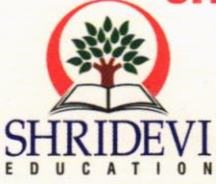


SRI SHRIDEVI CHARITABLE TRUST (R.)

SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY



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Sira Road, Tumkur - 572 106, Karnataka, India.

(Affiliated to Visvesvaraya Technological University &

Approved by AICTE, New Delhi Vide 06/06/KTK/ENGG/02/017 Dt. 27-05-2002)

Phone: 0816 -2212629 / Principal : 0816-2212627 Tele Fax: 0816 - 2212628



e-mail :info@shrideviengineering.org , principal@shrideviengineering.org Website: www.shrideviengineering.org

Ref. No.: SIET/OFF/2018-19/ 102a,

Date:18/07/2019

To,
The Chairman
Board of studies (BoS)
Computer Science and Engineering
VTU, Belagavi-560018

Sub: Proposed Suggestions for Proposed Syllabus 2018-Scheme of VTU Syllabus – reg.

With reference to the above subject, we are hereby enclosing the list of curricular gaps and the proposed suggestions for some courses in proposed 2018 Scheme / Syllabus of CSE Board of Studies, Visvesvaraya Technological University.

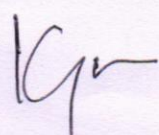

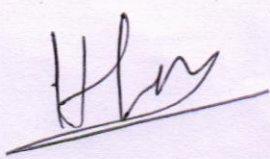
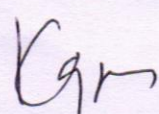
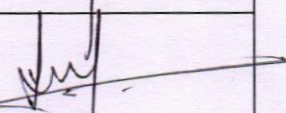
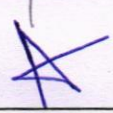
We highly recommend you to incorporate the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

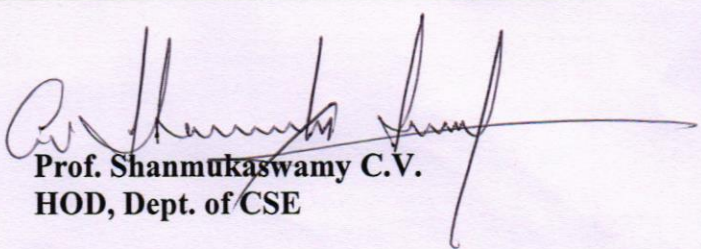
Thanking you

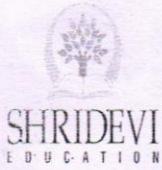
Prof. Shanmukaswamy C.V.
HOD, Dept. of CSE

Dr. Hemadri Naidu
PRINCIPAL
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

LIST OF CURRICULAR GAPS AND THE PROPOSED SUGGESTIONS :

Sl No.	Curricular Gaps and Proposed Suggestions	Course Faculty In Charge Signature
1	In 2017 scheme, Advanced JAVA and J2EE (17CS553) is offered as professional elective course. Since Java & J2EE is required for all the students do their final year projects, we suggest the board to consider it as Core Course during the revision of syllabus & scheme	
2	Web Technology & its Applications course is not having laboratory component as per draft 2018 syllabus, hence we request the board members to consider at least 20 Marks CIE for laboratory component along with the theory test.	B 
3	In the present 17CS44 Microprocessor& Microcontrollers, students are studying only 8086 Architecture concepts along with ARM processor. We suggest BoS team to include Microcontroller & Embedded Systems as per the current trends of the industry requirements during the revision.	
4	In 17CS61 Cryptography Network Security and Cyber Laws, the concept of Cyber Security and practical aspect of these concepts are not discussed. We request you to consider these changes in future revision.	
5	In 17CS754 Unix System Programming practical approaches are missing. We request you to consider it in future revise.	
6	In 17CS82 Big Data Analytics, the practical approaches of Hadoop concepts can be included.	


Prof. Shanmukaswamy C.V.
HOD, Dept. of CSE



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Ref: SIET/2019-20/ECE/ 113a

12-08-2019

To

The Chairman
Board of Studies (BOS)
Electronics & Communication Engineering
VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above cited subject, it is herewith enclosed curricular gaps and the proposed suggestions for some courses in the proposed 2018 scheme / syllabus of Electronics & Communication Engineering board of Visvesvaraya Technological University, Belagavi.

We request you to kindly consider the following points during the revision of the curriculum and syllabus by the University.

Curricular Gaps and proposed suggestion:

We suggest the BOS member to add Power Electronics Lab to III semester to 2018 scheme during the revision of scheme & syllabus.

Thanking You,

Head of the Department
Electronics & Communication Engineering

HOD
Dept of E&C
SIET, Tumkur-6

Principal
SIET, TUMAKURU

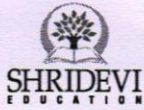
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: B.E: Electronics & Communication Engineering

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours/Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18EC32	Network Theory		3	2	--	03	40	60	100	4
3	PCC	18EC33	Electronic Devices		3	0	--	03	40	60	100	3
4	PCC	18EC34	Digital System Design		3	0	--	03	40	60	100	3
5	PCC	18EC35	Computer Organization & Architecture		3	0	--	03	40	60	100	3
6	PCC	18EC36	Power Electronics & Instrumentation		3	0	--	03	40	60	100	3
7	PCC	18ECL37	Electronic Devices & Instrumentation Laboratory		--	2	2	03	40	60	100	2
8	PCC	18ECL38	Digital System Design Laboratory		--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for Communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39/49	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
TOTAL					17	10	04	24	420	480	900	24
TOTAL					OR	OR	OR	OR	OR	OR		
TOTAL					18	08	04	26	360	540		



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DEPARTMENT OF MECHANICAL ENGINEERING

Ref: SIET/2019-20/ME/11Aa

13/08/2019

To

The Chairman
Board of studies (BOS)
Mechanical Engineering
VTU Belagavi

Sub: Suggestions for Proposed Syllabus 2018 Scheme - VTU

With reference to the above cited subject, we have hereby enclosed a list of proposed suggestions for some courses in 2018 Scheme/Syllabus of Mechanical Engineering board of Visvesvaraya Technological University, Belagavi.

