nil**

CO/PO Mapping (S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak													PSO		
COs	Programme Outcomes(POs)												1	2	3
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12			
CO1	M	M											M		
CO2	M	M	M	M									M		
CO3	M	M	M	M	W								M		
CO4											M	W	M		
CO5	S	S							M				M	M	M
CO6	S	S								M			M	M	M

**COURSE ASSESSMENT METHODS:**

Direct	
1. Continuous Assessment Test I, II (Theory component) 2. Assignment, Group Presentation (Theory component) 3. End Semester Examination (Theory) 4. Project report (Project Component) 5. Project Review and Presentation (Project Component)	
Indirect	
1. Course-end survey	



## THEORY COMPONENT CONTENTS

9 Hours

### INTRODUCTION

Software Engineering Discipline, Software, Generic vs. Custom-made software products- distinctive characteristics of software products. **Software Development Models:** Life cycle models-Linear, Sequential, Evolutionary, Unified models, Agile development -Agile Manifesto and Principles, Overview of Scrum, Extreme Programming, Feature Driven development, Lean Software Development, Design and development practices in Agile projects, Test Driven Development, Continuous Integration, Refactoring, Pair Programming, Simple Design, User Stories, Agile Testing, Case study in agile processing model.

9 Hours

### REQUIREMENTS ENGINEERING

Classification of Requirements-System Requirements and Software Requirements, Functional and Non-Functional requirements, Requirement Engineering Tasks.

**System Models:** Domain Analysis and Modeling, Data Models, Functional Models-Structured Analysis Model, Object Oriented Models- Cloud, State, Use Case Models, Sequence and Activity diagrams, Relationship among the Object Oriented Models, Building Object Oriented Analysis Models

9 Hours

### SOFTWARE DESIGN AND IMPLEMENTATION

Architectural Design-Decomposition strategy, Partitions and Layers, Structured System Design- Use of Heuristics for Design Refinements, Object-Oriented Design- User Interface Design- Reusable Components, Patterns, Frame works, Coding – Choice of Programming Language, Coding Standards

9 Hours

### SOFTWARE TESTING

**Software Testing:** Conventional Testing and SDLC Testing, Formal Technical Reviews, Walkthroughs, Inspections, Black-Box vs. Glass-Box Testing, Testing Strategies, Quality Dimensions, Process Quality and Product Quality, Quality Assurance Planning, Quality Measurements, Software Configuration Management.

9 Hours

### SOFTWARE PROJECT MANAGEMENT

Software Projects, Project Feasibility Study, Project Planning, Project Organization, Estimation of Project Effort-Measuring Software Attributes and Productivity, COCOMO for Effort Estimation. Risk Management, Project Scheduling, Measurement during Software Projects. **Software Maintenance:** Planning for Maintenance, maintenance Activities, Reengineering

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

### REFERENCES:

1. R.S. Pressman, "Software Engineering – A Practitioner's Approach", Eighth edition, McGraw Hill International Edition, 2014.
2. Stephen Schach, "Software Engineering", Seventh edition, TMH, New Delhi, 2007.
3. PankajJalote, "An Integrated Approach to Software Engineering", Third edition, NarosaPublishing House, 2005.
4. M.Blaha and J.Rumbaugh, "Object Oriented Modeling and Design with UML", Second edition, Prentice-Hall India, 2006.
5. I Sommerville, "Software Engineering", Seventh edition, Pearson Education, 2004
6. "Agile Software Development with Scrum"By Ken Schawber, Mike Beedle,Publisher: Pearson



7. " Agile Testing: A Practical Guide for Testers and Agile Teams",By Lisa Crispin, Janet Gregory,Publisher: Addison Wesley

**PROJECT COMPONENT:**

**Make use of tools like Trello, DevOps**

**List of Projects**

1. A Car Rental System
2. Accounts Management Software
3. Airline Reservation System
4. Army Management System
5. ATM System
6. Auto Repair Shop Management System
7. Automotive Store Management System
8. Banking System
9. Bus Ticket Reservation
10. Cafeteria Ordering System
11. Car Insurance System
12. Clothing Store Management
13. College Management System
14. Ebook Shopping
15. Enterprise Resource Planning System
16. Event Organizing, Planning and Management System
17. Gym Workout Application
18. Hospital Management System
19. Hostel Accommodation System
20. Hotel Management System

**Theory: 0**

**Tutorial: 0**

**Practical: 0**

**Project: 30**

**Total: 30 Hours**





**Department of Management Studies**

**AY: 2018-19**

**Date: 25.06.2018**

**Action taken report –Student Feedback**

S.No	Analysis	Action taken report
1.	Composition between Major and Minor courses must revisit.	Since this is the suggestion from all quarters, this analysis shall be considered in the forthcoming BoS
2.	Curriculum design is not industry oriented fully.	Additional short courses in Lean Six Sigma and other allied domains are revisited.
3.	Courses on Social Media to be offered .	Two credits and extra one credit courses on Social media are to be implemented.
4.	Workshops and seminars from industry experts are to be increased and added to the curriculum	Full time workshop mode for quantitative courses are to be discussed and implemented

Prepared By,



BoS Coordinator

Approved By,



BoS Chairman

## Proof of Action Taken

### 1. Revised major & minor course concept

## CBCS Based Curriculum & relooking into Major & Minor specializations

### 2. Credit System

Choice Based Credit System (CBCS) is followed which provides choice for students to select from the prescribed courses and also Open Electives. The CBCS provides flexibility in designing curriculum and assigning credits based on the course content and hours of teaching. It offers a 'cafeteria' approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning.

#### 2.1 Credit Hours

Under the CBCS of UGC guidelines, the requirement for awarding a degree is prescribed in terms of number of credits to be completed by the students. Credit is a unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of lecture/ practice and two hours of field project per week. One credit hour is equal to 60 minutes. A maximum of 20% of the total credit hours can be earned through self-learning or MOOC.

- ▶ **Lecture Credit Hours:** The term 'lecture' covers everything from the traditional model, where a faculty introduces concepts and methods to a group of students, to approaches that might be much more interactive. It could also involve a variety of contributors, and make use of a range of media and technologies. Lectures are assumed, in general, to involve larger groups of but size will vary depending upon the nature of what is being taught, the medium, the size of the overall student cohort, and practical concerns.
- ▶ **Practice Credit Hours:** Application/ Project Based Learning will be included in Practice credit hours. Examples are wide ranging and could include presentations, interview skills, tutorials, cases, aptitude building, group discussions, soft skill sessions, games, activities, field surveys and studies which are integrated with the lecture hours. Examples of fieldwork might include survey work and other forms of data collection, excavations and explorations through visits to a business or industrial site. The work might be unsupervised or supervised, and supervision could be provided by faculty. Some fieldwork may be conducted virtually. Fieldwork might be conducted in groups of various sizes, or by individuals, depending on the nature of the work involved. Tests, assessments and exams will be included in Practice credit hours.
- ▶ **Project Credit Hours:** Project hours will include Dissertation/Project Supervision hours would typically include preparation/ planning, hours spent in the field or on actual project, meetings & discussions with a supervisors and preparation of report and presentation report.
- ▶ **Independent Learning Credit Hours:** Credit hours associated with this type of instruction will be assigned credit depending upon the amount of activity associated with the course, faculty supervision, and students outside work activity. Usually the credits awarded will be same as the taught course.

Contact Period per week	Credits
One Lecture/ Practice session/ week (Lecture, Tutorial, problem solving, case studies, activities, Games, presentations, field learning, desk research, skill development )	1
Two Project sessions/ week (Project, Industry/ Social Immersions). Includes preparatory, on field and Report/ Presentation Preparation)	1

\*Indicative: 15 weeks/ semester; One session is equal to 60 minutes

## 2.2 Minimum Credits to be Earned

The total number of credits a student earns during the four semesters of study period is called the Total credits. A Student must earn minimum of **100 credits** for successful completion of the MBA program. Further, the student has to meet the course and credit distribution also as specified below. Credit flexibility is given in each semester for fast and slow learners. A maximum of 20% of the total credits can be earned through online courses by SWAYAM / NPTEL / International Universities.

## 2.3 Earning Extra Credits

A student may earn extra credits of up to a maximum of **115 credits**. These course/ (s) can be taken in any semester through **self study / enroll in the course** if offered. "Extra" courses are ones that do not count for degree credit. Such courses appear on a student's permanent academic record with the final course mark, and are noted as "EXT", but do not count as accumulated degree credits and are not included in calculating a student's Grade Point Average. Extra Credits may be earned either through the courses offered in the MBA program or the Flexible and Comprehensive Learning Framework (FCLF) offered by KCT.

## 2.4 Types of Courses & Credit Distribution

Several types of courses are offered during the MBA program to build a holistic knowledge and skill set.

