



KUMARAGURU
college of technology
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Department of Aeronautical Engineering

AY: 2016-17

Date: 15.07.2017

Action taken report -Employer Feedback

S.No	Analysis	Action taken report
1.	CAD laboratory I and II can be combined as one laboratory.	CAD laboratory I and II are combined as U17AEP2501 CAD Laboratory
2.	The following list of courses can be introduced as electives: <ul style="list-style-type: none">• Heat Transfer• Hypersonic Aerodynamics	Heat Transfer and Hypersonic Aerodynamics courses are introduced as electives
3.	'Finite Element Methods' course in 6 th semester can be shifted to 5 th semester.	Will be considered in the next revision of Curriculum & Syllabi as suggested by Employer
4.	MATLAB practical can be maintained in curriculum of 'Numerical Methods' course, but analytical methods also need to be taught for students.	
5.	Both theory and practical courses should be conducted for 'Aircraft Design'.	Both theory and practical courses are included in 'Aircraft Design'.

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

Proof for Action Taken: 1 CAD laboratory I and II are combined as U17AEP2501 CAD Laboratory

[illegible]

Proof for Action Taken: 2 Heat Transfer and Hypersonic Aerodynamics courses are introduced as electives

PROFESSIONAL ELECTIVES

Course Code	Course Title	Course category	Course Mode	L	T	P	J	C
U17AEE0001	Experimental Aerodynamics	Elective	Theory	3	0	0	0	3
U17AEE0002	Viscous Flow Theory	Elective	Theory	3	0	0	0	3
U17AEE0003	Hypersonic Aerodynamics	Elective	Theory	3	0	0	0	3
U17AEE0004	Cryogenic Engineering	Elective	Theory	3	0	0	0	3
U17AEE0005	Principles of Combustion	Elective	Theory	3	0	0	0	3
U17AEE0006	Heat and Mass Transfer	Elective	Theory	3	0	0	0	3
U17AEE0007	Composite Materials and Structures	Elective	Theory	3	0	0	0	3
U17AEE0008	Theory of Elasticity	Elective	Theory	3	0	0	0	3
U17AEE0009	Fatigue and Fracture Mechanics	Elective	Theory	3	0	0	0	3
U17AEE0010	Experimental Stress Analysis	Elective	Theory	3	0	0	0	3
U17AEE0011	Space Mechanics	Elective	Theory	3	0	0	0	3
U17AEE0012	Non Destructive Testing	Elective	Theory	3	0	0	0	3

Proof for Action Taken: 5 Both theory and practical courses are included in ‘Aircraft Design’.

Semester VII										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17AEI7201	Aircraft Design	Embedded-Theory & Lab	PC	2	0	2	0	3	U17AET6001
2	U17AEI7202	Aircraft Maintenance Practices	Embedded-Theory & Lab	PC	2	0	2	0	3	U17AEI5204
3	U17AEI7203	Avionics	Embedded-Theory & Lab	PC	2	0	2	0	3	U17EEI3202
4	U17AET7004	Aviation Logistics and Supply Chain Management	Theory	PC	3	0	0	0	3	-----
5	U17AEE00--	Professional Elective II	Theory	PE	3	0	0	0	3	-----
6	U17AEE00--	Professional Elective III	Theory	PE	3	0	0	0	3	-----
7	U17AEE00--	Professional Elective IV	Theory	PE	3	0	0	0	3	-----
8	U17AEP7705	Project Work – Phase I	Project	PW	0	0	0	6	3	-----
Total Credits									24	
Total Contact Hours/week									30	




KUMARAGURU
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DEPARTMENT OF BIOTECHNOLOGY

Action Taken Report - "Employers Feedback"
Academic Year 2016-17

Date: 15-Jul 2017

S.No	Suggestions	Action Taken
1.	Include topics on spray drying & sterilization techniques	Included in U15BTT403 Food Process Engineering
2.	More industrial visit can be arranged	Every semester two industrial visits have been arranged.


Prepared by
BOS Coordinator


Approved by
Chairman BOS

Proof : Spray Drying topics included in the syllabus

U15BTT403	FOOD PROCESS ENGINEERING	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To introduce various pre-processing techniques in food processing
- To understand the methods in processing foods

COURSE OUTCOMES (COS):

At the end of the course student will be able to:

- CO 1** : Explain the scope of food processing
CO 2 : Discuss various pre-cleaning techniques in food processing
CO 3 : Describe different types of high temperature processing operations
CO 4 : Explain different drying and dehydration techniques
CO 5 : Discuss low temperature processing and preservation
CO 6 : Describe various post processing operations

PRE-REQUISITE COURSES:

- 1 U15BTT301 Concepts in Biochemistry

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	PSPO1	PSPO2
CO1	M					S						S	S	
CO2	M												S	
CO3			M			S				M			S	
CO4				W		S							S	
CO5	S									M			S	
CO 6			M										S	

COURSE ASSESSMENT METHODS:			
Direct		Indirect	
1	Internal Tests	1	Course end survey
2	Assignments	2	Faculty survey
3	End semester examination	3	Industry survey
		4	Alumni survey

COURSE CONTENT:

INTRODUCTION TO PRE-PROCESSING**12 Hours**

Raw material preparation: cleaning, air screen cleaners, disk, indent cylinder, spiral, and specific gravity, stone, inclined belt, pneumatic , aspirator; separators: magnetic, cyclone, colour separator, grading; sorting; washing; peeling: flash peeling, steam peeling , knife peeling , abrasion peeling ,lye peeling , flame peeling.

PROCESSING USING STEAM OR WATER**9 Hours**

Concepts and equipment used in blanching: Blanching theory, equipment, steam blanchers, hot water blanchers; pasteurization: heat sterilization; extrusion; evaporation, Case study : distillation.

PROCESSING USING HOT AIR AND OIL**9 Hours**

Drying: advantages of drying, moisture content, definition, direct and indirect methods of determination; drying methods: heated air and heated surface drying: hot air dryer, contact dryer, rehydration; drying methods and equipments; **Spray drying**; osmotic dehydration; baking and roasting: theory and equipment; frying: theory and equipment, Case study: Osmotic dehydration

PRESERVATION BY LOW TEMPERATURE**9 Hours**

Chilling: theory and equipment, freezing equipments, freeze drying equipment, freeze drying, freeze concentration, thawing, Modified atmospheric storage(MAS),controlled atmospheric storage (CAS).

6 Hours**POST PROCESSING OPERATIONS**

Coating, enrobing, packaging-, Modified atmospheric packaging(MAP), controlled atmospheric packaging(CAP),filling, sealing.

Theory: 43Hours**Case study:- 2 Hours****Total Hours Covered:45****REFERENCES:**

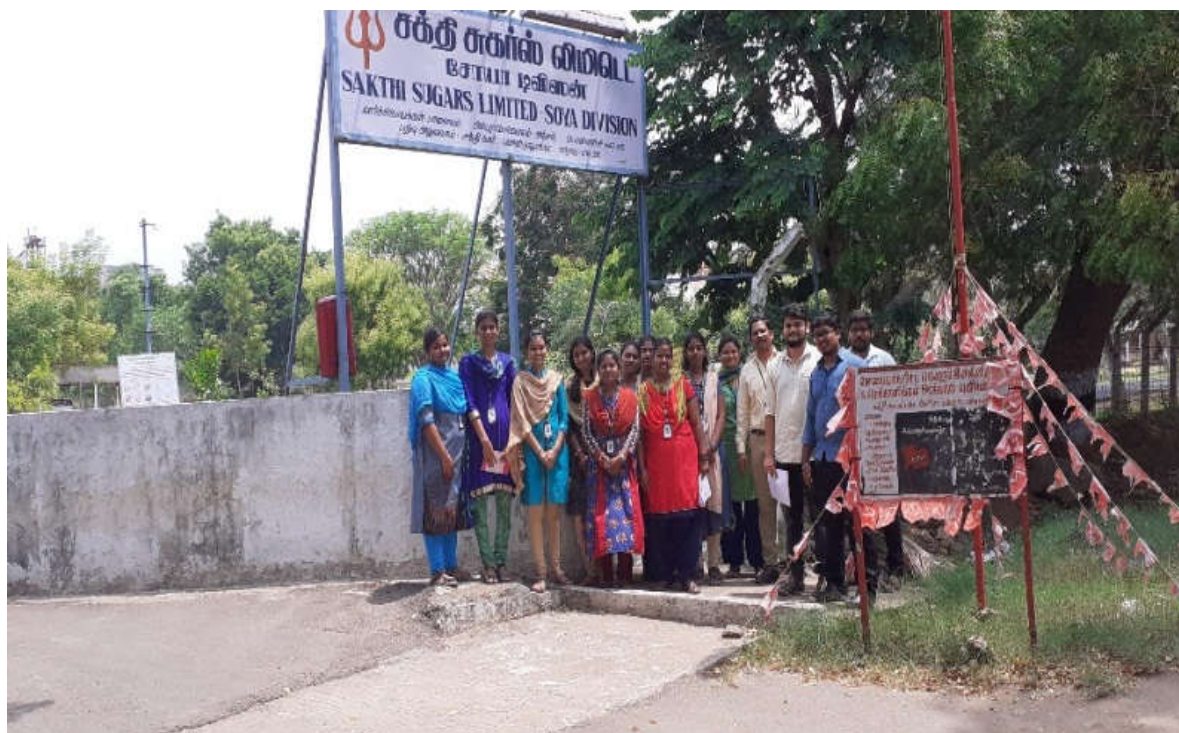
- 1 Fellows, Peter J. *Food processing technology: principles and practice*. Elsevier, 2009.
- 2 Sahay, K. M., and K. K. Singh. *Unit operations of agricultural processing*. Vikas Publishing House PVT LTD, 2004.
- 3 Ibarz, Albert, and Gustavo V. Barbosa-Canovas. *Introduction to Food Process Engineering*. CRC Press, 2014.
- 4 Sahu, Jatindra Kumar, ed. *Introduction to Advanced Food Process Engineering*. CRC Press, 2014.