We highly recommend you the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

Curricular Gaps and Proposed Suggestions

1. In Computer Aided Design and Manufacturing (18ME72), we suggest to add content on programming advanced CNC multi-axis machines, setting of tools, machine limits, capabilities, and safety.
2. In 2018-19 scheme, Refrigeration and air conditioning is offered as professional elective course. Since these subjects is required for all the students for innovation. We suggest the board to consider it as core course during the revision of syllabus

Thanking you

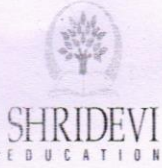
HOD
Mechanical Engineering
H.O.D
Dept. of Mechanical
S.I.E.T., TUMKUR - 6

Principal
SIET, TUMAKURU
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

B. E. MECHANICAL ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER - VII			
COMPUTER AIDED DESIGN AND MANUFACTURING			
Course Code	18ME72	CIE Marks	40
Teaching Hours /Week (L:T:P)	3:0:0	SEE Marks	60
Credits	03	Exam Hours	03
Course Learning Objectives:			
<ul style="list-style-type: none"> • To impart knowledge of CIM and Automation and different concepts of automation by developing mathematical models. • To make students to understand the Computer Applications in Design and Manufacturing [CAD / CAM] leading to Computer integrated systems. Enable them to perform various transformations of entities on display devices. • To expose students to automated flow lines, assembly lines, Line Balancing Techniques, and Flexible Manufacturing Systems. • To expose students to computer aided process planning, material requirement planning, capacity planning etc. • To expose the students to CNC Machine Tools, CNC part programming, and industrial robots. • To introduce the students to concepts of Additive Manufacturing, Internet of Things, and Industry 4.0 leading to Smart Factory. 			
Module-1			
<p>Introduction to CIM and Automation: Automation in Production Systems, automated manufacturing systems- types of automation, reasons for automating, Computer Integrated Manufacturing, computerized elements of a CIM system, CAD/CAM and CIM. Mathematical models and matrices: production rate, production capacity, utilization and availability, manufacturing lead time, work-in- process, numerical problems.</p> <p>Automated Production Lines and Assembly Systems: Fundamentals, system configurations, applications, automated flow lines, buffer storage, control of production line, analysis of transfer lines, analysis of flow lines without storage, partial automation, analysis of automated flow lines with storage buffer, fundamentals of automated assembly systems, numerals.</p>			
Module-2			
<p>CAD and Computer Graphics Software: The design process, applications of computers in design, software configuration, functions of graphics package, constructing the geometry.</p> <p>Transformations: 2D transformations, translation, rotation and scaling, homogeneous transformation matrix, concatenation, numerical problems on transformations.</p> <p>Computerized Manufacture Planning and Control System: Computer Aided Process Planning, Retrieval and Generative Systems, benefits of CAPP, Production Planning and Control Systems, typical activities of PPC System, computer integrated production management system, Material Requirement Planning, inputs to MRP system, working of MRP, outputs and benefits, Capacity Planning, Computer Aided Quality Control, Shop floor control</p>			
Module-3			
<p>Flexible Manufacturing Systems: Fundamentals of Group Technology and Flexible Manufacturing Systems, types of FMS, FMS components, Material handling and storage system, applications, benefits, computer control systems, FMS planning and design issues, Automated Storage and Retrieval Systems, AS/RS and Automatic parts identification systems and data capture.</p> <p>Line Balancing: Line balancing algorithms, methods of line balancing, numerical problems on largest candidate rule, Kilbridge and Wester method, and Ranked Positional Weights method, Mixed Model line</p>			

balancing, computerized line balancing methods.				
Module-4				
Computer Numerical Control: Introduction, components of CNC, CNC programming, manual part programming, G Codes, M Codes, programming of simple components in turning, drilling and milling systems, programming with canned cycles. Cutter radius compensations.				
Robot Technology: Robot anatomy, joints and links, common robot configurations, robot control systems, accuracy and repeatability, end effectors, sensors in robotics. Robot programming methods: on-line and off-line methods. Robot industrial applications: material handling, processing and assembly and inspection.				
Module-5				
Additive Manufacturing Systems: Basic principles of additive manufacturing, slicing CAD models for AM, advantages and limitations of AM technologies, Additive manufacturing processes: Photo polymerization, material jetting, binder jetting, material extrusion, Powder bed sintering techniques, sheet lamination, direct energy deposition techniques, applications of AM.				
Future of Automated Factory: Industry 4.0, functions, applications and benefits. Components of Industry 4.0, Internet of Things (IOT), IOT applications in manufacturing, Big-Data and Cloud Computing for IOT, IOT for smart manufacturing, influence of IOT on predictive maintenance, industrial automation, supply chain optimization, supply-chain & logistics, cyber-physical manufacturing systems.				
Course Outcomes: At the end of the course, the student will be able to:				
CO1: Define Automation, CIM, CAD, CAM and explain the differences between these concepts. Solve simple problems of transformations of entities on computer screen				
CO2: Explain the basics of automated manufacturing industries through mathematical models and analyze different types of automated flow lines.				
CO3: Analyse the automated flow line storeduce time and enhance productivity.				
CO4: Explain the use of different computer applications in manufacturing, and able to prepare part programs for simple jobs on CNC machine tools and robot programming.				
CO5: Visualize and appreciate the modern trends in Manufacturing like additive manufacturing, Industry 4.0 and applications of Internet of Things leading to Smart Manufacturing.				
Question paper pattern:				
<ul style="list-style-type: none"> The question paper will have ten full questions carrying equal marks. Each full question will be for 20 marks. There will be two full questions (with a maximum of four sub- questions) from each module. Each full question will have sub- question covering all the topics under a module. The students will have to answer five full questions, selecting one full question from each module. 				
Sl No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				
1	Automation, Production Systems and Computer-Integrated Manufacturing	Mikell P Groover	Pearson Learning.	4 th Edition, 2015
2	CAD / CAM Principles and Applications	P N Rao	Tata McGraw-Hill	3 rd Edition, 2015
3	CAD/CAM/CIM	Dr. P. Radhakrishnan	New Age International Publishers, New Delhi.	3 rd edition
Reference Books				
1	"CAD/CAM"	Ibrahim Zeid	Tata McGraw Hill.	
2	Principles of Computer Integrated Manufacturing	S.Kant Vajpayee	, Prentice Hall of India, New Delhi.	1999

3	Work Systems And The Methods, Measurement And Management of Work	Groover M. P., Pearson	Prentice Hall	Upper Saddle River, NJ, 2007.
4	Computer Automation in Manufacturing	Boucher, T. O., Chapman & Hall	London, UK,	1996.
5	Introduction to Robotics: Mechanics And Control	Craig, J. J.	Addison-Wesley Publishing Company	2 nd Ed 1989.
6	Internet of Things (IoT): Digitize or Die: Transform your organization. Embrace the digital evolution. Rise above the competition	Nicolas Windpassinger	Amazon.	
7	Internet of Things: A Hands-on Approach"	ArshdeepBahga and Vijay Madiseti	Universities Press	
8	Additive Manufacturing Technologies: Rapid Prototyping to Direct Digital Manufacturing,	Ian Gibson, David W. Rosen, Brent Stucker		2nd Ed. (2015)
9	Understanding Additive Manufacturing	Andreas Gebhardt, Hanser Publishers		2011
10	Understanding Additive Manufacturing",	Andreas Gebhardt,	Hanser Publishers,	2011



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Ref: SIET/2019-20/ECE/115a

17-08-2019

To

The Chairman

Board of Studies (BOS)

Electronics & Communication Engineering

VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above cited subject, it is herewith enclosed curricular gaps and the proposed suggestions for some courses in the proposed 2018 scheme / syllabus of Electronics & Communication Engineering board of Visvesvaraya Technological University, Belagavi.