No	Type	Description	Mini Credits
1	Foundation	Course at a basic level, preparing students for more advanced study	08
2	Core	Course, which is fundamental for the program and should be mandatorily studied	40
3	Electives	Electives allow students to tailor their studies to their specific career goals and interests through specializations	24
4	Project	Course involving application of knowledge in solving / analyzing /practicing/ exploring real life business situations in the field for a considerable period of time	18
5	Open Electives	Course that enriches and presents divergent perspectives to career and life - which are open to all students from different specializations	10
			100

**2.4.3 Concentration.** Concentration is the area of specialization, which allows the student to specialize in an area of his/her choice based on her/his career interest. The concentrations offered are **Analytics and Systems, Entrepreneurship, Finance, Human Resource, Marketing, Operations**. In the concentration of his/her choice, the students can choose from the courses offered and a **minimum of 24 credits** will have to be earned in the area of concentration. In addition the Internship can also be carried out in the concentration area. Students specializing in entrepreneurship will be free to choose courses across specializations to strengthen the entrepreneurial aspirations



## 2. Social media specialization courses offered

### Marketing Electives

S.No	Course Code	Course Title	Credits	Assessment	
				CAM	EoS
1	P17BAEEM18	Product and Services Management	4	50	50
2	P17BAEEM02	Global Marketing Management	4	50	50
3	P17BAEEM03	Retail Management	4	50	50
4	P17BAEEM04	Channel Management	4	50	50
5	P17BAEEM05	Brand Management	4	50	50
6	P17BAEEM06	Digital Marketing	3	50	50
7	P17BAEEM07	Marketing Metrics and Analytics	4	50	50
8	P17BAEEM08	Retail Sales Metrics and Analytics	4	50	50
9	P17BAECM09	E-CRM	1	50	-
10	P17BAEEM10	Consumer behaviour	4	50	50
11	P17BAECM11	Creative Writing for Media	2	50	-
12	P17BAEEM12	Integrated Marketing Communication	4	50	50
13	P17BAEEM19	Professional Selling and Sales Management	4	50	50
14	P17BAEEM14	Pricing Strategies	4	50	50
15	P17BAEEM20	Industrial Marketing	4	50	50
16	P17BAEPM16	Sponsorship and Event Management	1	50	-
17	P17BAEPM17	Social Media Selling	2	50	-

## 3. List of Guest Speakers

### List of Guest Faculty (2019- 20)

N o	Date	Guest Faculty Name	Designation and university/Industry	Topic
1	August 26, 2019	Senthil Kumar KS	Entrepreneurship Advisor	Innovation and Entrepreneurship - Case Study
2	September 16, 2019	Ravish C K	strategist and Talent Adviser to Top Management of Progressive Organizations	Diffusion of Innovation through Change
3	September 6, 2019	Padmasri	Vice President, IA Digital ABB, Bengaluru	Above & Beyond
4	October 18 & 24, 2019	R S Mani,	Partner V Lamp Academy- Ex Banker	Risk - Return Analysis of Consumer Loans and Customer Profitability Analysis
5	October 4th & 9th, 2019	S Laskhmanan	Partner V Lamp Academy- Ex Banker	Credit Lending - Analysis of Financial Statements and Cash Flow Analysis
6	November 8, 2019	Jamal Mustafa	Director Mastro Lee, Engineering & Management Consultant, Coimbatore	Industry 4.0

7	November 21, 2019	G. Manohar	Head - Watch Case Plant, Titan Company Limited, Coimbatore	Emerging Trends in PPC for Productivity Enhancement
9	December 6, 2019	Hemapriya	Team Leader - Customer Service, Amazon	e-Commerce as a Channel for Business Growth - Amazon Perspective
10	December 11, 2019	Arun	CEO - Audi and Harley Davidson Coimbatore	Global Automobile Industry - Current Trends and Emerging Strategies
11	December 17, 2019	Kirubanatesan	Project Manager, Cognizant	Project Management Skills for Career Development
12	December 20, 2019	Manoj, N,	Principal Consultant, Seeding Business Solutions, Chennai	Data Driven Business Decisions
13	February 28, 2020	Venkatesh Srinivasan B. Rajendran Thyagarajan	Chief Executive, Association of Mutual Funds of India Chief General Manager, Securities and Exchange Board of India Chief Executive, Stratadigm	Smart Investing - Mutual Fund Investing
14	March 16, 2020	Raghavendra Karthik BH	Director-Dare 2 Escape	Acquiring & Managing Franchise
15	April 4, 2020	Gokul C	Executive Sales ,Hindustan Coca Cola Beverages	FMCG Sales-An Integrated Approach
16	April 11, 2020	Pradeep Yuvaraj	CEO, Prezantim solutions	Ideation and seeking opportunities
17	April 12, 2020	Lakshmanan	retired bank manager	Asset Liability Management
18	April 16, 2020	Kabilan	MD, Duraisingh Super market	Family Dynamics
19	April 19, 2020	M.Ponmuthu	Agriculturist	Natural Farming
20	April 22, 2020	E.Manikandan S.Singaram	CDO, Colgate Palmolive India Ltd	Irrefutable Law in FMCG sales
21	April 25, 2020	Aneesh Kumar	Marketing Manager, ATS ELGI	Branding for Industrial products
22	April 27, 2020	Dr. Gowthaman Ramasamy,	VP, Kulitvate.in	Permaculture - Sustainable Farming
23	April 30, 2020	Soundarajan	Head- Learning and Development,Elgi Equipments	HR initiatives at L & D
24	May 1, 2020	Raguraman	Asha Counselling	Introduction to NLP
25	May 1, 2020	Mathu Bharathi	Advocate	IPR & GST acts - an Overview
26	May 7, 2020	Soudhakar Elumalai	Senior Data Scientist consultant- SAP, Bangalore	Applications of Artificial Intelligence ( AI) in Marketing
27	May 9, 2020	Gowtham.D,	Authorised Person, Zerodha	Mutual Funds: Tax Planning using Mutual Funds

28	May 9, 2020	Mr. Maria Antony Juderaj,	Manager- HR, ELGi Equipments limited	Training Evaluation- Kirkpatrick and Jack Phillips Model
29	May 9, 2020	Vijayalakshmi	Associate Vice President HR	Role of HR Pre and Post Lockdown
30	May 13, 2020	Mr Annamalai,	Chairman Annamalai Capital	Covid 19 impact on Financial markets
31	May 14, 2020	Dr Suresh Kumar	Managing Partner, Peoplecraft	Factoring- Bank Perspective
32	May 15, 2020	Annamalai	Chairman Annamalai Capital	Portfolio revision
33	May 16, 2020	Annamalai	Chairman Annamalai Capital	Buying and Selling securities
34	May 18, 2020	KS Raguram	GM-Quality, Roots Industries	Heijunka
35	May 21, 2020	H.Vamana Moorthy	Senior Manager, SCM, Timken India Limited,Bangalore	Supply Chain Practices in Bearing Industry



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**Department of Aeronautical Engineering**

**AY: 2018-19**

**Date: 15.04.2019**

**Action taken report -Student Feedback**

S.No	Analysis	Action taken report
1.	Case Studies related to conventional aircraft systems and its functioning can be introduced as a separate topic in 'Aircraft Systems and Instruments'	Will be considered for next revision
2.	More number of courses are in the fifth semester.	Will be considered for next revision

Prepared By,

A handwritten signature in black ink, appearing to be 'S. Srinivas', written over a light blue grid background.

BoS Coordinator

Approved By,

A handwritten signature in green ink, appearing to be 'S. Srinivas', written over a light blue grid background.

BoS Chairman





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**Department of Textile Technology**

**AY: 2018-19**

**Date: 15.04.2019**

**Action taken report -Students Feedback**

<b>S.No</b>	<b>Analysis</b>	<b>Action taken report</b>
1.	In labs proto type machine can be installed	Proto type machines and Cut model machine installed in lab
2.	Grouping of elective as per domain can be done	Professional electives grouped according to domain

Approved by

**Dr.Bharathi Dhurai**

**BoS Chairperson**



**KUMARAGURU**  
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**Department of Textile Technology**

**AY: 2018-19**

**Date: 15.04.2019**

**Action taken report -Students Feedback**

S.No	Analysis	Action taken report
1.	In labs proto type machine can be installed	Proto type machines and Cut model machine installed in lab
2.	Grouping of elective as per domain can be done	Professional electives grouped according to domain

**Proof**

**Proto type machines and Cut model machine installed in lab**



AUTO CONER



Lab Model spinning



Cut model drafting



Professional electives grouped according to domain

**ELECTIVE I**

Code No.	Course	L	T	P	C
U14TXTE51	High Performance Fibres	3	0	0	3
U14TXTE52	Maintenance Management in Textile Mills	3	0	0	3
U14TXTE53	Pattern Making and Grading	3	0	0	3

**ELECTIVE II**

U14TXTE61	Instrumental Analysis of Textiles and Chemicals	3	0	0	3
U14TXTE62	Textile Composites	3	0	0	3
U14TXTE63	Garment Wet Processing	3	0	0	3

**ELECTIVE III**

U14TXTE71	Medical Textiles	3	0	0	3
U14TXTE72	Clothing Science	3	0	0	3
U14TXTE73	Marketing and Merchandising	3	0	0	3

**ELECTIVE IV**

U14TXTE74	Apparel Production Planning and Control	3	0	0	3
U14TXTE75	Entrepreneurship Development	3	0	0	3
U14TXTE76	Statistical Application in Textile Engineering	3	0	0	3

**ELECTIVE V**

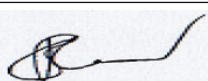
U14TXTE81	Industrial Engineering in Textile Industry	3	0	0	3
U14TXTE82	Project Preparation, Appraisal and Implementation	3	0	0	3
U14TXTE3	Environmental Management in Textile Industry	3	0	0	3

**ELECTIVE VI**

Code No.	Course	L	T	P	C
U14GST002	Total Quality Management	3	0	0	3
U14GST004	Operations Research	3	0	0	3
U14GST005	Engineering Economics and Financial Management	3	0	0	3

**ELECTIVE VII**

U14MCE502	Textile Mechatronics	3	0	0	3
U14MCE603	Energy Conservation and Audit	3	0	0	3
U14AUTE28	Technical Textiles for Automobiles	3	0	0	3



Signature of BOS chairman, TXT



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**Department of Automobile Engineering**

AY: 2018-19

Date: 15.04.2019

**Action taken report -Students Feedback**

S.No	Analysis	Action taken report
1	Latest books are to be added in references in all courses.	Latest books are included in Syllabus and adequate books are made available in Central library as well as in Department library.
2	More automotive electronics courses to be added.	Added with sponsored lab activities.