OTHER REFERENCES:

- 1 Earle, Richard Laurence. *Unit operations in food processing*. Elsevier, 2013.
- 2 www.fao.org/wairdocs/x5434e/x5434e00.htm

**KUMARAGURU COLLEGE OF TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY**

Industrial Visit to Senthil Sugars Ltd – Soya Division



Industrial Visit to Senthil Papain Ltd, Etimadai





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Department of Electrical and Electronics Engineering

AY: 2016-17

date: 14-07-2017

Action taken report -Employers Feedback

S.No	Analysis	Action taken report
1.	New labs and new courses are included in R2015 when compared to R2014 regulations	1. Included Analog Electronics Lab Power and Energy lab 2. New courses in R2015 regulation <ul style="list-style-type: none">➤ Product design and development➤ Engineering Economics and financial management➤ Network and system➤ Analog Electronics➤ Generation of Electrical energy➤ Creative Project Presentation
2.	Project based learning courses need to be included in the curriculum.	Social immersion Project and Product design and development courses are included in R2015 regulations.
3.	Few courses can be included to improve the communication skills of students.	Communication skill lab introduced

Prepared By,

Dr.K.Premalatha

BoS Coordinator

Approved By,

Dr.RaniThottungal

BoS Chairman

Proof for Action Taken: 1 – New labs and new courses are included in R2015

6.	U15ME7204	Thermal Engineering and Fluid Mechanics	ES	4	4	0	0	4
Practical								
7.	U15PHP201	Physics Laboratory	BS	2	0	0	2	1
8.	U15MEP201	Engineering Practices Laboratory	ES	4	0	0	4	2
9	U15MEP202	Thermal Engineering and Fluid Mechanics Lab	ES	4	0	0	4	2
10.	U15SIP201	Social Immersion Project	HS	2	0	0	2	2
TOTAL				37				27

SEMESTER - 3								
S. No.	Course Code	Course Title	Category	Contact Hours	Hrs / Week & Credits			
					L	T	P	C
<u>Theory</u>								
1.	U15MAT303	Partial Differential Equations and Transforms	BS	5	3	2	0	4
2.	U15EST001	Environmental Science and Engineering for Electrical Sciences	HS	3	3	0	0	3
3.	U15EET301	DC Machines and Transformers	PC	3	3	0	0	3
4.	U15EET302	Electromagnetic Fields	PC	3	3	0	0	3
5.	U15EET303	Networks and Systems	PC	4	2	2	0	3
6.	U15EET304	Analog Electronics	ES	3	3	0	0	3
<u>Practical</u>								
7.	U15EEP301	DC Machines and Transformers Laboratory	PC	2	0	0	2	1
8.	U15EEP302	Analog Electronics Laboratory	ES	2	0	0	2	1
9.	U15GHP301	Family Values	HS	1	1	0	0	1
Total				26				22

SEMESTER - 6								
S. No.	Course Code	Course Title	Category	Contact Hours	Hrs / Week & Credits			
					L	T	P	C
<u>Theory</u>								
1.	U15GST005	Engineering Economics and Financial Management	HS	3	3	0	0	3
2.	U15EET601	Generation of Electrical Energy	PC	3	3	0	0	3
3.	U15EET602	Solid State Drives	PC	4	2	2	0	3
4.	U15EET603	Embedded Systems	ES	3	3	0	0	3
5.	U15EEPE**	Professional Elective -II	PE	3	3	0	0	3
6.	U15	Open Elective -II	OE	3	3	0	0	3
<u>Practical</u>								
7.	U15EEP601	Electrical Drives Laboratory	PC	2	0	0	2	1
8.	U15EEP602	Microprocessor and Embedded Systems Laboratory	ES	4	0	0	4	2
9.	U15EEP603	Creative Project Presentation	EEC	-	0	0	0	1
10.	U15GHP601	National Values	HS	1	1	0	0	1
Total				26				23

SEMESTER - 7								
S. No.	Course Code	Course Title	Category	Contact Hours	Hrs / Week & Credits			
					L	T	P	C
<u>Theory</u>								
1.	U15GST006	Product Design & Development	HS	3	3	0	0	3
2.	U15EET701	Electrical Energy Utilization and Conservation	PC	3	3	0	0	3
3.	U15EET702	Power System Analysis	PC	4	2	2	0	3
4.	U15EET703	Protection and Switch Gear	PC	3	3	0	0	3
5.	U15EEPE**	Professional Elective -III	PE	3	3	0	0	3
6.	U15	Open Elective -III	OE	3	3	0	0	3
<u>Practical</u>								
7.	U15EEP701	Power and Energy Laboratory	PC	2	0	0	2	1
8.	U15EEP702	Project Work Phase - I	EEC	4	0	0	4	2
9.	U15GHP701	Global Values	HS	1	1	0	0	1
Total				26				22

Proof for Action Taken: 2 – Social immersion Project and Product design and development courses are included in R2015 regulations

6.	U15MET204	Thermal Engineering and Fluid Mechanics	ES	4	4	0	0	4
Practical								
7.	U15PHP201	Physics Laboratory	BS	2	0	0	2	1
8.	U15MEP201	Engineering Practices Laboratory	ES	4	0	0	4	2
9	U15MEP202	Thermal Engineering and Fluid Mechanics Lab	ES	4	0	0	4	2
10.	U15SIP201	Social Immersion Project	HS	2	0	0	2	2
TOTAL				37				27

SEMESTER - 3								
S. No.	Course Code	Course Title	Category	Contact Hours	Hrs / Week & Credits			
					L	T	P	C
<u>Theory</u>								
1.	U15MAT303	Partial Differential Equations and Transforms	BS	5	3	2	0	4
2.	U15EST001	Environmental Science and Engineering for Electrical Sciences	HS	3	3	0	0	3
3.	U15EET301	DC Machines and Transformers	PC	3	3	0	0	3
4.	U15EET302	Electromagnetic Fields	PC	3	3	0	0	3
5.	U15EET303	Networks and Systems	PC	4	2	2	0	3
6.	U15EET304	Analog Electronics	ES	3	3	0	0	3
<u>Practical</u>								
7.	U15EEP301	DC Machines and Transformers Laboratory	PC	2	0	0	2	1
8.	U15EEP302	Analog Electronics Laboratory	ES	2	0	0	2	1
9.	U15GHP301	Family Values	HS	1	1	0	0	1
Total				26				22

SEMESTER - 7									
S. No.	Course Code	Course Title	Category	Contact Hours	Hrs / Week & Credits				
					L	T	P	C	
<u>Theory</u>									
1.	U15GST006	Product Design & Development	HS	3	3	0	0	3	
2.	U15EET701	Electrical Energy Utilization and Conservation	PC	3	3	0	0	3	
3.	U15EET702	Power System Analysis	PC	4	2	2	0	3	
4.	U15EET703	Protection and Switch Gear	PC	3	3	0	0	3	
5.	U15EEPE**	Professional Elective -III	PE	3	3	0	0	3	
6.	U15	Open Elective -III	OE	3	3	0	0	3	
<u>Practical</u>									
7.	U15EEP701	Power and Energy Laboratory	PC	2	0	0	2	1	
8.	U15EEP702	Project Work Phase - I	EEC	4	0	0	4	2	
9.	U15GHP701	Global Values	HS	1	1	0	0	1	
Total				26				22	

Proof for Action Taken: 3 – Communication skill lab is introduced

SEMESTER - 5								
S. No.	Course Code	Course Title	Category	Contact Hours	Hrs / Week & Credits			
					L	T	P	C
<u>Theory</u>								
1.	U15EET501	Electrical Machine Design	PC	3	3	0	0	3
2.	U15EET502	Power Electronics	PC	3	3	0	0	3
3.	U15EET503	Microprocessor and Micro controller	PC	3	3	0	0	3
4.	U15CST903	Data Structures and Algorithms	ES	3	3	0	0	3
5.	U15EEPE**	Professional Elective -I	PE	3	3	0	0	3
6.	U15	Open Elective -I	OE	3	3	0	0	3
<u>Practicals</u>								
7.	U15EEP501	Power Electronics Laboratory	PC	2	0	0	2	1
8.	U15CSP903	Data Structures and Algorithms Laboratory	ES	2	0	0	2	1
9.	U15EEP502	Industrial Training#	EEC	-	0	0	0	1
10.	U15ENP501	Communication Skills Laboratory	EEC	2	0	0	2	1
11.	U15GHP501	Social Values	HS	1	1	0	0	1
Total				25				23

Minimum one week training in Government / public sectors or two weeks in private organization during summer vacation at the end of fourth semester. To be evaluated during V semester by assessing the report and conducting seminar presentation.



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Department of Information Technology

AY: 2016-17

Date:15.07.2017

Action taken report -Employer's Feedback

S.No	Analysis	Action taken report
1.	Subjects can be added with project component in every semester	Embedded course pattern is implemented in R17 & R18 curriculum
2.	Elective courses can be given based on specialization	<p>Elective courses for these tracks (Network and IoT, Data Analytics, CyberSecurity) are identified and syllabus framed.</p> <ul style="list-style-type: none">• Cyber Security – Information Coding Techniques, Web Application Security, BioMetrics, Block chain Technology• Data Analytics – Artificial Intelligence, Deep Learning, Data Visualization• Network and IoT – Ad hoc and Sensor Networks, Software Defined Networks, Next Generation Systems

Prepared by

BoS Coordinator

Approved by

BoS Chairman

Proof for Action Taken 2: Elective courses can be given based on specialization

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



KUMARAGURU
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Department of Textile Technology

AY: 2016-17

Date: 15.07.2017

Action taken report -Employers Feedback

S.No	Analysis	Action taken report
1.	New course Basics of Electrical and Electronics Engineering laboratory can be introduced	Introduced in syllabus : Course code: U13EEP311 Course Name: Basics of Electrical and Electronics Engineering Lab
2.	Principles of management course can be a common course	Included as common course Course Code: U15GST003 Course Name : Principles of Management
3.	Professional electives can be introduced from VI sem onwards	Professional electives are introduced from VI sem onwards

Approved by

Dr. Bharathi Dhurai

BoS Chair person



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Department of Textile Technology

AY: 2016-17

Date: 15.07.2017

Action taken report -Employers Feedback

S.No	Analysis	Action taken report
1.	New course Basics of Electrical and Electronics Engineering laboratory can be introduced	Introduced in syllabus : Course code: U13EEP311 Course Name: Basics of Electrical and Electronics Engineering Lab
2.	Principles of management course can be a common course	Included as common course Course Code: U15GST003 Course Name : Principles of Management
3.	Professional electives can be introduced from VI sem onwards	Professional electives are introduced from VI sem onwards

Proof

Introduced in syllabus :

Course code: U13EEP311

Course Name: Basics of Electrical and Electronics Engineering Lab

U13EEP211/ U13EEP311	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING LAB	L	T	P	C
		0	0	3	1

Course Objectives

- To experimentally verify the principle of operation, performance characteristics of DC Motors and AC Motors.
- To obtain the characteristics of electronic devices and its applications

Course Outcomes

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

- Understand and verify the breadboard connections. (knowledge level-1)
- Check the working condition of a cathode ray oscilloscope. (knowledge level-1)
- Understand the basic laws of electric circuits. (knowledge level-1)
- Understand the working of various electronic devices. (knowledge level-1)
- Understand the performance of an amplifier to carryout different operations. (Knowledge level-1)

List of Experiments

1. Load Test on DC Shunt Motor
2. Load Test on DC Series Motor
3. Speed Control of DC Shunt Motor
4. Load Test on three phase Induction Motor
5. Load Test on single phase Induction Motor
6. Load test on single phase transformer
7. Half wave and full wave rectifier
8. Characteristics of CE transistor configuration
9. Characteristics of PN diode
10. Verification of truth table of logic gates

Total Hours:45

Included as common course
Course Code: U15GST003
Course Name : Principles of Management

U15GST003

PRINCIPLES OF MANAGEMENT

L	T	P	C
3	0	0	3

Course outcomes

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

CO1: Apply the concepts of management and administration and analyze the evolution of management thoughts.