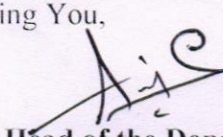
We request you to kindly consider the following points during the revision of the curriculum and syllabus by the University.

Curricular Gaps and proposed suggestion:

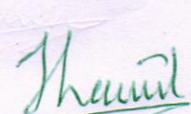
We suggest the BOS member to replace Module - 4 & 5 from the syllabus of the V Semester Subject Principles of Communication Systems-18EC53, 2018 scheme with a Module covering Single Sideband modulation and a Module covering Vestigial Sideband modulation during the revision of 2018 scheme & syllabus. Since Module -4 & 5 is about introduction to digital communication that can be introduced in the next semester, the students get a good exposure to analog communication systems if SSB & VSB is introduced in detail.

Also we suggest the BOS members to add the Module-4&5 of the subject Principles of Communication Systems-18EC53 , 2018 scheme to Digital communication-18EC61, VI semester subject, during the revision of 2018 scheme & syllabus.

Thanking You,


Head of the Department
Electronics & Communication Engineering

HOD
Dept of E&C
SIET, Tumkur-6


Principal
SIET, TUMAKURU
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMAKURU - 572106

PRINCIPLES OF COMMUNICATION SYSTEMS

Course Code	: 18EC53	CIE Marks : 40
Lecture Hours/Week	: 03 + 2 (Tutorial)	SEE marks : 60
Total Number of Lecture Hours	: 50 (10 Hrs / Module)	Exam Hours : 03
CREDITS : 04		

Course Learning Objectives: This course will enable students to

- Understand and analyse concepts of Analog Modulation schemes viz; AM, FM, Low pass sampling and Quantization as a random process.
- Understand and analyse concepts digitization of signals viz; sampling, quantizing and encoding.
- Evolve the concept of SNR in the presence of channel induced noise and study Demodulation of analog modulated signals.
- Evolve the concept of quantization noise for sampled and encoded signals and study the concepts of reconstruction from these samples at a receiver.

Module-1

AMPLITUDE MODULATION: Introduction, Amplitude Modulation: Time & Frequency Domain description, Switching modulator, Envelop detector. (3.1 – 3.2 in Text)

DOUBLE SIDE BAND-SUPPRESSED CARRIER MODULATION: Time and Frequency Domain description, Ring modulator, Coherent detection, Costas Receiver, Quadrature Carrier Multiplexing. (3.3 – 3.4 in Text)

SINGLE SIDE-BAND AND VESTIGIAL SIDEBAND METHODS OF MODULATION: SSB Modulation, VSB Modulation, Frequency Translation, Frequency- Division Multiplexing, Theme Example: VSB Transmission of Analog and Digital Television. (3.5 – 3.8 in Text)

L1, L2, L3

Module-2

ANGLE MODULATION: Basic definitions, Frequency Modulation: Narrow Band FM, Wide Band FM, Transmission bandwidth of FM Signals, Generation of FM Signals, Demodulation of FM Signals, FM Stereo Multiplexing, Phase-Locked Loop: Nonlinear model of PLL, Linear model of PLL, Nonlinear Effects in FM Systems. The Superheterodyne Receiver (4.1 – 4.6 of Text)

L1, L2, L3

Module-3

*[Review of Mean, Correlation and Covariance functions of Random Processes.
(No questions to be set on these topics)]*

NOISE - Shot Noise, Thermal noise, White Noise, Noise Equivalent Bandwidth
(5.10 in Text)

NOISE IN ANALOG MODULATION: Introduction, Receiver Model, Noise in DSB-SC receivers. Noise in AM receivers, Threshold effect, Noise in FM receivers, Capture effect, FM threshold effect, FM threshold reduction, Pre-emphasis and De-emphasis in FM (6.1 – 6.6 in Text)

L1,L2,L3

Module-4

SAMPLING AND QUANTIZATION: Introduction, Why Digitize Analog Sources?, The Low pass Sampling process Pulse Amplitude Modulation. Time Division Multiplexing, Pulse-Position Modulation, Generation of PPM Waves, Detection of PPM Waves.(7.1 – 7.7 in Text)

L1,L2,L3

Module-5

SAMPLING AND QUANTIZATION (Contd): The Quantization Random Process, Quantization Noise, Pulse-Code Modulation: Sampling, Quantization, Encoding, Regeneration, Decoding, Filtering, Multiplexing; Delta Modulation (7.8 – 7.10 in Text),

Application examples - (a) Video + MPEG (7.11 in Text) and (b) Vocoders (refer Section 6.8 of Reference Book 1).

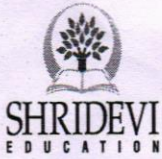
L1,L2,L3

Course Outcomes: After studying this course, students will be able to:

1. Analyze and compute performance of AM and FM modulation in the presence of noise at the receiver.
2. Analyze and compute performance of digital formatting processes with quantization noise.
3. Multiplex digitally formatted signals at Transmitter.
4. Demultiplex the signals and reconstruct digitally formatted signals at the receiver.
5. Design /Demonstrate the use of digital formatting in Multiplexers, Vocoders and Video transmission.

Question paper pattern:

- Examination will be conducted for 100 marks with question paper containing 10 full questions, each of 20 marks.
- Each full question can have a maximum of 4 sub questions.
- There will be 2 full questions from each module covering all the topics of the module.



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Ref: SIET/2019-20/EEE/1156

17-08-2019

To

The Chairman
Board of Studies (BOS)
Electrical & Electronics Engineering
VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above subject, we have proposed suggestions for some courses in the proposed 2018 Scheme/syllabus of Electrical & Electronics Engineering board Visvesvaraya Technological University, Belagavi.