Prepared By,

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

BoS Coordinator

Approved By,

A handwritten signature in black ink, featuring a long horizontal stroke with several small loops and a vertical stroke at the end.

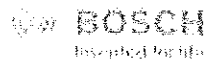
BoS Chairman





**KUMARAGURU COLLEGE OF TECHNOLOGY**  
**BOSCH CENTRE FOR AUTOMOTIVE ELECTRONICS**

Powered by Infineon



Date: 01.04.2021

**BOSCH CENTRE**

Robert Bosch Engineering and Business Solutions Private Limited (RBEBS) and Kumaraguru College of Technology have executed Memorandum of Understanding on 24<sup>th</sup> October 2016 which has been renewed on 24<sup>th</sup> October 2019.

**Activity and Achievement**

1. Conducted the skill development in automotive embedded system in the year of 2019-2020
2. The department of automobile Engineering, open elective course on Design of Automotive electronics control unit in the year of 2020-2021
3. Development of the motor speed controller application (2020-2021)

**Schedule of Activities Planned:**

1. The automobile department going offer open elective course on Design of Automotive electronics control 2021-2022
2. Planning to conduct one week FDP program on Electric vehicle systems - 2022-2023

Year	Activity	Support
2022	Prototyping Support	Expert team will support Prototyping
2023	Product Design Support	Support on Product Design



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**Department of Civil Engineering**

**AY: 2018-19**

**15.04.2019**

**Action taken report - Student Feedback**

<b>S.No</b>	<b>Analysis</b>	<b>Action taken report</b>
1.	Some courses needs to be reshuffled in the semester offered.	Curriculum changes are recommended
2.	Syllabus coverage has to be in par with the expectations in competitive exams (GATE/IES/TNPSC)	Surveying, Irrigation and water Resource Management Syllabus content are mapped with those in competitive exams
3.	Tutorial hours are needed for analytical courses	Recommended for implementation during curriculum revision

Prepared by,


BoS Coordinator

Approved by,

BoS Chairman

Semester III										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18MAT3101	Partial Differential Equations and Transforms	Theory	BS	3	1	0	0	4	Nil
2	U18CEI3201	Solid Mechanics	Embedded - Theory & Lab	ES	2	1	2	0	4	Nil
3	U18CEI3202	Engineering Survey	Embedded - Theory & Lab	PC	3	0	2	0	4	Nil
4	U18CEI3203	Building Materials and Construction	Embedded - Theory & Lab	PC	3	0	2	0	4	Nil
5	U18CET3104	Fluid Mechanics	Theory	ES	3	0	0	0	3	Nil
6	U18CER3505	Building Planning and Drawing	Lab	BS	0	0	2	0	1	Nil
7	U18INI3600	Engineering Clinics III	Practical & Project	ES	0	0	4	2	3	Nil
Total Credits									23	
Total Contact Hours/week									30	

Semester IV										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18MAT4101	Numerical Methods and Probability	Theory	BS	3	1	0	0	4	Nil
2	U18CEI4201	Applied Hydraulics and Hydraulic Machinery	Embedded - Theory & Lab	PC	3	0	2	0	4	U18CET 3104
3	U18CEI4202	Highway and Traffic Engineering	Embedded - Theory & Lab	PC	3	0	2	0	4	Nil
4	U18CEI4203	Remote Sensing and Geographic Information Systems	Embedded - Theory & Lab	PC	2	0	2	0	3	Nil
5	U18CET4004	Strength of Materials	Theory	PC	3	0	0	0	3	U18CEI3 201
6	U18INI4600	Engineering Clinics -IV	Practical & Project	ES	0	0	4	2	3	Nil
Total Credits									21	
Total Contact Hours/week									27	



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Semester V										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1.	U18MBT5000	Total Quality Management	Theory	HS	3	0	0	0	3	Nil
2	U18CEI5201	Environmental Engineering	Embedded - Theory & Lab	PC	3	0	2	0	4	Nil
3	U18CEI5202	Soil Mechanics	Embedded - Theory & Lab	PC	3	0	2	0	4	Nil
4	U18CET5103	Structural Analysis	Theory	PC	3	1	0	0	4	U18CET 4004
5	U18_____	Open Elective I	Theory	OE	3	0	0	0	3	Nil
6	U18INI5600	Engineering Clinics -V	Practical & Project	ES	0	0	4	2	3	Nil
7	U18CEP5604	Survey Camp*	Project	PC	0	0	0	0	1	U18CEI3 202
Total Credits										22
Total Contact Hours/week										25

\*10 days survey camp during the previous summer vacation

Semester VI										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18CEI6201	Design of Masonry and Reinforced Concrete Elements	Embedded - Theory & Lab	PC	3	0	2	0	4	U18CEI3 201
2	U18CEI6202	Construction Project Management	Embedded - Theory & Lab	PC	3	0	2	0	4	Nil
3	U18CET6003	Foundation Engineering	Theory	PC	3	0	0	0	3	U18CEI5 202
4	U18CET6004	Design of Steel Structures	Theory	PC	3	0	0	0	3	U18CEI3 201
5	U18CEE_____	Professional Elective-I	Theory	PE	3	0	0	0	3	Nil
6	U18_____	Open Elective II	Theory	OE	3	0	0	0	3	Nil
7	U18CEP6705	Inplant Training*	Project	PC	0	0	0	0	1	Nil
Total Credits										21
Total Contact Hours/week										22

\*2 weeks in-plant training during the previous winter vacation.


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Semester VII										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18CET7001	Estimation Costing & Valuation	Theory	PC	3	0	0	0	3	Nil
2	U18CET7002	Irrigation and Water Resource Management	Theory	PC	3	0	0	0	3	Nil
3	U18CEE____	Professional Elective-II	Theory	PE	3	0	0	0	3	Nil
4	U18CEE____	Professional Elective-III	Theory	PE	3	0	0	0	3	Nil
5	U18CEE____	Professional Elective-IV	Theory	HS	3	0	0	0	3	Nil
6	U18CEP7703	Project Phase-I	Project	P W	0	0	0	6	3	Nil
Total Credits									18	
Total Contact Hours/week									21	

Semester VIII									
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C
1	U18CEP8701	Project Phase-II	Project	P W	0	0	0	2 4	12
Total Credits									12
Total Contact Hours/week									24

Total Credits	157
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#### 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

  
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 BOS/Civil Engineering





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Department of Computer Science and Engineering

AY: 2018-19

Date:15.04.2019

**Action Taken Report -Student Feedback**

S.No	Analysis	Action Taken Report
1.	Students suggested to include courses relating to industry need and emerging technologies	Program elective list in the curriculum is updated with the latest trends and industry courses like Blockchain, Salesforce etc.,
2.	Java course can be offered as a separate course	R17 curriculum contains Java as a separate core course (U17CSI3202- Object Oriented Programming)

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



U17CSE0014

**BLOCKCHAIN TECHNOLOGY  
AND APPLICATIONS**

L	T	P	J	C
3	0	0	0	3

**COURSE OUTCOMES**

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

CO1:	Understand emerging abstract models for Blockchain Technology (K2)
CO2:	Discover the secure and efficient transactions with crypto-currencies (K4)
CO3:	Experiment with cryptocurrency trading and crypto exchanges (K3)
CO4:	Develop private blockchain environment and develop a smart contract on ethereum (K3,S2)
CO5:	Build the hyperledger architecture and the consensus mechanism applied in the hyperledger (K5,S2)

Pre-requisites : Nil

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	PSO1	PSO2	PSO3
CO1	S	M		M						M		M			
CO2	S					M				M		M	M		
CO3	S	M	M		M	M				M		M	M		M
CO4	M	S	S		M							M			
CO5	M	S	S		M							M			

**COURSE ASSESSMENT METHODS**

DIRECT
4. Continuous Assessment Test I, II
5. Assignment, Project
6. End Semester Examination
INDIRECT
2. Course-end survey

**THEORY COMPONENT CONTENTS****BLOCKCHAIN REVOLUTION AND DESIGN PRINCIPLES**

(10 hours)

Blockchain- An Introduction, Distinction between databases and blockchain, Centralized Registries vs. Distributed Ledgers, Public vs. Private Ledgers, Bitcoin & Blockchain, Blockchain Structure and operations, Consensus Algorithms & Types- Proof of work, proof of stake, Byzantine Fault Tolerance.

*S. Sherali.*  
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Distributed networks- Distributed Applications (DApps) – Web 3.0 - DApps Ecosystems. Working -  
 Permissioned and permission-less Blockchain – Cross Chain Technologies. – IOT & Blockchain -  
 Digital Disruption in Industries – Banking, Insurance, Supply Chain, Governments, IP rights, Creation  
 of trustless Ecosystems – Block chain as a Service – Open Source Block chains

### CRYPTO AND CRYPTOCURRENCIES

Crypto Currencies - Anonymity and Pseudonymity in Cryptocurrencies , Cryptographic Hash Functions,  
 Hash Pointers and Data Structures, Digital Signatures, Public Keys as Identities, Centralization vs.  
 Decentralization, Distributed Consensus, Consensus without Identity, Incentives and Proof of work,  
 Regulations on Crypto Currencies & exchanges – Downside of non-regulated currencies – crypto Scams  
 – Exchange hacks

(8 HOURS)

### BITCOIN

Bitcoin blockchain, the challenges, and solutions, Bitcoin Scripts, Applications of Bitcoin Scripts,  
 Bitcoin Blocks, The Bitcoin Network, Limitations & Improvements, How to Store and Use Bitcoins,  
 Hot and Cold Storage, Splitting and Sharing Keys, Online Wallets and Exchanges, Payment Services,  
 Transaction Fees, Currency Exchange Markets

(9 HOURS)

### ETHEREUM

The Ethereum ecosystem, Smart Contract Basics, Processing and deploying smart contracts in Remix  
 IDE, Solidity: contract classes, Data Types & Statements , operators, Data structures, functions,  
 Inheritance, functions, abstract contracts, libraries, Types & optimization of Ether- Global variables-  
 Debugging, Viewing Information about blocks in Blockchain- Developing smart contract on private  
 Blockchain.