CO2: Apply the concepts of planning, forecasting and decision making

CO3: Analyze organizational structures and apply staffing concepts

CO4: Analyze the motivational and leadership theories

CO5: Apply & analyze the communication and controlling processes.

CO6: Analyze the various international approaches to management

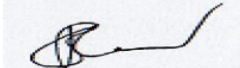
Pre-requisite:

1. Nil

CO/PO Mapping (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	PO 11	PO 12	PSO 1	PSO 2
CO1											M		M	
CO2											M			
CO3											M			M
CO4									M		M		M	
CO5										M	M		M	
CO6											M			

Course Assessment methods:

Direct	Indirect
1. Assignment	Course End Survey
2. Internal Test	
3 Group presentation	
4. End semester exam	


 Signature of BOS chairman, TXT

MANAGEMENT CONCEPTS**9 Hours**

Management – Definition – Importance – Functions – Skills required for managers - Roles and functions of managers – Science and Art of Management –Management and Administration. Evolution of Classical, Behavioral and Contemporary management thoughts.

PLANNING**9 Hours**

Nature & Purpose – Steps involved in Planning – Forms of Planning – Types of plans – Plans at Individual, Department and Organization level - Managing by Objectives. Forecasting – Purpose – Steps and techniques. Decision-making – Steps in decision making.

ORGANISING**9 Hours**

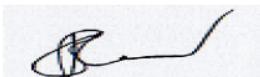
Nature and Purpose of Organizing - Types of Business Organization - Formal and informal organization – Organization Chart – Structure and Process – Strategies of Departmentation– Line and Staff authority –Benefits and Limitations. Centralization Vs De-Centralization and Delegation of Authority. Staffing – Manpower Planning – Recruitment – Selection – Placement – Induction.

DIRECTING & CONTROLLING**9 Hours**

Nature & Purpose – Manager Vs. Leader - Motivation - Theories and Techniques of Motivation. Leadership – Styles and theories of Leadership. Communication – Process – Types – Barriers – Improving effectiveness in Communication. Controlling – Nature – Significance – Tools and Techniques.

CONTEMPORARY ISSUES IN MANAGEMENT**9 Hours**


Corporate Governance Social responsibilities – Ethics in business – Recent issues. American approach to Management, Japanese approach to Management, Chinese approach to Management and Indian approach to Management.

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

Signature of BOS chairman, TXT

REFERENCES:

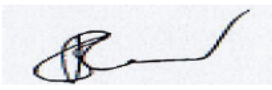
1. Tripathy PC And Reddy PN, “Principles of Management”, Tata McGraw-Hill, 4th Edition, 2008.
2. Dinkar Pagare, “Principles of Management”, Sultan Chand & Sons, 2000.
3. Kanagasapapathi. P “Indian Models of Economy, Business and Management”, Prentice Hall of India, New Delhi, ISBN: 978-81-203-3423-6, 2008.
4. Vijayaraghavan, G.K.and Sivakumar, M. “Principles of Management”, Lakshmi Publications, 5th Edition, 2009.
5. Bhaskar S. “Principles Of Management”, (2011) Anuradha Agencies, Chennai
6. Harold Koontz & Heinz Weihrich, “Essentials of Management – An International perspective”, 8th edition. Tata McGraw-Hill, 2009.
7. Charles W.L. Hill and Steven L McShane – Principles of Management, Tata Mc Graw-Hill, 2009.



Signature of BOS chairman, TXT

Professional electives are introduced from VI sem onwards

Semester -5								
	Course Code	Course Title	Category	Contact Hours	Hrs/Week & Credits			
					L	T	P	C
Theory								
1.	U15GST004	Operation Research	ES	3	3	0	0	3
2.	U15GST006	Product Design and Development	ES	3	3	0	0	3
3.	U15TX7501	Knitting Technology	PC	3	3	0	0	3
4.	U15TX7502	Woven Fabric Structure and Design	PC	3	3	0	0	3
5.	U15TX7503	Textile Printing and Finishing Technology	PC	3	3	0	0	3
6.		Open Elective 1	OE	3	3	0	0	3
Practical								
7.	U15ENG501	Communication skill laboratory	EEC	2	0	0	2	1
8.	U15TXP501	Cloth Analysis Laboratory	PC	2	0	0	2	1
9.	U15TXP502	In-Plant Training / Internship	EEC	2	0	0	2	1
10.	U15GHP501	Social Values	HS	1	1	0	0	1
					Total credits:22			
Semester -6								
	Course Code	Course Title	Category	Contact Hours	Hrs/Week & Credits			
					L	T	P	C
Theory								
1.	U15GS7005	Engineering Economics and Financial Management	ES	3	3	0	0	3
2.	U15TX7601	Textile Quality Evaluation	PC	3	3	0	0	3
3.	U15TX7602	Mechanics of Textile Machinery	PC	5	3	2	0	4
4.	U15TX7603	Garment Manufacturing Technology	PC	3	3	0	0	3
5.		Professional Elective 1	PE	3	3	0	0	3
6.		Open Elective 2	OE	3	3	0	0	3
Practical								



Signature of BOS chairman, TXT



KUMARAGURU
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Department of Automobile Engineering

AY: 2016-17

Date: 15.07.2017

Action taken report -Employers Feedback

S.No	Analysis	Action taken report
1	Need to update the automobile modern technology in curriculum	Embedded systems, Automotive Modern accessories and advanced automotive systems were included in the curriculum.
2	Industrial safety can be included in the syllabus.	Automotive safety (U15AUTE29) was introduced as elective.

Prepared by,

A handwritten signature in black ink, appearing to be 'Jhu' followed by a long horizontal stroke.

BoS Coordinator

Approved by,

A handwritten signature in black ink, appearing to be 'Jhu' followed by a long horizontal stroke.

BoS Chairman

Coimbatore – 641 049
CURRICULUM 2014

B.E.-Automobile Engineering

SEMESTER III

Code No.	Course Title	L	T	P	C
Theory					
U14MAT301	Numerical Methods	3	1	0	4
U14AUT301	Automotive Chassis	3	0	0	3
U14AUT302	Thermodynamics and Thermal Engineering	3	1	0	4
U14AUT303	Automotive Manufacturing Technology	3	0	0	3
U14AUT304	Automotive Materials and Metallurgy	3	0	0	3
U14AUT305	Strength of Materials	3	1	0	4
Practical					
U14AUP301	Manufacturing Technology Laboratory	0	0	2	1
U14AUP302	a) Strength of Materials Laboratory b) Metallurgy Laboratory	0	0	2	1
U14AUP303	Automotive Chassis and Engine Components Laboratory	0	0	2	1
U14GHP301	Social Values	1	0	1	1
					Total Credits:25

Code No.	Course Title	L	T	P	C
Automotive Technology & Manufacturing					
U14AU7E10	Hydraulic and Pneumatic Systems	3	0	0	3
U14AU7E11	Robotics	3	0	0	3
U14AU7E12	Vehicle Troubleshooting and Maintenance	3	0	0	3
U14AU7E13	Composite Materials and Structures	3	0	0	3
U14AU7E14	Automotive Components Manufacturing	3	0	0	3
U14AU7E15	Tyre Technology	3	0	0	3
U14AU7E16	Unconventional Machining Processes	3	0	0	3
U14AU7E17	Rapid Prototyping Tooling and Manufacturing	3	0	0	3
U14AU7E18	Design of Jigs, Fixtures and Press tools	3	0	0	3
Automotive Electronics & Systems					
U14AU7E19	Embedded Communication System Protocols	3	0	0	3
U14AU7E20	Virtual Instrumentation	3	0	0	3
U14AU7E21	Fuel Cell Technology	3	0	0	3
U14AU7E22	Automotive Safety	3	0	0	3
U14AU7E23	Electric and Hybrid Vehicles	3	0	0	3
U14AU7E24	Vehicle Testing and Validation	3	0	0	3
U14AU7E25	Modern Automobile Accessories	3	0	0	3



KUMARAGURU
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Department of Civil Engineering

AY: 2016-17

15.07.2017

Action taken report -Employers Feedback

S.No	Analysis	Action taken report
1.	Employer suggested to include the topics, "Hydration process, Bougue's compounds and Concrete mix design in the course content of U14CET305 Concrete Technology	Included in U14CET305 Concrete Technology
2.	Suggested to include the topic "Theory of Failures" instead of Stress concentration, fatigue, fracture and creep in the course content of U14CET402 Strength of Materials II	Included in U14CET402 Strength of Materials II
3.	Industry courses must be evaluated by the persons associated with industries and the grade must be included for CGPA calculation	Industry offered one credit courses are evaluated by industry experts.
4.	Employer suggested to remove the topic- Boundary value problems in P15SET101 "Theory of Elasticity and Plasticity" Course	It will be implemented in next Regulation - Theory of Elasticity and Plasticity course

Prepared by,

BoS Coordinator

Approved by,

BoS Chairman

L	T	P	C
3	0	0	3

Course Outcomes

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

CO1:test the properties of various Ingredients of concrete

CO2:suggest suitable admixture for concrete with special properties

CO3:conduct tests for material properties & quality control of concrete

CO4:design the concrete mix for the required strength

CO5:assess the durability and other properties of concrete under various environments

Pre-requisites:

1. U14CET201 Construction Materials

2.U14CEP201Construction Materials laboratory

Course Assessment methods:

Direct	Indirect
1. Internal test I 2. Internal test II 3. Internal test III 4. Assignment 5. End semester exam	1. Course End survey

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
CO1	M			S								M
CO2	M			S								M
CO3	M			S								M
CO4	M			S								M
CO5	M			S								M

INGREDIENTS OF CONCRETE**9Hours****Cement :**

Hydration process - Bougue's compounds - Effects

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Aggregates:

General classification of aggregates, particle shape and texture - bond between aggregates - strength of aggregate - other mechanical properties , alkali-aggregate reaction, thermal properties of aggregates - Grading of fine and coarse aggregates - Gap graded aggregates - Artificial aggregates - Heavy weight, light weight and normal aggregates - Sampling of aggregates - Tests on aggregates- specific gravity, moisture content, bulk density- Selection of aggregates.