We highly recommend you the following changes in the list and request you to consider these during the revision of the curriculum and syllabus by the university

Curricular Gaps and Proposed Suggestions

In 2018 Scheme, the Electric Vehicles Technologies(18EE646) is offered as professional elective course. We suggest the board to consider it as core course during the revision of scheme & syllabus

Thanking you,

G. H. Ramaswami
Head of the Department
Electrical & Electronics Engineering

Head of the Department
Electrical & Electronics Engineering
Shridevi Institute of Engineering & Technology
TUMKUR-572106.


Principal
SIET, TUMAKURU
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18 EE61	Control Systems	EEE	3	2	--	03	40	60	100	4
2	PCC	18 EE62	Power System Analysis – 1	EEE	3	2	--	03	40	60	100	4
3	PCC	18 EE63	Digital Signal Processing	EEE	3	2	--	03	40	60	100	4
4	PEC	18 EE64X	Professional Elective -1	EEE	3	--	--	03	40	60	100	3
5	OEC	18 EE65X	Open Elective -A	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL66	Control System Laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL67	Digital Signal Processing Laboratory	EEE	--	2	2	03	40	60	100	2
8	MP	18 EEMP68	Mini-project		--	--	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -1

Course code under 18XX64X	Course Title
18 EE641	Introduction to Nuclear Power
18 EE642	Electrical Engineering Materials
18 EE643	Computer Aided Electrical Drawing
18 EE644	Embedded System
18 EE645	Object Oriented Programming using C++
18EE646	Electric Vehicles Technologies
18EE647	Sensors and Transducers

Open Elective -A

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: All the students admitted to III year of BE/B.Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

B. E. ELECTRICAL AND ELECTRONICS ENGINEERING CHOICE BASED CREDIT SYSTEM (CBCS) AND OUTCOME BASED EDUCATION (OBE) SEMESTER – VI ELECTRIC VEHICLE TECHNOLOGIES (PROFESSIONAL ELECTIVE)				
Course Code	18EE646	CIE Marks	40	
Teaching Hours/Week (L:T:P)	(3:0:0)	SEE Marks	60	
Credits	03	Exam Hours	03	
Course Learning Objectives:				
<ul style="list-style-type: none"> • To understand working of Electric Vehicles and recent trends. • Ability to analyze different power converter topology used for electric vehicle application. • Ability to develop the electric propulsion unit and its control for application of electric vehicles. • Ability to design converters for battery charging and explain transformer less topology. 				
Module-1				
Electric and Hybrid Electric Vehicles: Configuration of Electric Vehicles, Performance of Electric Vehicles, Traction motor characteristics, Tractive effort and Transmission requirement, Vehicle performance, Tractive effort in normal driving, Energy consumption Concept of Hybrid Electric Drive Trains, Architecture of Hybrid Electric Drive Trains, Series Hybrid Electric Drive Trains, Parallel hybrid electric drive trains.				
Module-2				
Energy storage for EV and HEV: Energy storage requirements, Battery parameters, Types of Batteries, Modelling of Battery, Fuel Cell basic principle and operation, Types of Fuel Cells, PEMFC and its operation, Modelling of PEMFC, Supercapacitors.				
Module-3				
Electric Propulsion: EV consideration, DC motor drives and speed control, Induction motor drives, Permanent Magnet Motor Drives, Switch Reluctance Motor Drive for Electric Vehicles, Configuration and control of Drives.				
Module-4				
Design of Electric and Hybrid Electric Vehicles: Series Hybrid Electric Drive Train Design: Operating patterns, control strategies, Sizing of major components, power rating of traction motor, power rating of engine/generator, design of PPS Parallel Hybrid Electric Drive Train Design: Control strategies of parallel hybrid drive train, design of engine power capacity, design of electric motor drive capacity, transmission design, energy storage design.				
Module-5				
Power Electronic Converter for Battery Charging: Charging methods for battery, Termination methods, charging from grid, The Z-converter, Isolated bidirectional DC-DC converter, Design of Z- converter for battery charging, High-frequency transformer based isolated charger topology, Transformer less topology.				
Course Outcomes: At the end of the course the student will be able to:				
<ul style="list-style-type: none"> • Explain the working of electric vehicles and recent trends. • Analyze different power converter topology used for electric vehicle application. • Develop the electric propulsion unit and its control for application of electric vehicles. • Design converters for battery charging and explain transformer less topology. 				
Question paper pattern:				
<ul style="list-style-type: none"> • The question paper will have ten full questions carrying equal marks. • Each full question will be for 20 marks. • There will be two full questions (with a maximum of four sub- questions) from each module. • Each full question will have sub- question covering all the topics under a module. • The students will have to answer five full questions, selecting one full question from each module. 				
Sl No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbooks				
1	Modern Electric, Hybrid Electric, and Fuel Cell Vehicles: Fundamentals,	M. Ehsani, Y. Gao, S. Gay and Ali Emadi	CRC Press	2005

DEPARTMENT OF CIVIL ENGINEERING

Ref: SIET/CV/2019-20/115c

Date: 17/08/2019

To,

The Chairman
Board of Studies
Civil Engineering
VTU, Belgavi.

Sub: Proposed suggestion for proposed syllabus 2018- scheme of VTU
Syllabus- reg

With reference to the above subject, we have hereby enclosed a list of curricular gaps and the proposed suggestions for some course as of proposed 2018 scheme/ syllabus of civil engineering board VTU, Belagavi.

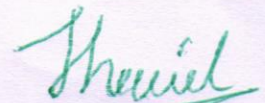
We highly recommend you the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

Thank you,

Encl : Circular Gaps and Proposed Suggestions



Head of the Department
Civil Engineering
HOD
Dept. of Civil Engineering
SIET, TUMKUR - 6.

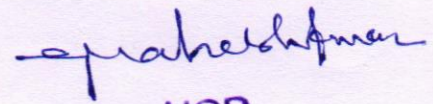


Principal
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

Circular Gaps and Proposed Suggestions

1. In 2010 scheme hydraulic structures and irrigation design drawing was included. But in 2017 and 2018 scheme this was eliminated. We request you to consider this course during the revision of scheme and syllabus.
2. The Bridge engineering is offered as a professional elective course. Since the subject is required for all the students for placement. We request you to consider it as a course during the revision of scheme and syllabus.

C. Nagaraj
(Dr. C. Nagaraj)


HOD
Dept. of Civil Engineering
SIET, TUMKUR - 6.