(9 hours)

### HYPERLEDGER

Hyperledger fabric, components of Hyperledger Fabric Technology, Develop Hyperledger Blockchain  
 Applications using Composer Framework, Model the Blockchain Applications using Composer modeling  
 language, Intro: Alternative Decentralized Solutions, Interplanetary File System, Hashgraph.

(9 HOURS)

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

1. Mastering Bitcoin: Unlocking Digital Cryptocurrencies, by Andreas M Antonopoulos 2018
2. Ethereum: Blockchains, Digital Assets, Smart Contracts, Decentralized Autonomous Organizations-2016
3. Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller, and Steven Goldfeder. Bitcoin and cryptocurrency technologies: a comprehensive introduction. Princeton University Press, 2016.

### E BOOKS AND ONLINE LEARNING MATERIALS

1. <https://www.coursera.org/learn/blockchain-basics#syllabus>
2. <https://www.coursera.org/learn/cryptocurrency#syllabus>
3. <https://www.coursera.org/learn/smarter-contracts#syllabus>
4. <https://www.udemy.com/course/hyperledger>
5. <https://www.coursera.org/learn/blockchain-platforms>
6. <https://bitcoinbook.cs.princeton.edu/>

*S. Surali.*

Signature of BOS chairman, CSE



**U17CSE0011 DECLARATIVE DEVELOPMENT OF  
CUSTOMIZED APPLICATIONS**

L	T	P	J	C
2	0	0	2	3

**COURSE OUTCOMES**

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

CO1:	Design and manage the correct data model based on business requirements.
CO2:	Define business logic and configure application security.
CO3:	Visualize the process automation declaratively.
CO4:	Define and Design an appropriate deployment plan.
CO5:	Develop customized applications using Lightning Components.

**Pre-requisites :** U17CSI3204/Database Management System

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	M		M											M	
CO2		M	M												
CO3					S										
CO4			M		S									M	
CO5			M		M								M		

**COURSE ASSESSMENT METHODS**

DIRECT
1. Online Assessment
2. Quiz
INDIRECT
1. Course-end survey

**THEORY COMPONENT CONTENTS**
**INTRODUCTION TO DATA MODEL**

**6+3 Hours**

Introduction to Salesforce- Salesforce Architecture-Declarative vs. Programmatic Customizations -  
Salesforce CRM-Data Modeling-Custom and Standard Objects- Object Relationships- Data Management-  
Determining an Appropriate Data Model - Building Data Model

*S. Sherali.*  
Signature of BOS chairman, CSE



**BUSINESS LOGIC AND APPLICATION SECURITY****6+3 Hours**

Constructing business logic – Salesforce Social Features-Lightning Vs Classic UI- UI Design Best Practices.-Customization Options- Custom Buttons, Links, and Actions- List Views- Record Types- - Constructing business logic - Formula Fields - Roll-up Summary Fields - Validation Rules - Restricting and Extending Object, Record, and Field Access

**AUTOMATING BUSINESS PROCESSES****6+3Hours**

Business Value of Process Builder-Workflow Vs Process Builder-Converting Workflow into Process Best Practices-Lightning Process Builder- Workflows and Approvals- Automating Business Processes- Custom Lightning Components

**DEPLOYING YOUR APP****6+3Hours**

Application Lifecycle Management-Change Management Process- Sandboxes-Application Lifecycle Models- Change Sets - Unmanaged and Managed Packages - Determining an Appropriate Deployment Plan

**DESIGNING ADVANCED USER INTERFACE COMPONENTS****6+3 Hours**

Declarative Customizations- Limits of Declarative tools - Creating Reports – Report Types – Dashboards – Declarative Options for Incorporating Lightning Components – AppExchange Apps

<b>Theory: 30</b>	<b>Tutorial: 0</b>	<b>Practical: 0</b>	<b>Project: 15</b>	<b>Total: 60 Hours</b>
<b>Completion of Project : 15 Hours</b>				

**REFERENCES**

1. <https://www.edureka.co/blog/what-is-salesforce/>
2. <https://www.j2interactive.com/blog/brief-history-salesforce/>
3. <https://www.salesforce.com/blog/2017/08/salesforce-forbes-most-innovative-2017.html>
4. <https://trailhead.salesforce.com/en/academy/classes/dex402-build-platform-apps-using-declarative-development-in-lightning-experience/>
5. <https://trailhead.salesforce.com/en/users/strailhead/trailmixes/prepare-for-your-salesforce-platform-app-builder-credential>
6. <https://trailhead.salesforce.com/en/users/dnadimi/trailmixes/dex-402-kick-off>
7. <https://trailhead.salesforce.com/content/learn/trails/platform-app-builder-certification-prep>
8. [https://trailhead.salesforce.com/modules/data\\_security](https://trailhead.salesforce.com/modules/data_security)
9. [https://trailhead.salesforce.com/modules/reports\\_dashboards](https://trailhead.salesforce.com/modules/reports_dashboards)
10. [https://trailhead.salesforce.com/modules/lex\\_customization](https://trailhead.salesforce.com/modules/lex_customization)

*S. Anjali.*  
Signature of BOS chairman, CSE



**U17CSE0013 ADX 201 SALESFORCE ADMINISTRATOR**

L	T	P	J	C
2	0	0	2	3

**COURSE OUTCOMES**

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

<b>CO1</b>	Understand admin essentials in Lightning Experience.
<b>CO2</b>	Differentiate the building blocks of Salesforce and visualize the CRM in Salesforce lightning platform
<b>CO3</b>	Find out how maintain and import clean data in Lightning platform
<b>CO4</b>	Use Lightning features to create high-value reports and dashboards
<b>CO5</b>	Implement security and Understand how workflow automation complies with Lightning.

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
<b>CO1</b>		M			M								M		
<b>CO2</b>					M					M					M
<b>CO3</b>			M								M			M	
<b>CO4</b>			M							M					
<b>CO5</b>	M							M							

**COURSE ASSESSMENT METHODS**

<b>DIRECT</b>
1. Online Assessment
2. Quiz
<b>INDIRECT</b>
1. Course-end survey

S. Anali.

Signature of BOS chairman, CSE



## **THEORY COMPONENT CONTENTS**

### **CUSTOMIZE AN ORG TO SUPPORT A NEW BUSINESS UNIT**

**9 Hours**

Wh Manage User Access-Manage Chatter-Modify Your Data Model-Configure an Email Letterhead and Template-Automate Your Business Process

### **DATA SECURITY**

**9 Hours**

Overview of Data Security-Control Access to the Org-Control Access to Objects-Control Access to Fields-Control Access to Records>Create a Role Hierarchy-Define Sharing Rules

### **REPORTS AND DASHBOARDS FOR LIGHTNING EXPERIENCE**

**9 Hours**

Introduction to Reports and Dashboards in Lightning Experience>Create Reports with the Report Builder-Format Reports-Visualize Your Data with the Lightning Dashboard Builder- Extend Your Reporting Strategy with AppExchange

### **CREATE REPORT AND DASHBOARDS FOR SALES AND MARKETING MANAGERS**

**9 Hours**

Create Report and Dashboard Folders>Create a Simple Custom Report-Filter Your Reports-Group and Categorize Your Data-Use Summary Formulas in Your Reports-Manage Reported Data-Visualize Your Data

### **LIGHTNING APP BUILDER**

**9 Hours**

Clean and import account data>Create users and manage access>Create email templates for new marketing needs-Configure UI tools for a new product type>Create reports and dashboards-Manage and apply Chatter tools - Create Your First Page-Add More Components-Add Quick Actions and Activate the App-Test in the Salesforce Mobile App- Get to Know Salesforce Identity- Get To Know Your Salesforce Identity Users-Learn the Language of Identity- Secure Your Users' Identity-Customize Your Login Process with My Domain-Set Up Single Sign-On for Your Internal Users

<b>Theory:</b>	<b>Tutorial: 0</b>	<b>Practical: 0</b>	<b>Project: 0</b>	<b>Total: 45 Hours</b>
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## **REFERENCES**

### **E BOOKS AND ONLINE LEARNING MATERIALS**

1. <https://trailhead.salesforce.com/credentials/administrator>
2. [https://trailhead.salesforce.com/en/content/learn/modules/lex\\_implementation\\_reports\\_dashboards/lex\\_implementation\\_reports\\_dashboards\\_overview](https://trailhead.salesforce.com/en/content/learn/modules/lex_implementation_reports_dashboards/lex_implementation_reports_dashboards_overview)
3. [https://trailhead.salesforce.com/en/content/learn/modules/identity\\_login](https://trailhead.salesforce.com/en/content/learn/modules/identity_login)
4. <https://trailhead.salesforce.com/en/content/learn/superbadges/superbadge-lex-rd>
5. [https://trailhead.salesforce.com/en/content/learn/superbadges/superbadge\\_business\\_specialist](https://trailhead.salesforce.com/en/content/learn/superbadges/superbadge_business_specialist)

*S. Shunali.*  
Signature of BOS chairman, CSE



U17CSI3202

**OBJECT ORIENTED PROGRAMMING**

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:** Identify classes, objects, members of a class and the relationships among them for a specific problem.  
**CO2:** Build applications using various types of Inheritance and Interfaces  
**CO3:** Explain the concepts of exception handling and multithreading to develop an application or program.  
**CO4:** Apply the concepts of data abstraction, encapsulation and polymorphism for problem solving.  
**CO5:** Develop solutions to a given problems using collections, files and streams.  
**CO6:** Design, develop, test and debug Java programs using object-oriented principles in conjunction with development tools including integrated development environments

**Pre-requisite :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		M				M	M		M	M	M	
CO2	S	S	M		M				M	M		M			
CO3	S	S	M		M				M	M		M			
CO4	S	S	M		M				M	M		M			
CO5	S	S	M		M				M	M		M			
CO6	S	S	M		M				M	M		M	M	M	

**COURSE ASSESSMENT METHODS**

DIRECT	
1. Continuous Assessment Test I, II (Theory component)	
2. Assignment; Group Presentation, Project 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)	
INDIRECT	
1. Course-end survey	

**THEORY COMPONENT CONTENTS****INTRODUCTION TO OBJECT ORIENTED PROGRAMMING AND JAVA****7 Hours**

Introduction to OOP– Java Fundamentals -Data Types, Variables, and Arrays - Operators-Control Statements – Classes – Methods –Constructors- Garbage Collection.