Water

Quality of water – Permissible limits- Suitability of sea water for concreting.

CONCRETE ADMIXTURES**9Hours**

Chemical admixtures: Accelerators - catalysts - retarders - corrosion inhibitors - air entraining agent - workability agent – viscosity modifying agent - Information regarding commercially available admixtures (Plastizers) - water repelling materials

Mineral admixtures: fly ash, GGBS, Copper Slag, Silica fume.

PROPERTIES OF FRESH AND HARDENED CONCRETE**9Hours**

Workability test – Vee Bee consistometer - Segregation and bleeding - Curing of concrete - Different methods. Shrinkage of concrete - creep - thermal expansion - permeability - water tightness and crack control - thermal conductivity.

Quality control:

General - Frequency of sampling - Test specimen - statistical analysis of test results - standard deviation - coefficient of variation - characteristic strength - acceptance and rejection criteria.

SPECIAL CONCRETES AND CONCRETING TECHNIQUES**9Hours**

Self Compacting Concrete(Preparation, Properties , Tests & Applications)- Bacterial Concrete, Geopolymer Concrete, High Strength Concrete , High Performance Concrete, Fibre Reinforced Concrete, Polymer Concrete, Ferrocement— Shotcrete – Grouting – Guniting – Field Practices

CONCRETE MIX DESIGN**3Hours**

ACI method- Road note 4 method – Mix design for high strength concrete.

**DURABILITY AND RESISTANCE OF CONCRETE TO
DETERIORATION****6Hours**

Corrosion of reinforcement – reaction between aggregate and cement – reaction of chemicals in aggregate – resistance to various chemicals- concrete in sea water- resistance to soft moorland waters- resistance to sewage – resistance to freezing- freezing of green concrete – physics of saturated concrete- mechanism of disintegration – resistance to erosion and abrasion- resistance to fire- heat resistant concrete

Theory:45Hrs**Total: 45Hrs**

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L	T	P	C
3	1	0	4

Course Outcomes

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

CO1: find the deflection in beams and frames using Energy theorems.

CO2: analyze indeterminate beams like continuous beams and fixed beams

CO3: analyze the long and short columns and determine the design loads.

CO4: assess the state of stress in three dimensions

CO5: solve problems involving unsymmetrical bending in structural members.

Pre-requisites:

1. U14CET303 – Strength of material - I
2. U14CEP303 – Strength of materials laboratory

Course Assessment methods:

Direct	Indirect
1. Internal test I 2. Internal test II 3. Internal test III 4. Assignment 5. Tutorial 6. End semester exam	1. Course End survey

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
CO1	S		M									
CO2	M	S	M									
CO3	M	S	M									
CO4	M	S	M									
CO5	M	S	M									

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ENERGY PRINCIPLES

9+3Hours

Strain energy and strain energy density-strain energy in traction, problems on suddenly applied loads and impact loads, strain energy in shear, flexure and torsion - Castigliano's theorems - principle of virtual work - application of energy theorems for computing deflections in beams and trusses - Maxwell's reciprocal theorems.

INDETERMINATE BEAMS

9+3Hours

Propped cantilever and fixed beams - fixed end moments and reactions for concentrated load (central, non central), uniformly distributed load, triangular load (maximum at centre and maximum at end), theorem of three moments – analysis of continuous beams - support reactions - shear force and bending moment diagrams for continuous beams - slope & deflections in continuous beams (qualitative study only)

COLUMNS

9+3Hours

Eccentrically loaded short columns-middle third rule - core of section - columns and unsymmetrical sections - (angle channel sections) - Euler's theory for long columns - critical loads for prismatic columns with different end conditions; Rankine – Gordon formula for eccentrically loaded columns - thick cylinders - compound cylinders.

STATE OF STRESS IN THREE DIMENSIONS

9+3Hours

Spherical and deviation components of stress tensor - determination of principal stresses and principal planes (3 dimension) - volumetric strain - dilatation and distortion - theories of failure - principal stress dilatation - principal strain - shear stress - strain energy and distortion energy theories - application in analysis of stress, load carrying capacity and design of members –interaction problems and interaction curves - residual stresses.

ADVANCED TOPICS IN BENDING OF BEAMS

9+3Hours

Unsymmetrical bending of beams of symmetrical and unsymmetrical sections – shear flow - shear centre - channel section - curved beams – Winkler Bach formula - stress concentration - fatigue, fracture and creep

Theory:45HrsTutorial: 15Hrs

Total :60Hrs

REFERENCES

1. R.K. Bansal “A Text book of Strength of materials” , Lakshmi Publications, New Delhi(2010).
2. D.S.Prakkash Rao “ Strength of materials”, University Press, Hyderabad (2002).
3. Dr. Sadhu singh “ Strength of Materials”, Khanna Publishers, Delhi (2006)
4. S.M.A Kazimi “ Solid mechanics” Tata Mc- raw-Hill Publications Ltd. New Delhi, 2009
5. B.C. Punmia, Ashok kumarJain ,Arunkumar Jain “ Theory of structures”, Lakshmi publications (P) Ltd, New Delhi, 2007.
6. R.K.Rajput, “Strength of materials”, S.Chand(2006).

Signature of the Chairman BOS/Civil Engineering



KUMARAGURU
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Department of Fashion Technology

AY: 2016-17

Action taken report -Employers Feedback

Date : 15.07.2017

S.No	Analysis	Action taken report
1.	Textile arts and crafts can be provided in open elective category which will be useful for all the students.	U15FTOE06 Textile arts and crafts is introduced in the curriculum.
2.	Home furnishing and decoration for beginners can also be provided in the curriculum aa open elective category.	U15FTOE07 Home furnishing and decoration for beginners is introduced aa an open elective course.

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

SL.No 1- U15FTOE06 Textile arts and crafts is introduced in the curriculum.

U17FTOE06TEXTILE ARTS AND CRAFTS

Course Outcomes

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

L	T	P	C
3	0	0	3

CO1	Summarize knowledge on design concepts and colour categories.	K2
CO2	Apply basic techniques in design development	K3
CO3	Summarize skills on printing and painting techniques	K4
CO4	Summarize the knowledge on embroidery	K4
CO5	Apply knowledge on developing and printing, image mixing and printing.	K3
CO6	Explain the designing process in product development	K3

Course Assessment methods

Direct	Indirect
1. Internal tests 2. Assignment 3. Group Presentation	1.Course Exit Survey

Course Content

Design concepts

10

Hours

Design: structural, decorative and functional; Types- natural, stylized, geometric, historic, abstract design; Elements of Design; Principles of design, Application of elements and principles of design. Colour: Dimensions of colour, colour categories, and psychology, colour theories- Prang colour system and colour harmonies.

Design development

15

Hours

Introduction & Overview of the traditional designs of India. Techniques: block printing, stencilling, screen printing, tie and dye, batik, Kalamkari, Painting.
Embroidery: Basic hand stitches, composite stitches, traditional Indian embroidery.

Product development

20

Hours

Designing Process:Forecasting, Design process – Innovation of practice, analyzing the brief, Research Inspiration – Research direction, prototyping.
Development process: planning a collection, designer boards and portfolio presentation for a product

Theory: 45 Hours

Total: 45 Hours

REFERENCES

1. Kathryn McCelvey and Janine Munslow, —Fashion Design: Process, Innovation and Practice, Blackwell Publishing, USA, 2005.
2. HatanakaKokyo Collection —Textile arts of India, Chronide Books, 1996
3. Elaine Stone, Jean A. Samples, — Fashion Merchandising, McGraw-Hill Book Company 1985.
4. RusselGillow and Nicholas Barnard, —Traditional Indian Textiles, Thames and Hudson Ltd., London, 1991.
5. ParulBhatnagar, —Traditional Indian Costumes and Textiles, Abhishek Publications, Chandigarh, 2004.
6. Jay Diamond and Ellen Diamond, —Fashion, Apparel, Accessories, Home Furnishings, Pearson Prentice Hall, New Jersey, 2007.
7. UshaSrikant, —Designs for a lifetime, Samata Enterprises, Mumbai, 2002.

Sl.No 2- U15FTOE07 Home furnishing and decoration for beginners is introduced

U17FTOE07 HOME FURNISHING AND DECORATION FOR BEGINNERS

Course Outcomes

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

L	T	P	C
3	0	0	3

CO1	Generalize knowledge about the varieties of home furnishing materials and finishing methods	K3
CO2	Developing skills in the selection of different varieties of home furnishing materials in terms of sizes, shapes and patterns and construction methods	K4
CO3	Analyze the knowledge on suitability of furnishings and coverings for living room.	K4
CO4	Analyze the knowledge on suitability of various types of linens and its end uses	K4
CO5	Analyze the knowledge on suitable care & maintenance of home furnishing materials.	K4
CO6	Assess the varieties of home furnishing products and its end uses	K4

Course Assessment methods

Direct	Indirect
1. Internal tests 2. Assignment 3. Group Presentation	2.Course Exit Survey

Course Content

Introduction

Hours

15

Introduction of home decoration -types of home decoration, types of furniture and furnishing materials used in home. Window treatments - Doors and Windows – types. Window Treatment –. Curtains and Draperies

Floor covering and wall coverings

10

Hours

Floor covering - types – Hard floor covering, resilient floor coverings, soft floor coverings - carpet, rugs, mats. Wall coverings- types

Bed and bath linen

20

Hours

Bed linens – types – Bed linens – types – bed sheets, blankets, comforters, , bed spreads, mattress and pads, pillows and pillow covers. Care and Maintenance of bed linen.

Kitchen linens – types - dish cloth, towels, fridge cover, grinder cover

Table Linen – Types - table mats, table cloth, hand towel, doilies, runners. Cleaning materials – wipes and mops. Care and maintenance of kitchen and table linen. Care and maintenance of home furnishing materials and its assessments.