2. Soil Mechanics and Foundation Engineering- Murthy V.N.S. (1996), 4th Edition, UBS Publishers and Distributors, New Delhi.
3. Basic and Applied Soil Mechanics- Gopal Ranjan and Rao A.S.R. (2000), New Age International (P) Ltd., Newe Delhi.
4. Geotechnical Engineering- Venkatrahmaiah C. (2006), 3rd Edition New Age International (P) Ltd., Newe Delhi.
5. Soil Mechanics- Craig R.F. (1987), Van Nostrand Reinhold Co. Ltd.
6. Principles of Geotechnical Engineering- Braja M. Das (2002), 5th Edition, Thomson Business Information India (P) Ltd., India.
7. Text Book of Geotechnical Engineering- Iqbal H. Khan (2005), 2nd Edition, PHI, India.

HYDRAULIC STRUCTURES & IRRIGATION DESIGN – DRAWING

Subject Code	: 10 CV 65	IA Marks	: 25
No. of Lecture Hrs/Week	: 02+03	Exam Hours	: 04
Total no. of Lecture Hrs.	: 25+27	Exam Marks	: 100

PART – A Hydraulic Structures

Unit 1: Reservoir Planning:

Introduction, classification of reservoir, Storage zones of a reservoir, mass curve, fixing capacity of a reservoir, safe yield, problems, density currents, trap efficiency, reservoir sedimentation, life of a reservoir, economic height of a dam, problems, environmental effects of reservoir. **6 Hours**

Unit 2: Gravity Dams

Introduction, forces on a gravity dam, stress analysis in gravity dams, problems, combination of forces for design. Elementary and practical profiles of a gravity dam, stability analysis (without earthquake forces), problems, galleries in gravity dams. **7 Hours**

UNIT 3: Earthen Dams

Introduction, types of earth dams, construction methods, design criteria for earth dams, causes of failure of earth dams, section of dam, preliminary design criteria, problems, control of seepage through earth dams, safety measures. **6 Hours**

UNIT 4: Spillways

Introduction essentials of a spillway. Spillway components factors affecting type & design of spillways, ogee spillway (simple design problems). Energy dissipation below spillways (hydraulic jump-No design.)

6 Hours

PART - B Irrigation Design -Drawing

Design and Drawing with all the three views of:

1. Surplus weir with stepped apron
2. Tank Plug sluice without tower head
3. Canal gate sluice without tower head
3. Notch type canal drop
4. Canal Cross regulator
5. Aqueduct (Hydraulic design only)

27 Hours

Text Books:

1. Text book of irrigation Engineering & Hydraulic Structures - R.K. Sharma, Oxford & IBH Publishing Company, New Delhi (2002).
2. Irrigation and Water Resources Engineering - G.L. Asawa, New Age International Publishers, New Delhi (2005).
3. Irrigation, Water Resources and Water Power Engineering - Modi P.N., Standard Book House, New Delhi.
4. Design of Minor Irrigation and Canal Structures - C. Sathyanarayana Murthy, New Age International Publishers, New Delhi.

Reference Books:

1. Irrigation Engineering & Hydraulic Structures - Garg, S.K., Khanna Publishers, New Delhi.
2. Hydraulic Structures & Irrigation Design Drawing - Dr. N. Balasubramanya, Tata Mcgraw-Hill Education Pvt.Ltd, New Delhi.
3. Irrigation and Water Power Engineering - Madan Mohan Das & Mimi Das Saikia, PHI Learning Pvt. Ltd., New Delhi (2009).

Question Paper Pattern:

Four questions are to be set from Part A of which TWO full questions are to be answered for 40 marks

Two questions are to be set from part B of which ONE full question to be answered for 60 marks (25 marks for Design + 35 marks for two views.)

Subject Code
No. of Lectures
Total No. of

UNIT -1
Introduction
stress and strain
relations, St.

UNIT -2
Differential
equations, A
Dimensional

UNIT-3
Plane stress
of surface
analytical me

UNIT -4
Two-dimens
cantilever be
Simply supp

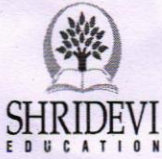
UNIT -5
Two-dimensi
equations of

UNIT -6
Axi Symmetr
cylinder.

UNIT-7
Effect of circ

B. E. CIVIL ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER - VIII			
BRIDGE ENGINEERING			
Course Code	18CV821	CIE Marks	40
Teaching Hours/Week(L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03
Course Learning Objectives: This course will enable students to understand the analysis and design of concrete Bridges.			
Note: All designs have to be done by Working Stress Method			
Module -1			
Introduction to bridges, classification, selection of bridge site and preliminary and detailed survey work computation of discharge, linear waterway, economic span, afflux, scour depth. Design loads for bridges, introduction to I.R.C. loading standards, Load Distribution Theory, Bridge slabs, Effective width, Introduction to methods as per I.R.C.			
Module -2			
Design of Slab Bridges: Straight and skew slab bridges.			
Module -3			
Design of T beam bridges(up to three girder only) Proportioning of components, analysis of slab using IRC Class AA tracked vehicle, structural design of slab, analysis of cross girder for dead load & IRC Class AA tracked vehicle, structural design of cross girder, analysis of main girder using Courbon's method, calculation of dead load BM and SF, calculation of live load B M & S F using IRC Class AA Tracked vehicle. Structural design of main girder.			
Module -4			
Other Bridges: Design of Box culvert (Single vent only). Design of Pipe culverts.			
Module -5			
Substructures - Design of Piers and abutments, Introduction to Bridge bearings, Hinges and Expansion joints.(No design).			
Course outcomes: After studying this course, students will be able to:			
<ol style="list-style-type: none"> 1. Understand the load distribution and IRC standards. 2. Design the slab and T beam bridges. 3. Design Box culvert, pipe culvert 4. Use bearings, hinges and expansion joints and 5. Design Piers and abutments. 			
Question paper pattern:			
<ul style="list-style-type: none"> • The question paper will have ten full questions carrying equal marks. • Each full question will be for 20 marks. • There will be two full questions (with a maximum of four sub- questions) from each module. • Each full question will have sub- question covering all the topics under a module. • The students will have to answer five full questions, selecting one full question from each module. 			
Textbooks:			
<ol style="list-style-type: none"> 1. Johnson Victor. D, "Essentials of Bridge Engineering", Oxford Publishing Company. 2. N Krishna Raju, "Design of Bridges, Oxford and IBH publishing company 3. T R Jagadeesh and M A Jayaram, "Design of bridge structures", Prentice Hall of India 			
Reference Books:			
<ol style="list-style-type: none"> 1. Jain and Jaikrishna, "Plain and Reinforced Concrete", Vol.2.,Nem Chand Brothers. 2. Standard specifications and code of practice for road bridges, IRC section I,II, III and IV. 3. "Concrete Bridges", The Concrete Association of India 			

Signature



Sri Shridevi Charitable Trust (R.)
SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY

(Recognised by Govt. of Karnataka, Affiliated to VTU, Belagavi and Approved by AICTE, New Delhi)

Sira Road, Tumakuru - 572 106. Karnataka.