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**INHERITANCE AND EXCEPTION HANDLING****10 Hours**

Inheritance – Packages and Interfaces – Exception Handling Fundamentals – Java's Built-in Exceptions-Creating new Exception subclasses.

**POLYMORPHISM AND MULTITHREADING IN JAVA****10 Hours**

Polymorphism- Abstract classes and methods-Overloading-Overriding-final methods and classes –Multithreaded programming –The Thread class and the Runnable Interface-Creating multiple threads –Synchronization- Autoboxing, and Annotations (Metadata).

**STRING HANDLING AND COLLECTION FRAMEWORK****11 Hours**

String Constructors-String Operations-Generic classes and methods-The Collection Framework-Collections-List- ArrayList,Linked List,Set-HashSet,LinkedHashSet,Queue-PriorityQueue,Map-HashMap,SortedMap, TreeMap.

**FILES AND STREAMS IN JAVA****7 Hours**

Files and streams –Byte Stream-I/O stream,File I/O Stream,ByteArray I/O Stream-Character Stream-File Reader and Writer,CharArrayReader and Writer-Serialization.

<b>Theory: 45</b>	<b>Tutorial: 0</b>	<b>Practical: 0</b>	<b>Project: 0</b>	<b>Total: 45 Hours</b>
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**REFERENCES**

1. Herbert Schildt, "Java the Complete Reference", Ninth edition Tata McGraw Hills, 2014.
2. Paul Deitel and Harvey Deitel, —"Java How to Program (Early Objects)", Tenth Edition, Pearson Prentice Hall 2014.
3. Timothy Budd, —"An Introduction to Object-Oriented Programming", Third Edition, Pearson Education, 2008.
4. E.Balaguruswamy, "Programming with Java", Second Edition, TMH, 2009

**E BOOKS AND ONLINE LEARNING MATERIALS**

1. Herbert Schildt, "Java the Complete Reference", Eighth edition Tata McGraw Hills, 2011.

**30 Hours****LAB COMPONENT CONTENTS****LIST OF EXPERIMENTS**

1. Simple Programs in java using classes and methods.
2. Program for User Defined Exception Handling.
3. Program for Method Overloading and Method Overriding
  - a) Use the concept of Packages and Interfaces
4. Thread Creation
  - a) Using Thread Class and Runnable Interface
  - b) Inter Thread Communication
5. Program using inbuilt methods of String class.
6. Program using collection framework
  - a) Use the concept of List,Set,Map.
7. Program using Input streams and Output streams.
8. Program to access and perform various operations in file contents.
9. Use case/Project to implement Object oriented concepts using java

<b>Theory: 0</b>	<b>Tutorial: 0</b>	<b>Practical: 30</b>	<b>Project: 0</b>	<b>Total: 30 Hours</b>
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**ONLINE COURSES AND VIDEO LECTURES:** <https://www.javatpoint.com/java-tutorial>

Signature of BOS chairman, CSE





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**KUMARAGURU COLLEGE OF TECHNOLOGY, COIMBATORE-641049**

**(An Autonomous Institution affiliated to Anna University, Chennai)**

**Action Taken Report -Student Feedback**

**Department of Electronics and Communication Engineering**

**Academic Year: 2018 – 2019**

**Date: 15.04.2019**

S.No	Feedback	Action Taken
1.	System based experiments needs more clarity.	Laboratory handling faculty members were instructed to take concepts in depth.
2.	Basic concepts in "Analog Circuits" & "Digital Electronics" need to be taught.	Subject handling faculty members were instructed to take care of this issue.
3.	More of programming languages must be taught other than regular curriculum.	Value added courses will be planned to teach programming languages.

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman



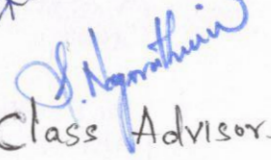
**Proof for Action Taken 1: laboratory handling faculty members were instructed to take concepts in depth.**

<b>S.No</b>	<b>Date</b>	<b>Nature of event</b>	<b>Title of event</b>	<b>Duration</b>	<b>Venue</b>	<b>Coordinator</b>	<b>Resource person</b>	<b>Targeted participants</b>
1	25.9.2018	Workshop	Hands on Workshop on MATLAB	3 hours	DSP lab	Ms. Shiji Shajahan	Ms. Shiji Shajahan, AP/ECE	Students
2	29.9.2018,30/9/18	FDP/Short term course	One credit course	2 days	CoE lab	Karthikeyan R, Karthik S	Steps Knowledge Services Pvt Ltd, Coimbatore	Students





4.	U17ECT3004 Electro Magnetic Fields	15.04.2019 3.40 to 4.40 PM	II-A Class room	10	15	08	33	Mr.R.Darwin AP-II/ECE C-203
		22.04.2019 3.40 to 4.40 PM						Mr.D. Allin joe AP/ECE C-203
5.	U17ECT3005 Linear Integrated Circuits	01.04.2019 3.40 to 4.40 PM 19.04.2019 1.40 to 2.40 PM 26.04.2019 1.40 to 2.40 PM	II-A and II-B class room	12	18	14	44	Ms.S.Tamil Elakkiya AP/ECE C-202 Ms.K.Jasmine AP/ECE C-203

  
 [Timothy D Paul]  
 AP/ECE  
  
  
 Class Advisors





**KUMARAGURU COLLEGE OF TECHNOLOGY  
COIMBATORE – 641 049**

### Remedial Class Record

Branch : ECE

Section: B

Semester : IV

### Test Performance:

Subject: ANALOG ELECTRONICS

Faculty: Ms. JASPAR VINITHA SUNDARI

[illegible]

Faculty  
Director

Course coordinator / HOD /



May 2019



**Proof for Action Taken 3: value added courses will be planned to teach programming languages.**

<b>S.N O</b>	<b>Name of the value added courses (with 30 or more contact hours) offered</b>	<b>Year of offering</b>	<b>No. of times offered during the same year</b>	<b>Duration of course (Hours)</b>	<b>Number of students enrolled</b>	<b>Number of Students completing the course</b>	<b>Attendance Proof</b>
1	Value added course for technical Problem solving	2018-19	1	30	41	41	<a href="https://kumaragurudtsteam-my.sharepoint.com/:b:/g/personal/tamilelakkiya_s_ece_kct_ac_in/EfeP_yH1WvtDihH_LkAxFcG3M-Ok_0eE1N3tb6i-VH6pA?e=NBB2Rg">https://kumaragurudtsteam-my.sharepoint.com/:b:/g/personal/tamilelakkiya_s_ece_kct_ac_in/EfeP_yH1WvtDihH_LkAxFcG3M-Ok_0eE1N3tb6i-VH6pA?e=NBB2Rg</a>
2	Summer Technical Training Program on Matlab and design tool	2018-19	1	30	52	52	<a href="https://kumaragurudtsteam-my.sharepoint.com/:b:/g/personal/tamilelakkiya_s_ece_kct_ac_in/Eb3x-2i6SDVHgmezTO2OgL4BBO1qXhf-A6omO130TYcEG?e=3r89kS">https://kumaragurudtsteam-my.sharepoint.com/:b:/g/personal/tamilelakkiya_s_ece_kct_ac_in/Eb3x-2i6SDVHgmezTO2OgL4BBO1qXhf-A6omO130TYcEG?e=3r89kS</a>
3	Summer Technical Training Program for Embedded System	2018-19	1	30	52	52	<a href="https://kumaragurudtsteam-my.sharepoint.com/:b:/g/personal/tamilelakkiya_s_ece_kct_ac_in/EXtEBFBI6CJNnMoa-78m9PwB3QpS-Ma0jlW4jaOhkD3Prg?e=B0oSJw">https://kumaragurudtsteam-my.sharepoint.com/:b:/g/personal/tamilelakkiya_s_ece_kct_ac_in/EXtEBFBI6CJNnMoa-78m9PwB3QpS-Ma0jlW4jaOhkD3Prg?e=B0oSJw</a>



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**Department of Electronics & Instrumentation Engineering**

**AY: 2018-19**

**15.04.2019**

**Action taken report - Students Feedback**

S.No	Analysis	Action taken report
1.	Suggested to include Embedded protocol in the course U18EII5004 - Communication and networks	Protocol concepts covered in the course U18EII5004 - Industrial Communication and networking
2.	Expressed her views about the learning of DIP course in hands on mode which was very effective.	More such courses will be offered in hands on mode.
3.	To provide core course training for placements	Incorporated

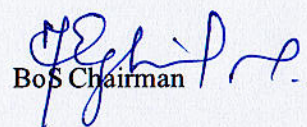
Prepared By,

V. Met

V. Mainie Kalala APL/EIE

BoS Coordinator

Approved By,

  
BoS Chairman



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:** Analyze the fundamentals of communications (K4).