Theory: 45 Hours

Total: 45 Hours

REFERENCES

1. Hamlym, "Bed and Table linen", Octopus Publishing Group Ltd, Newyork 2001.
2. David Holloway, "The Essential Book of Home Improvement Techniques", Marshals Publications, London, 2000.
3. Emma Callery, "The Home Decorator's Colour Source Book", Apple Press Ltd, London, 2006.
4. Heather Luke, "Design and Make Cushions", Silverdale Books Ltd, Leicester, 2001.
5. Hamlym, "Curtains and Blinds", Octopus Publishing Group Ltd, Newyork, 2001.
6. Susie Johns, "A Cornucopia of Cushions", Apple Press Ltd, London, 1997.
7. James Merrell, "Living with Decorative Textiles", "Thames and Hudson Ltd, London, 1995.
8. Caroline Lebea, "Fabrics the Decorative Art of Textiles", Thames and Hudson Ltd, London, 1994



KUMARAGURU
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Department of Computer Science and Engineering

AY: 2016-17

Date:15.07.2017

Action Taken Report -Employers Feedback

S.No	Analysis	Action Taken Report
1.	Industry integrated learning, system applied research solutions, reusability of code, project based learning and emerging technologies are essential qualities that are expected from any graduate for being employed in the industry and the same could be deployed in the curriculum.	Students are insisted to work on real time problems as part of Project (Phase-I and Phase II) to gain the latest trends and technology.
2.	Students can be allowed to access internet and develop a working product by reusing the code.	U15CSP601-Software Development Laboratory course enables students to explore various resources and develop a product
3.	Expert members suggested to include Mobile Application Development in to the curriculum.	U15CSP701-Mobile Application Development Laboratory course is included in the curriculum
4.	U15CST601-Artificial Intelligence- Industry persons suggested to reduce the content as it is voluminous.	Course content is modified accordingly
5.	Domain based electives can be given	Suggestion is taken and the electives in the forth-coming curriculum (R17) may be grouped based on domains
6.	Emphasis on incorporating interdisciplinary courses as electives	Open electives contain courses from various domains

Prepared By

(Feedback/BoS Coordinator)

(Dr. D. Chandrakala)

Approved By

(Signature of Bos Chairman)

(Dr. J. Cynthia)

Professor & Head

Department of

Computer Science and Engineering

Kumaraguru College of Technology

COIMBATORE-641 006, INDIA

Proof for Action Taken 2

U15CSP601

**SOFTWARE DEVELOPMENT
LABORATORY**

L	T	P	C
0	0	2	1

Course Objectives:

To develop skills that will enable them to construct software of high quality, reliable, easy to understand, modify and maintain.

To provide practical knowledge to test software.

Course Outcomes (CO):

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

CO1	Identify the problem and do feasibility study	S
CO2	Perform project planning.	S
CO3	Explain project scope, objectives, and perform data modeling.	S
CO4	Identify the deliverables in various phases of SDLC.	S
CO5	Implement solutions using modern tools.	S
CO6	Explain test plan, perform validation testing, coverage analysis	S

Pre-requisite: NIL

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

Course Assessment Methods:

Direct	Indirect
<ul style="list-style-type: none"> Model Lab Exams End semester practical exam Viva Voce 	<ul style="list-style-type: none"> Course End Survey

Course Content:

SOFTWARE PROJECT DEVELOPMENT

The problem selected should consist of at least 10 Use cases.

1. PROBLEM ANALYSIS AND PROJECT PLANNING

Thorough study of the problem – Identification of project scope, objectives and preparation of SRS. (in IEEE format)

2. SOFTWARE REQUIREMENT ANALYSIS

Describe the individual phases / modules of the project, identify deliverables.

3. MODELLING

Use work products – Data dictionary, Use case diagrams and activity diagrams, build and test class diagrams, Sequence diagrams and add interface to class diagrams, DFD, ER diagrams.

4. CODING

Software Development and Debugging using any Front end and Back end tool.

5. SOFTWARE TESTING

Software Verification and Validation procedures.

Sample Experiments:

- 1 Library Information System
- 2 Hotel Automation Software
- 3 Bookshop Automation Software
- 4 Student's Academic Record Management Software
- 5 Transport Company Computerization Software

Total Hours: 24

Proof for Action taken 3.

U15CSP701

**MOBILE APPLICATION DEVELOPMENT
LABORATORY**

L	T	P	C
0	0	2	1

Course Objectives:

To learn mobile application development using android

To create interactive mobile apps

To create apps with maps and database connectivity

Course Outcomes (CO):

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

CO1	Demonstrate setting up environment for android app development	S
CO2	Develop apps with interactive UI	S
CO3	Develop apps with notifications and broadcast receiver	S
CO4	Develop apps with background operations	S
CO5	Implement maps and location awareness	S
CO6	Develop apps with persistent data storage	S

Pre-requisite : NIL

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

Course Assessment Methods:

Direct	Indirect
<ul style="list-style-type: none"> Model Exam Viva-voce Mini-Project End semester practical Exam 	<ul style="list-style-type: none"> Course End Survey

Course Content:

Hours

List of Experiments:

1. Setting up Android Platform and Android Studio
2. Activity & Intents
 - a) Creating activities
 - b) Starting another activity and message passing using intents
3. UI Design- Layouts and Input Controls
 - a) Layouts- Linear, Relative, List View and Grid View
 - b) Widgets- Text Fields, Buttons, Radio Buttons, Spinners and Pickers
4. Input Events
 - a) Event Listeners
 - b) Event Handlers
5. User Notifications & Broadcast Receiver
 - a) Creating and Managing Notification
 - b) Register Receiver and send Broadcast
6. Threads and Async Tasks
 - a) Creating threads
 - b) perform background operations and publish results on the UI thread using Async
7. Location and Maps
 - a) Getting the last known location and displaying a location Address
 - b) Add maps to app and customize the map
8. SQLite databases
 - a) Creating a database
 - b) Put information into database
 - c) Read Information from database

Total Hours: 24

KUMARAGURU COLLEGE OF TECHNOLOGY, COIMBATORE – 641 049
REGULATIONS 2017

B.E. COMPUTER SCIENCE AND ENGINEERING
CURRICULUM

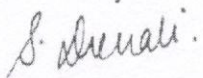
Semester III										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17MAT3104	Discrete Mathematics	Theory	BS	3	1	0	0	4	-----
2	U17CSI3201	Data Structures	Embedded - Theory & Lab	PC	3	0	2	0	4	-----
3	U17CSI3202	Object Oriented Programming	Embedded - Theory & Lab	PC	3	0	2	0	4	-----
4	U17CST3003	Computer Architecture	Theory	PC	3	0	0	0	3	-----
5	U17CSI3204	Database Management Systems	Embedded - Theory & Lab	PC	3	0	2	0	4	-----
6	U17INI3600	Engineering Clinic-I	Project based course with lab	ES	0	0	4	2	3	-----
Total Credits									22	
Total Contact Hours/week									28	

Semester IV										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17MAI4201	Probability and Statistics	Embedded - Theory & Lab	BS	3	0	2	0	4	-----
2	U17CST4001	Design and Analysis of Algorithms	Theory	PC	3	0	0	0	3	U17CSI3201
3	U17CSI4202	Operating Systems	Embedded - Theory & Lab	PC	3	0	2	0	4	U17CST3003
4	U17CST4003	Theory of Computation	Theory	PC	3	0	0	0	3	U17MAT3104
5	U17CSI4204	Software Engineering	Embedded - Theory & Lab	PC	3	0	2	0	4	U17CSI3202
6	U17INI4600	Engineering Clinic-II	Project based course with lab	ES	0	0	4	2	3	U17INI3600
Total Credits									21	
Total Contact Hours/week									27	

S. Suresh
Signature of BOS chairman, CSE

Semester V										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17CSI5201	Computer Networks	Embedded - Theory & Lab	PC	3	0	2	0	4	-----
2	U17CST5002	Agile Software Development	Theory	PC	3	0	0	0	3	U17CSI4204
3	U17CSI5203	No SQL Databases	Embedded - Theory & Lab	PC	3	0	2	0	4	U17CSI3204
4	U17CST5004	Social Media Marketing	Theory	PC	3	0	0	0	3	-----
5	U17INI5600	Engineering Clinic-III	Project based course with lab	ES	0	0	4	2	3	U17INI4600
6	U17CSE----	Programme Elective-I	Theory	PE	3	0	0	0	3	-----
7	U17OE----	Open Elective	Theory	OE	3	0	0	0	3	-----
Total Credits									23	
Total Contact Hours/week									28	

Semester VI										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17CSI6201	Internet and Web Programming	Embedded - Theory & Lab	PC	3	0	2	0	4	-----
2	U17CST6002	Wireless Networks and Mobile Systems	Theory	PC	3	0	0	0	3	U17CSI5201
3	U17CSI6203	Data Warehousing and Data Mining	Embedded - Theory & Lab	PC	3	0	2	0	4	U17CSI5203
4	U17INI6600	Engineering Clinic-IV	Project based course with lab	ES	0	0	4	2	3	U17INI5600
5	U17CSE----	Programme Elective-II	Theory	PE	3	0	0	0	3	-----
6	U17OE----	Open Elective	Theory	OE	3	0	0	0	3	-----
Total Credits									20	
Total Contact Hours/week									25	


 Signature of BOS chairman, CSE

Semester VII										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17CSI7201	Cloud Computing	Embedded - Theory & Lab	PC	3	0	2	0	4	U17CSI5201
2	U17CST7002	Machine Learning Techniques	Theory	PC	3	0	0	0	3	U17CSI6203
3	U17CST7003	Software Testing	Theory	PC	3	0	0	0	3	U17CST5002
4	U17CSE----	Programme Elective -III	Theory	PE	3	0	0	0	3	-----
5	U17CSE----	Programme Elective -IV	Theory	PE	3	0	0	0	3	-----
6	U17CSP7704	Project Phase-I	Project only Course	PW	0	0	0	6	3	-----
Total Credits									19	
Total Contact Hours/week									23	

Semester VIII										Pre-requisite
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C	
1	U17CSP8701	Project Phase-II	Project only Course	PW	0	0	0	24	12	
Total Credits									12	
Total Contact Hours/week									24	
Total Credits									160	

S. Sherali.
Signature of BOS chairman, CSE

Mandatory Courses										
S.No	Couse Code	Course Title	Course Mode	L	T	P	J	C	CT	Semester
1	U17VEP3503	Human Excellence-Family Values	Lab	0	0	2	0	0	HS	3
2	U17VEP4504	Human Excellence-Professional Values	Lab	0	0	2	0	0	HS	4
3	U17INT5000	Constitution of India	Theory	2	0	0	0	0	MC	5
4	U17VEP5505	Human Excellence-Social Values	Lab	0	0	2	0	0	HS	5
5	U17VEP6506	Human Excellence-National Values	Lab	0	0	2	0	0	HS	6
6	U17VEP7507	Human Excellence-Global Values	Lab	0	0	2	0	0	HS	7