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Ref: SIET/2019-20/EEE/116a

19-08-2019

To

The Chairman
Board of Studies (BOS)
Electrical & Electronics Engineering
VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above subject, we have proposed suggestions for some courses in the proposed 2018 Scheme/syllabus of Electrical & Electronics Engineering board Visvesvaraya Technological University, Belagavi.

We highly recommend you the following changes in the list and request you to consider these during the revision of the curriculum and syllabus by the university

Curricular Gaps and Proposed Suggestions

In 2018 Scheme, the Computer Aided Electrical Drawing (18EE643) is offered as professional elective course. We suggest the board to consider it as core course during the revision of scheme & syllabus

Thanking you,

G. H. Ramu
Head of the Department
Electrical & Electronics Engineering

Head of the Department
Electrical & Electronics Engineering
Shridevi Institute of Engineering & Technology
TUMKUR-572106.

Shreevid
Principal
SIET, TUMAKURU
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18 EE61	Control Systems	EEE	3	2	--	03	40	60	100	4
2	PCC	18 EE62	Power System Analysis – 1	EEE	3	2	--	03	40	60	100	4
3	PCC	18 EE63	Digital Signal Processing	EEE	3	2	--	03	40	60	100	4
4	PEC	18 EE64X	Professional Elective -1	EEE	3	--	--	03	40	60	100	3
5	OEC	18 EE65X	Open Elective -A	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL66	Control System Laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL67	Digital Signal Processing Laboratory	EEE	--	2	2	03	40	60	100	2
8	MP	18 EEMP68	Mini-project		--	--	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -1

Course code under 18XX64X	Course Title
18 EE641	Introduction to Nuclear Power
18 EE642	Electrical Engineering Materials
18 EE643	Computer Aided Electrical Drawing
18 EE644	Embedded System
18 EE645	Object Oriented Programming using C++
18EE646	Electric Vehicles Technologies
18EE647	Sensors and Transducers

Open Elective -A

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Mini-project:

(i) Single discipline: Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) Interdisciplinary: Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: All the students admitted to III year of BE/B.Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

B. E. ELECTRICAL AND ELECTRONICS ENGINEERING			
CHOICE BASED CREDIT SYSTEM (CBCS) AND OUTCOME BASED EDUCATION (OBE)			
SEMESTER – VI			
COMPUTER AIDED ELECTRICAL DRAWING (PROFESSIONAL ELECTIVE)			
Course Code	18EE643	CIE Marks	40
Teaching Hours/Week (L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03
Course Learning Objectives:			
<ul style="list-style-type: none"> • To discuss the terminology of DC and AC armature windings. • To discuss design and procedure to draw armature winding diagrams for DC and AC machines. • To discuss the substation equipment, their location in a substation and development of a layout for substation. • To discuss different sectional views of transformers, DC machine, its parts and alternator and its parts. • To explain development of sectional views of Transformers, DC machine and alternators using the design data, sketches. 			
Suitable CAD software can be used for drawings			
PART - A			
Module-1			
Winding Diagrams:			
(a) Developed Winding Diagrams of D.C. Machines: Simplex Double Layer Lap and Wave Windings.			
(b) Developed Winding Diagrams of A.C. Machines:			
(c) Integral and Fractional Slot Double Layer Three Phase Lap and Wave Windings.			
(d) Single Layer Windings – Un-Bifurcated 2 and 3 Tier Windings, Mush Windings, Bifurcated 3 Tier Windings.			
Module-2			
Single Line Diagrams: Single Line Diagrams of Generating Stations and Substations Covering Incoming Circuits, Outgoing Circuits, Busbar Arrangements (Single, Sectionalised Single, Main and Transfer, Double Bus Double Breaker, Sectionalised Double Bus, One and a Half Circuit Breaker Arrangement, Ring Main), Power Transformers, Circuit Breakers, Isolators, Earthing Switches, Instrument Transformers, Surge or Lightning Arresters, Communication Devices (Power- Line Carrier) and Line Trap.			
Module-3			
Electrical Machine Assembly Drawings Using Design Data, Sketches or Both:			
Transformers - Sectional Views Of Single And Three Phase Core And Shell Type Transformers.			
Module-4			
Electrical Machine Assembly Drawings Using Design Data, Sketches or Both:			
D.C. Machine - Sectional Views of Yoke with Poles, Armature and Commutator dealt separately.			
Module-5			
Electrical Machine Assembly Drawings Using Design Data, Sketches or Both:			
Alternator – Sectional Views of Stator and Rotor dealt separately.			
Course Outcomes: At the end of the course the student will be able to:			
<ul style="list-style-type: none"> • Develop armature winding diagram for DC and AC machines • Develop a Single Line Diagram of Generating Stations and substation using the standard symbols. • Construct sectional views of core and shell types transformers using the design data • Construct sectional views of assembled DC and AC machine and their parts using the design data or the sketches 			
Question paper pattern:			
<ul style="list-style-type: none"> • The question paper will have two parts, PART – A and PART – B. • Each part is for 50 marks. • Part A is for Modules 1 and 2. • Questions 1 and 2 of PART - A will be only on DC windings or only on AC windings. Students have to answer any one of them. The marks prescribed is 25. • Question 3 of PART – A covering module 2 is compulsory. The marks prescribed is 15. • Part B is for Modules 3, 4 and 5. 			

DEPARTMENT OF CIVIL ENGINEERING

Ref: SIET/CV/2019-20/n66

Date: 19/08/2019

To,

The Chairman
Board of Studies
Civil Engineering
VTU, Belgavi.

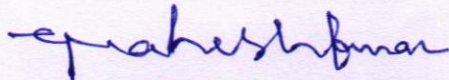
Sub: Proposed suggestion for proposed syllabus 2018- scheme of VTU
Syllabus- reg

With reference to the above subject, we have hereby enclosed a list of curricular gaps and the proposed suggestions for some course as of proposed 2018 scheme/ syllabus of civil engineering board VTU, Belagavi.