**CO2:** Examine the principles of selecting and installing telecommunications systems(K4).

**CO3:** Make use of "best practice" decisions on the best and most cost-effective access options for an industrial network (K4).

**CO4:** Identify, prevent and troubleshoot industrial communications problems(K3).

**CO5:** Test the installation and the configuration of a simple Ethernet network(K3).

**CO6:** Interpret a protocol through simple implementation (K2).

**Pre-requisite: -**

COs	PO												PSO	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	K3	K4	K5	K5	K3	K3	K3	K3	K3	K3	K3	K3	K4	K4
CO1(K4)		S												
CO2(K4)		S	M										M	
CO3(K3)	S			S							M	M		
CO4(K4)	M			S						M				
CO5(K3)	S				M		W							S
CO6 (K2)						M								M

**Course Assessment Methods:**

Direct	Indirect
<ul style="list-style-type: none"> <li>Internal Tests</li> <li>Assignment/Projects/Reports</li> <li>End semester exams</li> </ul>	<ul style="list-style-type: none"> <li>Course Exit Survey</li> </ul>

**Course Content:**

**BASICS OF COMMUNICATION SYSTEM**

**2**

**Hours.**Communication, Communication systems, Modulation, Bandwidth Requirement. Channel Capacity, Baud Rate, Data Rate.

**MODULATION TECHNIQUES**


**10 Hours**

Theory of Amplitude Modulation- Frequency spectrum of AM wave- Representation of AM- Power Relation in the AM wave-Theory of Frequency Modulation- Mathematical Representation of FM- Frequency spectrum of FM wave-Theory of Phase Modulation- Comparison of different modulations-Modulation for Digital signal: Introduction- modulation circuit- demodulation circuit- ASK- FSK- PSK- PWM- PAM- PPM

**FUNDAMENTALS OF DATA COMMUNICATIONS**

**6 Hours**

Bit- Bytes and Characters- Communication principle- Communication modes- Synchronous and

K.K.   
BOS Chairman



asynchronous system- Error detection- Transmission Characteristics- Data coding- UART- Functional Layered Models - OSI reference model- System engineering approach- Input / Output Structures- Control Unit Structure- Protocols- Basics of Network Topology

### **INDUSTRIAL COMMUNICATIONS STANDARDS AND PROTOCOLS** **8 Hours**

**Serial Communication Standards:** Serial data communication interface standards- Balanced and unbalanced transmission lines- RS 232-422-485 standards. Troubleshooting serial data communication circuits- Test equipment- RS 422 Standard- RS 485 Standard- Troubleshooting and testing with RS 485- 20 mA Current loop- GPIB- USB-Controller Area Networks (CAN) protocol

**Industrial Protocols:** XON/OFF Signaling- Binary Synchronous Protocol (BSC)- HDLC/SDLC protocol- CSMA/CD- CA protocol- OSI implementation for Industrial communications- Industrial control applications: ASCCII-based protocol – ANSI –X 3.28 -2.5.

### **HART COMMUNICATION PROTOCOL** **9 Hours**

Architecture - physical- data link- application layer- communication technique- normal and burst mode of communication- benefits of HART. Introduction to Wireless HART

### **OPEN INDUSTRIAL FIELDBUS AND DEVICENET SYSTEMS** **10 Hours**

**Industrial Ethernet:** 10Mbps- 100Mbps Ethernet- Gigabit Ethernet- Industrial Ethernet.

**Foundation fieldbus:** Fieldbus requirement- features- advantages- fieldbus components- types- architecture-physical- data link- application layer- system and network management- wiring- segment functionality checking- function block application process.

**Profibus:** Architecture- OSI-model- PROFIBUS types – PA- DP & FMS and their comparison- Designing PROFIBUS- Network design- Advantages and Applications of PROFIBUS in industries.

<b>Theory Hours: 45</b>	<b>Practical Hours: 0</b>	<b>Total Hours: 465</b>
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#### **References Books:**

1. Kennedy and Devis- Electronic Communication Systems
2. John Park, Steve Mackay, Edwin Wright, Practical Data Communications for Instrumentations and Control, 1 st Edition ELSEVIER, 2003.
3. Deon Reynders, Steve Mackay, Edwin Wright, Practical Industrial Data Communications, 1 st Edition ELSEVIER, 2005.
4. Behrouz A. Forouzan, Data Communications and Networking, 2nd Edition, Mc Grow – Hill, 2001
5. Lawrence M. Thompson and Tim Shaw, Industrial Data Communications 5<sup>th</sup> Edition, ISA

#### **List of Open Source Software/learning website:**

##### **Learning website: -**

- <http://nptel.iitm.ac.in/courses.php>
- <http://ocw.mit.edu>
- <http://www.electrical-engineering-portal.com>
- <http://en.wikipedia.org>
- <https://www.anlog.com>
- <https://www.protocols.com>
- <https://www.cse.wustl.edu/~lu/cse521s/Slides/wirelesshart.pdf>





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**Department of Fashion Technology**

**AY: 2018-19**

**Action taken report –Student Feedback**

Date : 15.04.2019

S.No	Analysis	Action taken report
1.	An introduction to non woven making should be added in weaving course to get knowledge on application of non woven in apparels.	The course U18FTT4001 weaving technology is renamed as fabric formation technology and non-woven basics are added in the syllabus.
2.	Application of fancy yarns and functional yarns can be added in yarn technology	Fancy yarns and functional yarns are added in the course U18FTT3001 yarn technology
3.	To provide more knowledge on designing part, two portfolios should be provided in the curriculum.	Two portfolio labs (U18FTP6505 Portfolio presentation I and U18FTP7503 Portfolio presentation II) are provided in the curriculum.

PreparedBy,

BoS Coordinator

Approved By,

BoS Chairman

**Sl.No: 1- U18FTT4001 weaving technology is renamed as fabric formation technology and non-woven basics are added in the syllabus**



Semester IV										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18MAT4102	Numerical Methods	Theory and Tutorial	BS	3	1	0	0	4	Nil
2	U18MET4007	Basics of Mechanical Engineering	Theory	ES	3	0	0	0	3	NIL
3	U18FTT4001	Fabric Formation Technology	Theory	PC	3	0	0	0	3	U18FTT1001
4	U18FTT4002	Apparel Machinery and Equipment	Theory	PC	3	0	0	0	3	NIL
5	U18FTI4203	Apparel Design and Development	Embedded - Theory & Lab	PC	3	0	2	0	4	U18FTI3204
6	U18FTI4204	Fabric Structure and Design	Embedded - Theory & Lab	PC	3	0	2	0	4	U18FTT3001
7	U18INI4600	Engineering Clinic IV	Project based course	ES	0	0	4	2	3	Nil
Total Credits									24	
Total Contact Hours/week									29	

### U18FTT4001 FABRIC FORMATION TECHNOLOGY

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	Description	Bloom's taxonomy level
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 nonwovens manufacturing techniques and its applications.	K2

#### Pre Requisite:

1. U18FTT1001 Fibre Science

#### 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											M	
CO2	S	S											M	
CO3		S											M	W
CO4		S											W	M
CO5		S	S		S								M	M
CO6		S	S										M	

#### Course Assessment methods

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

### COURSE CONTENT

#### YARN PREPARATION FOR WEAVING

**9 Hours**

Process Flow–objectives of winding; principles of cheese and cone winding machines - Pirn winding. Concepts in yarn clearing – mechanical, optical and electronic clearers; knotters and splicers; Yarn quality requirements for weaving.

#### BEAM PREPARATION FOR WEAVING: WARPING AND SIZING

**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**

Objectives and working principles– primary, secondary and auxiliary motions, Mechanisms of Tappet, Dobby and Jacquard weaving. Types of Shuttle looms – Handloom, Non-automatic, Semi-automatic and Automatic looms; Drop box loom; Terry loom.

#### 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. Computerized fabric inspection, Loom data system.

#### NONWOVENS

**9 Hours**

Definition. Raw materials for nonwovens – natural and man-made fibers, binders; classification of nonwovens, manufacturing methods - Needle punching, chemical bonding, spun bonding, thermal bonding, melt-blown process, hydro-entangling. Applications of non-wovens.

**Total: 45 Hours**

## REFERENCES

1. Allan Ormerod, Walter S.Sondhelm, Weaving-Technology and Operations, Textile Institute Pub., 1995.
2. Lord P.R. and Mohammed, Weaving: Conversion of yarn to fabric, M.H. MerrowPub.CoLtd., U.K.,1998.
3. Talukdar, Introduction to winding and warping, MahajanPub. (P)Ltd., 1998.
4. Talukdar, Wadekar and Ajgaonkar, Sizing–Materials, methods and machines, 2<sup>nd</sup> edition, Mahajan Pub. (P) Ltd.,1998.
5. Gokarneshan N., Weaving Preparation Technology, Abhishek Pub., 2009
6. Talukdar, SriramuluandAjgaonkar, Weaving–Machines, Mechanisms, Management, Mahajan Pub. (P) Ltd.,1998
7. Albrecht. W, Fuchs. H, Kittelmann and Walter, “Nonwoven Fabrics- Raw Materials, Manufacture, Applications, Characteristics, Testing Processes”, Wiley-VLH, 2002, Weinheim. ISBN- 3-527-30286-7

## OTHER REFERENCES

1. Tappet Shedding Mechanism: <https://www.youtube.com/watch?v=3aL3dAy2FEM>
2. Tappet Shedding Mechanism: <https://www.youtube.com/watch?v=W5BRDDhR0dI&t=53s>
3. Jacquard Shedding mechanism: [https://www.youtube.com/watch?v=awGjOG0\\_Mis](https://www.youtube.com/watch?v=awGjOG0_Mis)
4. Types of weft insertion: [https://www.youtube.com/watch?v=s0W0iDj7\\_hc&t=40s](https://www.youtube.com/watch?v=s0W0iDj7_hc&t=40s)