Programme Electives									
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C
Data Analytics									
1.	U17CSE0001	Big Data Technologies	Theory	PE	3	0	0	0	3
2.	U17CSE0002	Data Visualization	Theory	PE	3	0	0	0	3
3.	U17CSE0003	Artificial Intelligence	Theory	PE	3	0	0	0	3
Networking									
1.	U17CSE0004	IoT Architecture and Protocols	Theory	PE	3	0	0	0	3
2.	U17CSE0005	Adhoc and Sensor Networks	Theory	PE	3	0	0	0	3
3.	U17CSE0006	Software Defined Networks	Theory	PE	3	0	0	0	3
4.	U17CSE0007	Cryptography and Network Security	Theory	PE	3	0	0	0	3
5.	U17CSE0014	Blockchain Technology and applications	Theory	PE	3	0	0	0	3
General									
1.	U17CSE0008	Principles of Compiler Design	Theory	PE	3	0	0	0	3
2.	U17CSE0009	Graphics and Multimedia	Theory	PE	3	0	0	0	3
3.	U17CSE0010	Information Security	Theory	PE	3	0	0	0	3
4.	U17CSE0011	Declarative development of customized applications	Theory	PE	2	0	0	2	3
5.	U17CSE0013	ADX 201 Salesforce Administrator	Theory	PE	2	0	0	2	3

S. Surali



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Department of Management Studies

AY: 2016-17

Date: 25.07.17

Action taken report -Employer Feedback

S.No	Analysis	Action taken report
1.	Analytics courses: to be re-looked and the curriculum to be more practice/ application oriented to have business perspectives rather than coding Some basic courses to be introduced even in I semester (instead of the current basic systems course) rather than introducing in the II year	Curriculum was revised in Regulation 2017. New & relevant courses in Analytics were introduced in the new regulation in 2017
2.	Internship programs has to be introduced	Incorporated in Regulation 2017
3.	Choice to select specialization in Sem I	Specialization Electives were offered in semester 2 in the new regulation of 2017

Prepared By,

V. Karthick Kumar

BoS Coordinator



Approved By,

R. S. Kumar

BoS Chairman

Proof Of Action Taken

1. New & relevant courses in Analytics were introduced in the new regulation in 2017

Analytics & Systems Courses

S.No	Course Code	Course Title	Credits	Assessment	
				CAM	EoS
1	P17BAEEA01	Introduction to Business Analytics	4	50	50
2	P17BAEEA02	Database Management System	4	50	50
3	P17BAEEA03	Business Intelligence	4	50	50
4	P17BAEEA04	Enterprise Resource Planning	4	50	50
5	P17BAEEA05	Big Data Platforms	4	50	50
6	P17BAEEA06	R for Business Analytics	4	50	50
7	P17BAEEA07	Advanced Statistics and Data Mining*	4	50	50
8	P17BAEEA08	Predictive Analytics	4	50	50
9	P17BAEEA09	Machine Learning	4	50	50
10	P17BAEEA10	Digital Analytics	4	50	50
11	P17BAEEA10	Web and Social Media Analytics	4	50	50
12	P17BAECA10	Advance Excel	1	50	-

2. Introduction of Internship

2.4.4 Projects. A student has to earn a minimum of 18 credits in Projects. Courses include Industry Immersion, Internship/ research project and Social Immersion Projects. With the approval of the Department Head and faculty committee, a student may be permitted for Field Practice in the Industry in last semester and appear only for the assessments of courses taken to earn the credits. The attendance in the industry is considered for those courses. This will be permitted only on the approval of the student advisor and the Department Head is satisfied about the learning during the period and also the ability of the student to take the exams through independent study.

3. Specialization Electives were offered in semester 2 in the new regulation of 2017

Program Structure

	Course Code	Course Type	Course Title	Credits	Max Marks		
					CAM	ESM	Total
Sem1 – Foundation	P17BACC101	Core - Foundation	Managerial Economics	2	50	-	50
	P17BACC102	Core - Foundation	Business Organization	2	50	-	50
	P17BACC103	Core - Foundation	Financial Accounting	2	50	-	50
	P17BACC104	Core - Foundation	Self-Awareness and Leadership	2	50	-	50
S	Course Code	Course Type	Course Title	Credits	Max Marks		
					CAM	ESM	Total
	P17BACE105	Core - Functional	Data Analysis	4	50	50	100

	P17BACE106	Core - Functional	Marketing Management	4	50	50	100
	P17BACE107	Core - Functional	Financial Management	4	50	50	100
	P17BACE108	Core - Functional	Human Resource Management	4	50	50	100
	P17BACE109	Core - Functional	Operations Management	4	50	50	100
	P17BACE110	Project	Industry Immersion Project	2	50	-	50
	P17BACE111	Core	Professional Development I- Career Skills	3	50	-	50
				Total Credits to be earned in Semester 1 (Term 1 & 2) : 33			

Sem 2- Term 3	Course Code	Course Type	Course Title	Credits	Maximum Marks		
					CAM	ESM	Total
	P17BACP201	core	Research Methodology	4	50	50	100
	P17BACC202	Core	Professional Development II - Career Exploration	3	50	-	50
		Concentration	Concentration 1				
		Concentration	Concentration 2				
		Concentration	Concentration 3				
		Elective	Open Elective 1				
				Total Credits to be earned in Semester 2 (Term 3) : Mini-18; Max 26			

Sem 3- Term 4	Course Code	Course Type	Course Title	Credits	Maximum Marks		
					CAM	ESM	Total
	P17BACP203	Project	Project (Corporate Internship/ Research Project/ Business Plan)	13	100	100	200

Sem 3 - Term 5	Course Code	Course Type	Course Title	Credits	Maximum Marks		
					CAM	ESM	Total
	P17BACE301	Core	Strategic Management	4	50	50	100
	P17BACC302	Core	Professional Development III- Career Planning	3	50	-	50
		Concentration	Concentration course 4				
		Concentration	Concentration course 5				
		Elective	Open Elective 2				
				Total Credits to be earned in Semester III (Term 4 & 5): Mini-29 ; Max-40			

Sem 4 - Term 6	Course Code	Course Type	Course Title	Credits	Maximum Marks		
					CAM	ESM	Total
	P17BACE401	Core	Business Ethics	3	50	50	50
	P17BACC402	Core	Professional Development IV-Career Readiness	1	50	-	50
	P17BACP403	Project	Social Immersion Project	2	50		50
		Concentration	Concentration 6				
		Elective	Open Elective 3				
		Elective	Open Elective 4				
				Total Credits to be earned in Semester IV (Term 6): Mini-12 ; Max-16			





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KUMARAGURU COLLEGE OF TECHNOLOGY, COIMBATORE-641049

(An Autonomous Institution affiliated to Anna University, Chennai)

Action taken Report – Employer Feedback

Department of Electronics and Communication Engineering

Academic Year: 2016 – 2017

Date: 15.07.2017

S.No	Feedback	Action Taken
1.	In Embedded Systems related courses, case studies may be given generic. Protocols like CAN and LIN to be included.	Protocols like CAN and LIN were included in the course U15ECTE05 / U15ECOE18 - Automotive Electronics under Embedded Systems module. Case studies were also included in the course.
2.	Content on navigational methods to be included in Radar and Navigational Aids (open elective).	Content on navigational methods were included in U15ECOE10-Radar and Navigational Aids course.
3.	Experiments using MSP430 to be included In Microprocessor and Microcontroller Laboratory.	Experiments using MSP430 were included in the course U15ECP402- Microprocessors and Microcontrollers Laboratory
4.	Industry courses must be evaluated by the persons associated with industries and the grade must be included for CGPA calculation	Industry offered one credit courses are evaluated by industry experts. One professional elective can be waived, once a student has successfully completed 3 one credit courses.

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

Proof for Action taken 1: Protocols like CAN and LIN were included in the course U15ECTE05 / U15ECOE18 - Automotive Electronics under Embedded Systems module. Case studies were also included in the course.

**U15ECTE05 /
U15ECOE18**

AUTOMOTIVE ELECTRONICS

L	T	P	C
3	0	0	3

Course Outcomes:

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

CO1: Describe various mechanical systems in an automobile (K2).

CO2: Illustrate different types of electronic systems in an automobile (K3)..

CO3: Outline the various stages of Integrated development environment to design an embedded system (K3).

CO4: Explain the various embedded systems used in automotive applications (K2).

CO5: Compare Vehicle Communication Protocols (K3).

Pre-requisite: 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
CO1	S										M			
CO2	S	M		M										
CO3		S			M		M							
CO4	S	M												
CO5	S													

Course Assessment methods:

Direct	Indirect
1. Internal Test – I 2. Internal Test – II 3. Assignment 4. Group Presentation 5. End Semester Exam	Course end survey

Hrs

AUTOMOTIVE MECHANICAL SYSTEMS: VEHICLE SYSTEMS

09

Power Train System (Air System, Fuel System (Carburettor & Diesel Fuel Injection, Ignition System, Exhaust System and other Auxiliary Systems (Cooling, Lubrications & Electrical Systems)), Transmission System (Front, Rear & 4 wheel Drive, Manual, Automatic Transmission, Differential). Braking System (Drum, Disc, Hydraulic, Pneumatic), Steering System (Rack and Pinion, Power Steering).

ELECTRONICS IN AUTOMOTIVE SYSTEMS

09

Need for Electronics in Automotive Systems: Performance (Speed, Power, and Torque), Control (Emission, Fuel Economy, Drivability, and Safety) & Legislation (Environmental legislation for pollution & Safety Norms). Overview of Vehicle Electronic Systems: Basic electrical components and their operation in an automobile: Power train subsystem (Starting systems, Charging systems - Ignition systems – Electronic fuel control), Chassis subsystem (ABS, TCS, & ESP) – Comfort and safety subsystems (Night Vision, Airbags, Seatbelt Tensioners, Cruise Control-Lane-departure-warning, Parking).

INTEGRATED DEVELOPMENT ENVIRONMENT

09

Introduction to Integrated development environment (IDE) – Getting started, HW / SW configuration (boot service, Host – target interaction) – Booting reconfiguration – Managing IDE – Target servers, agents, Cross development, debugging – Introduction to an IDE for lab board – RTOS, PC based debugger

EMBEDDED SYSTEM IN AUTOMOTIVE APPLICATIONS

09

Engine management systems – Gasoline / Diesel systems, various sensors used in system – Electronic transmission control - Vehicle safety system – Electronic control of braking and traction – Body electronics – Infotainment systems – Navigation systems – System level tests – Software calibration using engine and vehicle dynamometers – Environmental tests for Electronic Control Unit - Application of Control elements and control methodology in Automotive System

EMBEDDED SYSTEM COMMUNICATION PROTOCOLS

09

Introduction to control networking – Communication protocols in embedded systems – SPI, I²C, USB – Vehicle communication protocols – Introduction to CAN, LIN, FLEXRAY, MOST, KWP2000

Theory: 45Hrs

Tutorials: --- Hrs

Total: 45 Hrs

TEXT BOOKS :

1. Joerg Schaeuffele, Thomas Zurawka, "Automotive Software Engineering Principles, Processes, Methods and Tools", SAE International, 2005.
2. BOSCH Automotive Handbook, 6th Edition, 2014.
3. Jean J.Labrosse, "µC/OS-II Real Time Kernel, CMP Books", 2nd edition, 2002.