We highly recommend you the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

Thank you,

Encl : Circular Gaps and Proposed Suggestions



Head of the Department
Civil Engineering

HOD

Dept. of Civil Engineering
SIET, TUMKUR - 6.



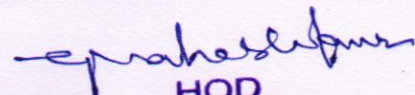
Principal
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ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

Circular Gaps and Proposed Suggestions

1. In 2017 scheme students are studying Geotechnical Engineering laboratory (17CVL58) in fifth semester. .Now we recommend this Geotechnical engineering Laboratory needs to be studied in higher semester.
2. In 2018 scheme, Computer aided Building Planning & drawing laboratory (18CVL37) was included for the third semester. Since students will study Design of RC structural elements in the fifth semester. Since we request you to include the CAD lab in the fifth or sixth semester.

C. Nagaraj
(Dr. C. Nagaraja)


HOD
Dept. of Civil Engineering
SIET, TUMKUR - 6.

TITLE OF THE COURSE: CONCRETE AND HIGHWAY MATERIALS LABORATORY
B.E., V Semester, Civil Engineering
[As per Choice Based Credit System (CBCS) scheme]

Course Code	17CVL58	CIE Marks	40
Number of Lecture Hours/Week	03=(1 Hour Instruction + 2 Hours Laboratory)	SEE Marks	60
Total Number of Hours	40	Exam Hours	03
RBT Levels	L1, L2, L3,		
Credits - 02			
Course objectives: This course will enable students			
1. To learn the principles and procedures of testing Concrete and Highway materials and to get hands on experience by conducting the tests and evolving inferences.			
Modules			
Part A: Concrete Lab			
1. Tests on Cement:			
a. Normal Consistency			
b. setting time			
c. compressive strength			
d. fineness by air permeability test			
e. specific gravity			
2. Tests on Concrete:			
a. Design of concrete mix as per IS-10262			
b. Tests on fresh concrete:			
i. slump,			
ii. compaction factor and			
iii. Vee Bee test			
c. Tests on hardened concrete:			
i. compressive strength test,			
ii. split tensile strength test,			
iii. flexural strength test			
d. NDT tests by rebound hammer and pulse velocity test.			
3. Tests on Self Compacting Concrete:			
a. Design of self compacting concrete,			
b. slump flow test,			
c. V-funnel test,			
d. J-Ring test,			
e. U Box test and			
f. L Box test			
Part B: High way materials Lab			
1. Tests on Aggregates			
a. Aggregate Crushing value			
b. Los Angeles abrasion test			
c. Aggregate impact test			
d. Aggregate shape tests (combined index and angularity number)			
2. Tests on Bituminous Materials			
a. Penetration test			
b. Ductility test			
c. Softening point test			
d. Specific gravity test			
e. Viscosity test by tar viscometer			
f. Bituminous Mix Design by Marshall Method (Demonstration only)			

Signature

3. Tests on Soil a. Wet sieve analysis b. CBR test
Course outcomes: During this course, students will develop expertise in; 1. 1. Conduct appropriate laboratory experiments and interpret the results 2. Determine the quality and suitability of cement 3. Design appropriate concrete mix 4. Determine strength and quality of concrete 5. Test the road aggregates and bitumen for their suitability as road material. 6. Test the soil for its suitability as sub grade soil for pavements.
Question paper pattern: <ul style="list-style-type: none">• All are individual experiments• Instructions as printed on the cover page of answer script for split up of marks to be strictly followed.• All exercises are to be included for practical examination.
Reference Books: <ol style="list-style-type: none">1. M.L.Gambir, "Concrete Manual", Danpat Rai and sons, New Delhi2. Shetty M.S, "Concrete Technology", S. Chand & Co. Ltd, New Delhi.3. Mehta P.K, "Properties of Concrete", Tata McGraw Hill Publications, New Delhi.4. Neville AM, "Properties of Concrete", ELBS Publications, London.5. Relevant BIS codes.6. S K Khanna, C E G Justo and A Veeraragavan, "Highway Materials Testing Laboratory Manual ", Nem Chand Bros, Roorkee7. L R Kadiyali, "Highway Engineering ", Khanna Publishers, New Delhi

equaheshgumar

B. E. CIVIL ENGINEERING
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
SEMESTER - III

COMPUTER AIDED BUILDING PLANNING AND DRAWING

Course Code	18CVL37	CIE Marks	40
Teaching Hours/Week(L:T:P)	(0:2:2)	SEE Marks	60
Total Number of Lecture/Practice Hours	02	Exam Hours	03

Course Learning Objectives: Provide students with a basic understanding

1. Achieve skill sets to prepare computer aided engineering drawings
2. Understand the details of construction of different building elements.
3. Visualize the completed form of the building and the intricacies of construction based on the engineering drawings.

Module:1

Drawing Basics: Selection of scales for various drawings, thickness of lines, dimensioning, abbreviations and conventional representations as per IS: 962.

Simple engineering drawings with CAD drawing tools : Lines, Circle, Arc, Poly line, Multiline, Polygon, Rectangle, Spline, Ellipse, Modify tools: Erase, Copy, Mirror, Offset, Array, Move, Rotate, Scale, Stretch, Lengthen, Trim, Extend, Break, Chamfer and Fillet, Using Text: Single line text, Multiline text, Spelling, Edit text, Special Features: View tools, Layers concept, Dimension tools, Hatching, Customizing toolbars, Working with multiple drawings.

Module:2

Drawings Related to Different Building Elements:

Following drawings are to be prepared for the data given using CAD Software

- a) Cross section of Foundation, masonry wall, RCC columns with isolated & combined footings.
- b) Different types of bonds in brick masonry.
- c) Different types of staircases – Dog legged, Open well.
- d) Lintel and chajja.
- e) RCC slabs and beams.
- f) Cross section of a pavement.
- g) Septic Tank and sedimentation Tank.
- h) Layout plan of Rainwater recharging and harvesting system.
- i) Cross sectional details of a road for a Residential area with provision for all services.,
- j) Steel truss (connections Bolted).

Note: Students should sketch to dimension the above in a sketch book before doing the computer drawing.

Module -3:

Building Drawings: Principles of planning, Planning regulations and building bye-laws, factors affecting site selection, Functional planning of residential and public buildings, design aspects for different public buildings. Recommendations of NBC.