**Sl.No: 2- Fancy yarns and functional yarns are added in the course U18FTT3001 yarn technology**

## U18FTT3001 YARN TECHNOLOGY

### COURSE OUTCOMES

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

<b>CO1</b>	Outline sequentially the processes involved in short staple spinning	K2
<b>CO2</b>	Outline sequentially the processes involved in long staple spinning	K2
<b>CO3</b>	Acquire knowledge on basic principles of advanced spinning systems	K2
<b>CO4</b>	Acquire knowledge on post spinning operations and yarn, package faults	K3
<b>CO5</b>	Outline sequentially the processes involved in the production of sewing threads	K3
<b>CO6</b>	Acquire knowledge on specialityyarns and their production	K2

**Pre-requisite courses: U18FTT1001 Fibre science**

<b>CO/PO Mapping</b> (S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak			
COs	Programme Outcomes(POs)		



	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO1 1	PO1 2	PSO 1	PSO 2
CO1	M													M
CO2	M													M
CO3	M												M	
CO4	M												S	
CO5	M												M	
CO6	M												S	

**Course Assessment methods:**

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

**Course Content**

**SHORT STAPLE SPINNING SYSTEM (COTTON):**

**12Hours**

Ginning-objectives, types, suitability and principle of working. Sequence of process in cotton spinning, Objectives and principles of working of Blow. room Carding, Drawing, Combing, Simplex and Ring spinning. Corespun yarn production in ring frame.

**LONG STAPLE SPINNING SYSTEM (WORSTED):**

**7 Hours**

Sequence of process; objectives and principles of working of Scouring, Drying, Oiling, Dyeing, Blending, Carding, Gilling and Combing, Drawing, Roving and Spinning.

**ADVANCED SPINNING SYSTEMS**

**10 Hours**

Basic Principles of Rotor spinning, Air jet spinning and DREF spinning systems. Solo and Compact spinning systems - objectives and principles of working. Comparison of characteristics of yarns from different spinning systems.

**POST SPINNING AND YARN QUALITY**

**7 Hours**

Objectives and principles of working of Ring doubler and Two for one twister (TFO)-Single yarn and ply yarn characteristics and their applications.

Yarn quality and characteristics - Yarn faults, imperfections and their identification. Package faults (Cones, cheese and Hanks) and identification.

**SEWING THREAD AND SPECIALITY YARNS:**

**9**

**Hours**

Sewing Thread Manufacture: Fibres used and their characteristics. Essential quality requirements of sewing threads, Sequence of manufacturing process for sewing threads for cotton, polyester and polyester/cotton blends. **Speciality Yarns: Fancy yarns, textured yarns and Melange yarns-Types and classifications.**

**TOTAL: 45 HOURS**

**REFERENCES**

1. Klien, W.G, "The Technology of Short Staple Spinning" The Textile Institute,,

MahendraGowda, R. V, "New Spinning Systems", NCUTE Publication, SecondEdition,2006  
Joseph.M.L, "Essentials of Textiles", Hold Rienhart Winston Pub.Co., New York, 1990  
Oxtoby E, "Spun Yarn Technology", Butterworth and Co., London, 1991.  
Corbmann, B.P, "Textiles: Fibre to Fabric", McGraw Hill Inc., USA, 1996.  
Chellamani, K.P, Chattopadhyay, D, "Yarns and Technical Textiles"  
SITRA publication, First Edition, 1999

Semester VI											Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C		
1	U18FTT6001	Apparel Production Planning and Control	Theory	PC	3	0	0	0	3	Nil	
2	U18FTT6002	Apparel Merchandising and Cost Management	Theory	PC	3	0	0	0	3	Nil	
3	U18FTT6003	Industrial Engineering in Apparel Industry	Theory	PC	3	0	0	0	3	Nil	
4	U18FTE....	Programme Elective I	Theory	PE	3	0	0	0	3	Nil	
5	U18OE....	Open Elective II	Theory	OE	3	0	0	0	3	Nil	
6	U18FTE...	Programme Elective II	Theory	PE	3	0	0	0	3	Nil	
7	U18FTP6504	Apparel CAD lab	Lab	PC	0	0	2	0	1	Nil	
8	U18FTP6505	Portfolio Presentation I	Lab	PC	0	0	2	0	1	U18FTI4203	
Total Credits									20		
Total Contact Hours/week									22		

Semester VII										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U18FTT7001	Apparel Brand Management	Theory	PC	3	0	0	0	3	Nil
2	U18FTT7002	Apparel Retail Management	Theory	PC	3	0	0	0	3	Nil
3	U18FTE....	Programme Elective III	Theory	PE	3	0	0	0	3	Nil
4	U18FTE....	Programme Elective IV	Theory	PE	3	0	0	0	3	Nil
5	U18FTP7503	Portfolio Presentation II	Lab	PC	0	0	2	0	1	U18FTP6505
6	U18FTP7701	Project -Phase I	Project only Course	PW	0	0	0	6	3	Nil
Total Credits									16	
Total Contact Hours/week									20	





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**Department of Textile Technology**

**AY: 2018-19 -2**

**Date: 15.04.2019**

**Action taken report -Students Feedback**

<b>S.No</b>	<b>Analysis</b>	<b>Action taken report</b>
1.	Industrial Engineering for Textile industry can be included in elective	Included in elective Course code: U17TXE0014 Course Name: Industrial Engineering for Textile and Apparel Industry
2.	Clothing comfort related subjects can be included in elective	Included in elective Course code: U17TXE0007 Course Name: Clothing Science

Approved By,

Dr.J. Srinivasan

BoS Chairman



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**Department of Textile Technology**

**AY: 2018-19 -2**

**Date: 15.04.2019**

**Action taken report -Students Feedback**

<b>S.No</b>	<b>Analysis</b>	<b>Action taken report</b>
1.	Industrial Engineering for Textile industry can be included in elective	Included in elective Course code: U17TXE0014 Course Name: Industrial Engineering for Textile and Apparel Industry
2.	Clothing comfort related subjects can be included in elective	Included in elective Course code: U17TXE0007 Course Name: Clothing Science



**Proof**  
**Included in elective**  
**Course code: U17TXE0014**  
**Course Name: Industrial Engineering for Textile and Apparel Industry**

128

**U17TXE0014 INDUSTRIAL ENGINEERING FOR TEXTILE AND APPAREL INDUSTRY**

L	T	P	J	C
3	0	0	0	3

**Course Outcomes (COs)**

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

**CO1:** Discuss the relationship between productivity and work-study.

**CO2:** Explain the various method study techniques.

**CO3:** Calculate the standard time by using work measurement techniques.

**CO4:** Describe the Industrial Engineering concepts in apparel.

**CO5:** Explain how the work study used in optimization of work load in sewing department of garment unit.

**CO6:** Elaborate of IE techniques.

CO-POs & PSOs Mapping (S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak														
COs	Programme Outcomes (POs) & Programme Specific Outcomes (PSOs)													
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO1	S	M									M		S	
CO2	S	M									M		S	
CO3	S	M									M		S	
CO4	S	M									M		S	
CO5	S	M			M						M		S	
CO6	S	M							S	M	M		S	

**Course Assessment methods**

Direct	Indirect
1. Internal test I 2. Internal test II 3. Assignment/ Seminar/ Tutorial 4. End Semester Examination	1. Course end survey

**PRODUCTIVITY AND WORK STUDY PRODUCTIVITY**

**9 Hours**

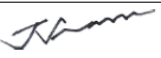
Productivity in textile and apparel industry: units of productivity - total time to do a job – factors affecting productivity – work content and total time – reducing work content due to the product and process method – reducing ineffective time due to worker and supervision.

Work Study: definition, work-study and productivity - basic procedure of work-study – work study and the worker, supervisor and the management - working condition and the working environment.

**METHOD STUDY**

**9 Hours**

Method study: definition and objects of method study – basic procedure, selection of work, Recording, examining, development of method – Textile / Apparel factory lay

  
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out and movement of workers and material - string diagram – man type flow process chart – multiple activity chart – travel chart – principle of motion economy – classification to movements – two-handed process chart – micro motion study – SIMO chart – Define, installs and maintain improved method.

#### **WORK MEASUREMENT**

**9 Hours**

Work measurement: definition, purpose, procedure and uses – techniques of work measurement – work sampling: need and use time study – definition – basic time study equipment – time study forms – selecting the job, steps in making a time study – breaking the job into elements – sample size, timing card element – stop watch procedure - time study rating – calculation of standard time – setting time standards for work with apparel production machineries.

#### **INDUSTRIAL ENGINEERING**

**9Hours**

Industrial engineering term in textile and apparel industry-role of industrial engineering in textile industry- methodology- benefits- tools and techniques-pre-production activities- capacity study- operator performance follow ups-work in progress- operation bulletin- line balancing- steps in line balancing –efficiency-cycle checks-balancing tools- scientific method of training.

#### **APPLICATION OF WORKSTUDY**

**9 Hours**

Application of work study technique in optimizing work load in stitching activity in garment industry – comparative study of different manufacturing systems used in the garment production - group system, batch system – industrial system – productivity calculation in Stitching activity. Ergonomics and its concept in textile industry

**Theory: 45 Hours**

**Total: 45 Hours**

#### **REFERENCES**

1. Johnson Maurice “Introduction to Work Study”, International Labour Organization, Geneva, 2006.
2. JaccoSolinger “Apparel Manufacturing Hand Book”, Reinhold Co., 1998.
3. Juan CrloHiba “Improving working conditions and productivity in the garment industry” International Labour Organization, Geneva, 1998.
4. V.RameshBabu “ Industrial Engineering in Apparel Production” Wood Head publishing India Ltd., ISBN 13:978-93-80308-17-3, 2012.
5. M.I.KHAN”Industrial Engineering”New age international, 2007
6. Kjell zondin, “Maynard’s Industrial Engineering Handbook”, 5th edition, Mcgraw Hill, 2001.
7. Sheth vijay, “Industrial engineering methods and practices”, penram international, publishing, India, 2005.