REFERENCES:

1. Denton. T, "Automobile Electrical and Electronic Systems", 4th edition, 2012.
2. Ronald K. Jurgen, "Automotive Electronics Handbook", McGraw Hill Publications, 1999.
3. Nicholas Navit, "Automotive Embedded System Handbook", CRC Press, Taylor and Francis Group, 2009.

back

Proof for Action taken 2: Content on navigational methods were included in U15ECOE10-Radar and Navigational Aids course.

U15ECOE10 RADAR AND NAVIGATIONAL AIDS

L	T	P	C
3	0	0	3

Course Outcomes:

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

CO1: Explain the basic principles of radar (K2).

CO2: Describe the principles of MTI and Doppler Radar (K2).

CO3: Compare the different types of Radar (K4).

CO4: Illustrate the methods of navigation (K3).

CO5: Discuss the concept of radio direction finding (K2).

CO6: Explain radio ranges and operation of distance measuring equipment (K4).

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
CO1	S		M			M			S					
CO2	S		M			M			S					
CO3	S	M	M			M			S					
CO4	S		M			M			S					
CO5	S		M			M			S					
CO6	S		M			M			S					

Course Assessment methods:

Direct	Indirect
1. Internal Test – I 2. Internal Test – II 3. Assignment 4. Group Presentation 5. End Semester Exam	Course end survey

PRINCIPLES OF RADAR

Hrs
12

Radar equation - Radar block diagram and operation, Radar Frequencies, Minimum detectable signal - Radar Cross section of a target - Antenna Parameters - Doppler effect – Continuous Wave (CW) Radar – Frequency Modulated CW Radar.

MOVING TARGET INDICATOR, PULSE DOPPLER AND TRACKING RADAR 09

Delay line cancellers- Staggered Pulse Repetition Frequency - Doppler Filter Banks- MTI - Pulse Doppler Radar - Tracking with Radar - Monopulse Tracking - Conical Scanning and Sequential lobing - Tracking with surveillance Radar.

TYPES OF RADAR 09

High Frequency Over-the-Horizon Radar - Air-Surveillance Radar – Height Finder and 3D Radars - Bistatic Radar.

NAVIGATION AND RADIO DIRECTION FINDING 09

Methods of Navigation- Radio Direction Finding - Goniometer - Adcock Direction Finders - Automatic Direction Finders –and Very high frequency Omni- directional range - Instrument Landing System .

RADIO RANGES AND DISTANCE MEASURING EQUIPMENT 06

Radio Ranges - Hyperbolic Systems of Navigation - Loran-A - Distance Measuring Equipment - Operation of DME.

Theory: 45 Hrs

Tutorials: -- Hrs

Total: 45 Hrs

TEXT BOOKS:

1. Merrill I. Skolnik , " Introduction to Radar Systems", Tata McGraw-Hill, Third Edition, 2015.
2. N.S.Nagaraja , "Elements of Electronic Navigation “, Tata McGraw-Hill, Second Edition, 2009.

REFERENCES:

1. Peyton Z. Peebles:, "Radar Principles", John wiley publications, 2007.
2. J.C Toomay, " Principles of Radar", Third Edition , PHI, 2010.

back

U15ECP402

MICROPROCESSORS AND MICROCONTROLLERS LABORATORY

L	T	P	C
0	0	2	1

Course Outcomes (COs):

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

CO1: Develop and execute simple assembly language programs using 8086 instruction set (K3, S2).

CO2: Develop and execute simple programs using 8051 assembler (K3, S2).

CO3: Interface 8051 microcontroller with various peripherals (K3, S4).

CO4: Interfacing and programming MSP430 microcontroller using C language (K3, S4).

CO5: Develop a real time application using microprocessor/microcontroller (K5, S5).

Pre-requisite: 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
CO1	S		W		S			M	S	S			M	M
CO2	S		M		S			M	S	S			M	M
CO3	S		M		S			M	S	S			M	M
CO4	S		M		S			M	S	S			M	M
CO5	S		M		S		S	M	S	S		S	M	M

Course Assessment methods:

Direct	Indirect
1. Lab Exercise 2. Observation 3. Model Exam 4. End Semester Exam	Course end survey

LIST OF EXPERIMENTS

1. Basic Programming with 8086 Assembler

PROGRAMMING WITH 8051 MICROCONTROLLER

2. Arithmetic and Logical Operations
3. Serial /Parallel Port Programming
4. Timer /Counter Programming
5. Interrupt Programming

6. LED and LCD Interface
7. ADC and DAC Interface
8. Stepper Motor Control

PROGRAMMING WITH MSP430 MICROCONTROLLER USING C

9. Interfacing and programming GPIO ports
10. Motor Control Using PWM
11. Interfacing Temperature sensor through ADC and display in LCD
12. Output Voltage control using DAC
13. Interfacing UART / USB

Practical: 30 Hrs

Total: 30Hrs

back



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Department of Mechanical Engineering


AY: 2016-17

Date: 15 – 07 – 2017

Employers Feedback

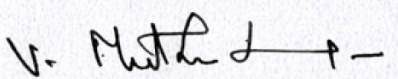
1. At the end of detailed discussions on the curriculum and syllabus Industry nominee appreciated the efforts taken by the department and expressed complete satisfaction.

Prepared By,


Dr.M.Balaji

BoS Coordinator

Approved By,



Dr.V.Muthukumaran

BoS Chairman

Professor & Head

Department of Mechanical Engineering
Kumaraguru College of Technology
Coimbatore-641 049.



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Department of Mechanical Engineering

AY: 2016-17

Date: 15 – 07 – 2017

Employers Feedback Analysis Report

1. At the end of detailed discussions on the curriculum and syllabus Industry nominee appreciated the efforts taken by the department and expressed complete satisfaction. – no further action is required on this. It is recommended to get his help in organizing the one credit courses and industrial training for the students.

Prepared By,

Dr.M.Balaji

BoS Coordinator

Approved By,

Dr.V.Muthukumar

BoS Chairman

Professor & Head

Department of Mechanical Engineering
Kumaraguru College of Technology
Coimbatore-641 049.



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Department of Mechanical Engineering

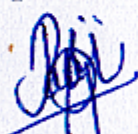
AY: 2016-17

Date: 15 – 07 – 2017

Action taken report -Employers Feedback

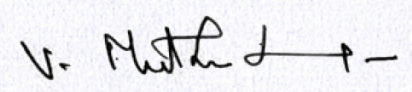
S.No	Analysis	Action taken report
1.	At the end of detailed discussions on the curriculum and syllabus Industry nominee appreciated the efforts taken by the department and expressed complete satisfaction.	--

Prepared By,


Dr.M.Balaji

BoS Coordinator

Approved By,


Dr.V.Muthukumaran

BoS Chairman

Professor & Head
Department of Mechanical Engineering
Kumaraguru College of Technology
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Department of Electronics & Instrumentation Engineering

AY: 2016-17

15.07.2017

Action taken report -Employers Feedback

S.No	Analysis	Action taken report
1.	Suggested to include network synthesis & Analysis in signals and systems course	Included in U17EII2201 -Electric circuits
2.	To limit the number of credits to 24 in I and II Semester	The number of credits to I and II semester curriculum is limited to 24 credits as per the suggestion by BOS members.
3.	PLC, SCADA and DCS as a separate subject course and can be offered as professional core subjects.	PLC course is offered as Industrial Automation in 6th Semester.

Prepared by

V. Manimekalan
V. Manimekalan AP/EIE
BoS Coordinator

Approved by

P. S. Prasad
BoS Chairman

Proof For ATR point No.1

U17EII2201 ELECTRIC CIRCUITS

L	T	P	J	C
3	0	2	0	4

Course Outcomes

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

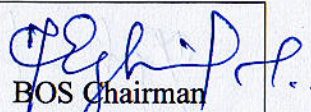
- CO1: Evaluate the fundamental laws to solve electric circuits theoretically, practically and verify it with simulation tools
- CO2: Apply electrical circuit analysis techniques to DC & AC circuits.
- CO3: To analyze the electrical network using electrical circuit analysis techniques by applying network theorems.
- CO4: To apply the concepts of AC circuit power analysis to solve electric circuits.
- CO5: Understand the transient response of simple RL, RC & RLC circuits and predict the frequency response of resonance circuits.
- CO6: Evaluate and troubleshoot any practical situation and demonstrate the converged solution.

Pre-requisite: 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
CO1	S	W	W	W	S	W						
CO2	W	M	S	W			W	W				
CO3	S			W								
CO4	S	W			W							
CO5		W	W	W								
CO6				S					W	W	W	W

Course Assessment methods:

Direct
<ol style="list-style-type: none"> 1. Continuous Assessment Test I, II (Theory Component) 2. Assignment (Theory Component) 3. Group Presentation (Theory Component) 4. Pre/Post - experiment Test/Viva; Experimental Report for each experiment (lab component) 5. Model examination (lab component) 6. End Semester Examination (Theory and lab component)
Indirect
<ol style="list-style-type: none"> 1. Course-end survey


BOS Chairman

Theory Component contents

DC CIRCUITS ANALYSIS

11 Hours

Basic Definitions: Charge, Current, Voltage and Power, Element types, Circuit elements characteristics: Resistors, Inductors, capacitors - Voltage and Current Sources - Ohm's Law, Kirchhoff's Current Law, Kirchhoff's Voltage Law, Circuit elements in Series and Parallel, Voltage and Current Division, Source Transformation, Delta-Star and Star-Delta transformation, Mesh Analysis, super mesh, Nodal analysis, Super node.

NETWORK THEOREMS

7 Hours

Superposition Theorem, Thevenin's Theorem and Norton's Theorem, Maximum Power Transfer Theorem, Reciprocity Theorem, Verification of Theorems, Introduction to Simulation tools.

SINUSOIDAL STEADY STATE ANALYSIS

9 Hours

Sinusoids, Phasors, Phasor representation of R, L and C, Phasor Diagrams, Impedance, Admittance, Susceptance, Conductance and Reactance.

AC Circuit Power Analysis-Instantaneous Power, Average Power, RMS Power, Apparent Power and Power Factor, Complex Power, Mesh Analysis & Nodal Analysis, Verification of Thevenin's Theorem, Norton's Theorem and Maximum Power Transfer Theorem.

FIRST ORDER AND SECOND ORDER CIRCUITS

9 Hours

Basic RL and RC Circuits: The Source-Free RL Circuit, the Source-Free RC Circuit, The Unit-Step Function, Driven RL Circuits, Driven RC Circuits- Source free series and parallel RLC circuits.

RESONANCE AND COUPLED CIRCUITS

9Hours

Frequency Response of Parallel and Series Resonance circuits-determination of Resonant Frequency, Q – Factor and Bandwidth. Magnetically Coupled Circuits - Self Inductance, Mutual Inductance, Coefficient of Coupling, Energy in a coupled circuit, Linear Transformer, Ideal Transformer, Duality, Two port networks – Z parameters and H parameters.

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

REFERENCES

1. Charles K. Alexander and Mathew N.O. Sadiku, Fundamentals of Electric Circuits, 5th edition, McGraw-Hill, 2013.
2. David E. Johnson, Johny R. Johnson and John L. Hilburn, Electric Circuit Analysis, 3rd edition, Prentice-Hall Int.
3. Murthy K.V.V., Kamath M.S., Basic Circuit Analysis, Jaico Publishing House, 1999.
4. Norman Balabanian, Electric Circuits, Int. Edition, McGraw-Hill, 1994.
5. Decarlo R.A. and Lin P.M., Linear circuit analysis - The time domain, Phasor and Laplace transform approach, Oxford press, 2nd edition, 2003.
6. William H. Hayt, Jr Jack E. Kemmerly and Steven M. Durbin, Engineering Circuit

Analysis, 8th edition, MC GrawHill, 2013.

7. Joseph Edministor and Nahvi (Mohmood), Theory & Problems of Electric Circuits, 6th edition, MC Graw Hill, 2014.

8. Ravish R. Singh, Network Analysis and Synthesis, 1st edition, MC Graw Hill, 2013.

Lab Component

List of Experiments

30 Hours

1. Demonstration of the characteristics of basic circuit elements
2. Verifications of Ohm's Laws & Kirchhoff's Laws.
3. Verification of Star to Delta and Delta to Star Conversion using simulation tools.
4. Verification of network theorem.
5. Phasor relationships in RL & RC circuits.
6. Frequency response RL & RC Circuits.
7. Frequency response of series resonance circuit.
8. Frequency response of parallel resonance circuit.

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

1. Charles K. Alexander and Mathew N.O. Sadiku, Fundamentals of Electric Circuits, 5th edition, McGraw-Hill, 2013.
2. David E. Johnson, Johny R. Johnson and John L. Hilburn, Electric Circuit Analysis, 3rd edition, Prentice-Hall Int.
3. Murthy K.V.V., Kamath M.S., Basic Circuit Analysis, Jaico Publishing House, 1999.
4. Norman Balaba nian, Electric Circuits, Int. Edition, McGraw-Hill, 1994.
5. Decarlo R.A. and Lin P.M., Linear circuit analysis - The time domain, Phasor and Laplace transform approach, Oxford press, 2nd edition, 2003.
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7. Joseph Edministor and Nahvi (Mohmood), Theory & Problems of Electric Circuits, 6th edition, MC Graw Hill, 2014.
8. Ravish R. Singh, Network Analysis and Synthesis, 1st edition, MC Graw Hill, 2013.

U17EII6201

INDUSTRIAL AUTOMATION

L	T	P	J	C
3	0	2	0	4

Course Outcomes (CO):

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

CO1: Apply the design aspects of industrial automation. K3

CO2: Build PLC program and logic controllers with case study. K3

CO3: Develop PLC diagram & implement the Automation technique used in Industry. K3

CO4: Solve engineering problems for Field Automation and analyse their safety/redundancy. K4

CO5: Distinguish appropriate Input/output devices & schemes for industrial automation applications and conduct experiments & analyse their performances. K4

CO6: Develop communication protocol for a typical Field Automation network Architecture. K3

Pre-requisite: U18EII5201 Process Dynamics and Control
U18EII5203 Field Instrumentation

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-K3	S	M	W	W										
CO2- K3	S	M	W	W	S				M	M			M	
CO3-K3	S	M	W	W	S			W					S	S
CO4-K4	M	S	M	M	S								S	S
CO5-K4	M	S	M	M					S	S			S	S
CO6-K3	S	M	W	W									S	S

Course Assessment Methods:	
Direct	Indirect
<ul style="list-style-type: none"> Internal Tests Assignment Model Lab Exam End Semester Theory & Practical Exam 	<ul style="list-style-type: none"> Course Exit Survey

Course Content:

DESIGN ASPECTS OF INDUSTRIAL AUTOMATION

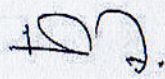
9 Hours

Detailed study of process sequences – preparation of input and output list –Preparation of Schemes (open loop, closed loop, hardwire control, interface) – Input / output signal ranges (Voltage, Current, Pulse) - hardware Selection procedure.

PROGRAMMABLE LOGIC CONTROLLERS

9Hours

Overview, Functions & Features, - Typical areas of application – Relay & Relay Logics- PLC

K.k. 
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vs dedicated controllers – PLC Architecture & Hardware – System Configuration – Power requirement calculation– Redundancy in power supply system – choice of circuit breakers – control panel & common wiring practices.

PLC PROGRAMMING (FUNDAMENTALS)

9 Hours

PLC Programming Languages – System bits & words – Logic functions – Latch and Memory concepts – Timers & Counter concepts – Basic programming using concepts

PLC PROGRAMMING (FUNCTIONS)

9 Hours

Arithmetic functions – compare functions – converter functions – Data transfer instructions – Function blocks – PID Function Blocks - Different types of programming sequences (Manual, Auto & Alarm) – Operator Level Interfacing unit (HMI) – HMI Programming.

Applications:

Binder-Processing Machine, Crystal Measurement, Smart Bench, Sagger Load Station, Tray Handlers & Cotton Classing System

INTRODUCTION TO SCADA

9 Hours

Introduction to SCADA – SCADA Architecture – Concept of DCS – DCS Architecture – DCS Configuration and Programming – Communication Protocol – Typical Network architecture – Plant network design – Network field instruments-(with case study-using SCADA & Centum VP DCS)


List of Experiments:

1. Study of basic control function in PLC
2. Implementation of logic gates and Boolean functions.
3. Implementation of PLC timer functions.
4. Implementation of PLC counters functions
5. Emulation and Graphical Control.
6. Implementation of PID LOOPS using PLC.
7. Motor control using PLC.
8. Sequential lighting of bulbs.
9. Implementation Automatic Traffic control system.
10. Implementation of sequencer.
11. Develop communication Protocol for a typical Field Automation Network Architecture.

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

1. “Frank Lamb “, Industrial Automation Hands-On, 2013 by McGraw-Hill Education. ISBN: 978-0-07-181645-8.
2. “StamatiosManesis& George Nikolukopo”, Introduction to Industrial Automation, CRC press, Taylor &Fancis, 2018.
- 3.“Hugh Jack” Automatic Manufacturing Systems with PLCs, 2007; www.PAControl.com
4. “Frank D. Petruzella” Programming Logic Controllers.

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Department of Computer Applications

AY: 2016-17

Date: 15.06.2017

Action taken report -Employers Feedback

S.No	Analysis	Action taken report
1.	Insisted on the need for skill-oriented courses in emerging technologies to enhance the employability of the candidates.	One credit courses on the emerging technologies were introduced. P17CAC0201- Agile Methodology P17CAC0202- Android Technologies P17CAC0203 – Ethical hacking P17CAC0204 - Internet of Things P17CAC0209 – Data Analytics
2.	Introduction of latest software tools and technologies in the curriculum	New courses were also added in the curriculum P17CAT3003 – Machine Learning & Data Analytics P17CAE0012 Artificial Intelligence & Expert Systems

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

Proof for Action Taken :

SEMESTER-III

Course Code	Course Title	Course Mode	L	T	P	J	C
P17CAI3201	User Interface Design and Development	Embedded – Theory & Lab	3	0	2	0	4
P17CAT3102	Analysis of Algorithms	Theory	3	1	0	0	4
P17CAT3003	Machine Learning & Data Analysis	Theory	3	0	0	0	3
P17MAI3201	Probability and Statistics for Data Analysis	Embedded – Theory & Lab	3	0	2	0	4
P17CAI3203	Programming with JAVA	Embedded – Theory & Lab	3	0	2	0	4
P17ENP3501	Professional Skills II	Lab	0	0	2	0	1
P17INI3600	Engineering Clinic –I	Embedded Lab& Project	0	0	4	2	3
Total Credits							23
Total Hours per week							30

List of Program Electives

Code No.	Course Title	Course Type	L	T	P	J	C
P17CAE0001	Service Oriented Architecture	PE	3	0	0	0	3
P17CAE0002	Information Security	PE	3	0	0	0	3
P17CAE0003	Object Oriented Analysis and Design	PE	3	0	0	0	3
P17CAE0004	Game Development	PE	3	0	0	0	3
P17CAE0005	Software Project Management	PE	3	0	0	0	3
P17CAE0006	E- Commerce	PE	3	0	0	0	3
P17CAE0007	TCP/IPV6 Protocol Suite	PE	3	0	0	0	3
P17CAE0008	Digital Image Processing	PE	3	0	0	0	3
P17CAE0009	Wireless Networks	PE	3	0	0	0	3
P17CAE0010	Professional Ethics	PE	3	0	0	0	3
P17CAE0011	Domain Analytics	PE	3	0	0	0	3
P17CAE0012	Artificial Intelligence & Expert Systems	PE	3	0	0	0	3
P17CAE0013	Accounting and Financial Management	PE	3	0	0	0	3
P17CAE0014	Enterprise Resource Planning	PE	3	0	0	0	3
P17CAE0015	Managing Technical People	PE	3	0	0	0	3
P17CAE0016	Management Information System	PE	3	0	0	0	3

List of One Credit Courses

Code No.	Course Title
P17CAC0201	Agile Methodology
P17CAC0202	Android Technologies
P17CAC0203	Ethical Hacking
P17CAC0204	Internet of Things
P17CAC0205	Multimedia Systems
P17CAC0206	Soft Skills
P17CAC0207	Technical Writing
P17CAC0208	Human Excellence – Professional Values
P17CAC0209	Data Analytics
P17CAC0210	PHP with Laravel Framework



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Department of Mechatronics Engineering

AY: 2016-17

Date:(5.11.16)

Action taken report Employer's Feedback

S.No	Analysis	Action taken report
1.	Expert member suggested introducing microcontroller course in the first year itself.	Can't be included because without the knowledge of digital electronics it can't be taught.
2.	Suggested to conduct additional content courses for embedded systems and microcontrollers.	Input given to the course handling faculty.

Prepared By,

BoS Coordinator

Approved By,

BoS Chairman

Proof :

No proof for the given suggestion