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Included in elective  
Course code: U17TXE0007  
Course Name: Clothing Science

114

**U17TXE0007 CLOTHING SCIENCE**

L	T	P	J	C
3	0	0	0	3

**Course Outcomes (COs)**

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

**CO1:** Understand the Estimation of transmission characteristics of various fabrics and their suitability of applications.

**CO2:** Understand the Estimation of transformation characteristics of various fabrics and their suitability of applications.

**CO3:** Do the Selection of fibre type, yarn structure and fabric structure for sports applications.

**CO4:** Design of a fabric with suitable fibre type, yarn structure, fabric structure and finishes for bullet proof fabrics.

CO-POs & PSOs Mapping (S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak														
COs	Programme Outcomes (POs) & Programme Specific Outcomes (PSOs)													
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO1	M													
CO2		M											M	
CO3		M												
CO4														
CO5														
CO6		M												

**Course assessment Methods**

Direct	Indirect
1. Internal test I 2. Internal test II 3. Assignment/ Seminar/ Tutorial 4. End Semester Examination	1. Course end survey

**TRANSMISSION CHARACTERISTICS**

**9 Hours**

Air permeability – Heat transmission – Thermal resistance – Light permeability – Moisture transmission – Water permeability – wicking characteristics – Radioactivity transmission.

**TRANSFORMATION CHARACTERISTICS**

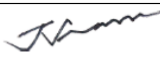
**9 Hours**

Crease resistance and recovery – Crock resistance – Dimensional stability – Hygral expansion – Relaxation shrinkage – Swelling shrinkage and felting shrinkage. Pilling – Scorching and Soiling – Flame retardance – Fusing and Mildew resistance. Subjective and objective evaluation: Drape – Colour, colour fastness – Shade variation and measurement.

**FABRIC HANDLE AND COMFORT**

**9 Hours**

Bending – Compression – Tensile – Shear – surface friction – Bias extension – Formability – Tailorability – Objective evaluation of fabric handle by KES and FAST Fabric parameters and its influence on fabric comfort – Garment fit and size on comfort.

  
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**DESIGN LOGIC OF APPAREL PRODUCT****9 Hours**

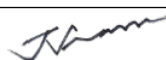
Classification of textile products – Components – Materials – Specification – Properties – Selection of constituent fibres, yarns, fabrics and apparels

**DEVELOPMENT OF APPARELS FOR SPECIFIC END USE****9 Hours**

Fit analysis for various end uses: Winter – summer wear – innerwear – Sports – Casual – Swim wear. Protective wear; Ballistic protection – UV protection – Functional and quality requirements. Factors to be considered while developing apparels for specific end use

**Theory 45 Hours****Total: 45 Hours****REFERENCES**

1. Pradip V. Metha, An Introduction to Quality Control for the Apparel Industry, ASQC Quality Press, Marcel Dekker Inc New York, 1992.
2. R. Ed Postle, S. Kawabata and M. Niwa, Objective Evaluation of Fabrics, Textile Machinery Society, Japan, Osaka, 1983.
3. Miller, Textiles: Properties and Behaviors in Clothing Use, The Textile Institute, 1998.
4. T. Mastudaira and M. N. Suresh, Design Logic of Textile Products, Textile Progress, The Textile Institute, Manchester, 1997.
5. B. P. Saville, Physical Testing of Textiles, The Textile Institute, Woodhead Publishing Limited, Cambridge, 1999.
6. R. M. Laing and G. G. Sleivert, Clothing, Textiles and Human Performance, Textile Progress, Vol.32, No.2, 2002.



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**DEPARTMENT OF COMPUTER APPLICATIONS**

**AY: 2018-19**

**Date : 15.04.2019**

**Action taken report -Student**

<b>S.NO</b>	<b>ANALYSIS</b>	<b>ACTION TAKEN REPORT</b>
1.	Need demo on testing Automation for the course software testing. .	As P18CAI4201 – Software Testing was a embedded course , the exercises given for lab component focus on testing automation.
2.	Can have lab component for Big data Analytics course and need for practice .	It was considered for next revision.
3.	Open API, Block chain, Java Containers, Design Patterns, Digital Marketing, Hybrid APP Development can be added as elective subjects	It was considered for next revision.

PreparedBy,

BoS Coordinator

Approved By,

BoS Chairman



Proof for Action Taken 1 :

<b>SEMESTER-IV</b>							
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Course Code	Course Title	Course Mode	L	T	P	J	C
P18CAI4201	Software Testing	Embedded - Theory & Lab	3	0	2	0	4
P18CAT4102	Big Data Analytics	Theory	3	1	0	0	4
P18CAI4203	Web Development	Embedded - Theory & Lab	3	0	2	0	4
P18CAE_----	Programme Elective I	Theory	3	0	0	0	3
P18CAP4501	Mobile Application Development Lab	Lab	0	0	4	0	2
P18ENP4501	Professional Skills III	Lab	0	0	2	0	1
P18INI4600	Engineering Clinic -II	Embedded Lab& Project	0	0	4	2	3

#### LIST OF EXPERIMENTS

1. Trace and debug a C program
2. Prepare a test plan and develop test case hierarchy
3. Generate test cases and test documentation for the selected project domain
4. Perform test to collect coverage error and leak data and memory profiling data using tools like Rational Purify.
5. Collect, analyze and compare the performance data using tools like Rational Quantify
6. Perform unit testing and integrated testing on the application
7. Perform load volume testing on the application
8. Perform performance testing on the application
9. Perform various testing on a web application using any open source tool



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**Department of Mechatronics Engineering**

**AY: 2018-19**

**Date: (23.04.18)**

**Action taken report -Student Feedback**

S.No	Analysis	Action taken report
1.	Suggested to embed the e yantra lab with the U17MCT7001 Autonomous vehicle subject	E yantra Experiment added in the practical learning process in the U17MCT7001 Autonomous vehicle
2.	PIC controller to be added in the U17MCI6202 Embedded system course	Added in the U17MCI6202 Embedded system course

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman





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**Department of Mechatronics Engineering**

**AY: 2018-19**

**Date: (23.04.18)**

**Action taken report -Student Feedback(Proof)**

**Proof 1:**

<b>LIST OF EXPERIMENTS</b>	<b>30 Hours</b>
<b>8051 Assembly language program &amp; interfacing</b>	
<ol style="list-style-type: none"><li>1. Basic programming using 8051 ALP (addition, subtraction, multiplication, ascending, descending etc.)</li><li>2. 8051 peripheral programming (ADC, counter, timer, interrupts etc.)</li><li>3. Motor control using 8051(DC motor and stepper motor)</li><li>4. Build and test circuits with switches, LEDs, resistors, potentiometers, and liquid crystal displays</li><li>5. Synchronizing hardware and software input/output with switches, lights, sound, sensors, motors, and liquid crystal displays</li><li>6. Implementation of combination lock with Capsense</li><li>7. Motor control using PWM</li><li>8. Development of hypothetical Switch Protocol using GPIO and timer using ARM7and PSoC</li><li>9. Utilization of capacitive sensing (CapSense) module of PSoC board for simple applications</li><li>10. Study of E yantra board</li></ol>	
<b>Theory: 45    Tutorial: 0    Practical: 30    Project: 0    Total: 75 Hours</b>	

**Proof 2:**

<b>THE MICROCONTROLLER ARCHITECTURE</b>	<b>9 Hours</b>
Introduction to 8051 Microcontroller: Architecture, Pin configuration, Memory organization, Input /Output Ports, Counter and Timers, Serial communication and Interrupts, Instruction set,	

  
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Addressing modes, Simple programming





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**Department of Mechanical Engineering**

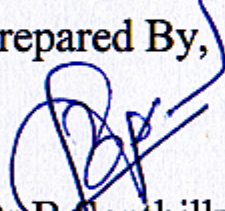
**AY: 2018-19**

**Date: 15.04.2019**


**Students Feedback**

1. Training program can be organised in non-traditional machining process- EDM .

Prepared By,

  
Dr.B.Senthilkumar  
BoS Coordinator

Approved By,

  
Dr.C.Velmurugan  
BoS Chairperson

**Dr. C. VELMURUGAN, M.E., Ph.D.**  
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**Department of Mechanical Engineering**

**AY: 2018-19**

**Date: 15.04.2019**

**Students Feedback Analysis Report**

1. Training program can be organised in non-traditional machining process- EDM .Response:  
Manufacturing module coordinator is requested to include this as an experiment in the syllabus

Prepared By,

Dr.B.Senthilkumar

BoS Coordinator

Approved By,

Dr.C.Velmurugan

BoS Chairperson

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**Department of Mechanical Engineering**

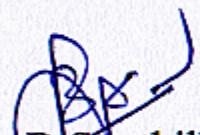
**AY: 2018-19**

**Date: 15.04.2019**

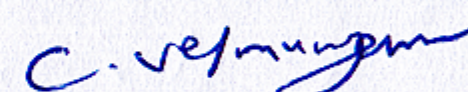
**Action taken report -Students Feedback**

<b>S.No</b>	<b>Analysis</b>	<b>Action taken report</b>
1.	Training program can be organised in non-traditional machining process- EDM .	It will be included in the U18MEI3201 Metal cutting and computer aided manufacturing lab as an experiment beyond the syllabus.

Prepared By,

  
Dr. B. Senthilkumar  
BoS Coordinator

Approved By,

  
Dr. C. Velmurugan  
BoS Chairperson

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