Drawing of Plan, elevation and sectional elevation including electrical, plumbing and sanitary services using CAD software for:

1. Single and double story residential building.
2. Hostel building.
3. Hospital building.
4. School building.

Submission drawing (sanction drawing) of two storied residential building with access to terrace including all details and statements as per the local bye-laws

Note:

- Students should sketch to dimension the above in a sketch book before doing the computer drawing
- One compulsory field visit/exercise to be carried out.
- Single line diagrams to be given in the examination.

Signature

Course Outcomes: After studying this course, students will be able to

1. Prepare, read and interpret the drawings in a professional set up.
2. Know the procedures of submission of drawings and Develop working and submission drawings for building.
3. Plan and design residential or public building as per the given requirements.

Question paper pattern:

- There will be four full questions with sub divisions if necessary from Module 2 with each full question carrying twenty five marks. Students have to answer any two questions.
- There will be two full questions from Module 3 with each full question carrying fifty marks. Students have to answer any one question. The conduction of examination and question paper format of should be in lines of 1st year CAED drawing. It's a drawing paper but the exam will be conducted by batches in the computer labs. Question papers should be given in batches.

Textbook:

1. MG Shah, CM Kale, SY Patki, "Building drawing with an integrated approach to Built Environment Drawing", Tata McGraw Hill Publishing co. Ltd., New Delhi
2. Gurucharan Singh, "Building Construction", Standard Publishers, & distributors, New Delhi.
3. Malik R S and Meo G S, "Civil Engineering Drawing", Asian Publishers/Computech Publications Pvt Ltd.

Reference Books:

1. Time Saver Standard by Dodge F. W., F. W. Dodge Corp.
2. IS: 962-1989 (Code of practice for architectural and building drawing).
3. National Building Code, BIS, New Delhi.



Sri Shridevi Charitable Trust (R.)
SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY

(Recognised by Govt. of Karnataka, Affiliated to VTU, Belagavi and Approved by AICTE, New Delhi)

Sira Road, Tumakuru - 572 106. Karnataka.



An ISO 9001:2015 Certified Institution

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Ref: SIET/2019-20/ECE/ 118a .

20-08-2019

To

The Chairman

Board of Studies (BOS)

Electronics & Communication Engineering

VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above cited subject, it is herewith enclosed curricular gaps and the proposed suggestions for some courses in the proposed 2018 scheme / syllabus of Electronics & Communication Engineering board of Visvesvaraya Technological University, Belagavi.

We request you to kindly consider the following points during the revision of the curriculum and syllabus by the University.

Curricular Gaps and proposed suggestion:

We suggest the BOS member to replace Mini-Project (18ECMP68) in VI Semester of 2018 scheme & syllabus with the Professional Elective- Python Application Programming-18EC646 during the revision of the curriculum and syllabus by the University, which gives more knowledge and adds confidence to student to work on projects.

Also remove the Mini-Project (18ECMP68) in VI Semester and combine it with Internship-18ECI85 to be carried out during the vacation of VI and VII semester and /or VII and VIII semesters.

Thanking You,

Head of the Department
Electronics & Communication Engineering

HOD
Dept of E&C
SIET, Tumkur-6

Principal
SIET, TUMAKURU

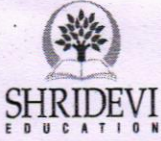
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: B.E: Electronics & Communication Engineering

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits														
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks													
					L	I	P																		
1	PCC	18EC61	Digital Communication		3	2	--	03	40	60	100	4													
2	PCC	18EC62	Embedded Systems		3	2	--	03	40	60	100	4													
3	PCC	18EC63	Microwave and Antennas		3	2	--	03	40	60	100	4													
4	PEC	18XX64X	Professional Elective -1		3	--	--	03	40	60	100	3													
5	OEC	18XX65X	Open Elective -A		3	--	--	03	40	60	100	3													
6	PCC	18ECL66	Embedded Systems Laboratory		--	2	2	03	40	60	100	2													
7	PCC	18ECL67	Communication Laboratory		--	2	2	03	40	60	100	2													
8	MP	18ECMP68	Mini-project		--	--	2	03	40	60	100	2													
9	Internship	--	Internship		To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.																				
TOTAL					15	10	6	24	320	480	800	24													
<p>Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.</p> <p style="text-align: center;">Professional Elective -1</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Course code under 18XX64X</th> <th>Course Title</th> </tr> </thead> <tbody> <tr> <td>18EC641</td> <td>Operating System</td> </tr> <tr> <td>18EC642</td> <td>Artificial Neural Networks</td> </tr> <tr> <td>18EC643</td> <td>Data Structures using C++</td> </tr> <tr> <td>18EC644</td> <td>Digital System Design Using Verilog</td> </tr> <tr> <td>18EC645</td> <td>Nanoelectronics</td> </tr> <tr> <td>18EC646</td> <td>Python Application Programming</td> </tr> </tbody> </table>												Course code under 18XX64X	Course Title	18EC641	Operating System	18EC642	Artificial Neural Networks	18EC643	Data Structures using C++	18EC644	Digital System Design Using Verilog	18EC645	Nanoelectronics	18EC646	Python Application Programming
Course code under 18XX64X	Course Title																								
18EC641	Operating System																								
18EC642	Artificial Neural Networks																								
18EC643	Data Structures using C++																								
18EC644	Digital System Design Using Verilog																								
18EC645	Nanoelectronics																								
18EC646	Python Application Programming																								



Sri Shridevi Charitable Trust (R.)

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Ref: SIET/2019-20/EEE 119a

21-08-2019

To

The Chairman
Board of Studies (BOS)
Electrical & Electronics Engineering
VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above subject, we have proposed suggestions for some courses in the proposed 2018 Scheme/syllabus of Electrical & Electronics Engineering board Visvesvaraya Technological University, Belagavi.

We highly recommend you the following changes in the list and request you to consider these during the revision of the curriculum and syllabus by the university

Curricular Gaps and Proposed Suggestions

In 2018 Scheme, the Advanced Control Systems (18EE734) is offered as professional elective course. We suggest the board to consider it as core course during the revision of scheme & syllabus

Thanking you,

G. H. Ram
Head of the Department
Electrical & Electronics Engineering
Head of the Department
Electrical & Electronics Engineering
Shridevi Institute of Engineering & Technology
TUMKUR-572106.

Shreevidya
Principal
SIET, TUMAKURU
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18 EE71	Power System Analysis – 2	EEE	2	2	--	03	40	60	100	3
2	PCC	18 EE72	Power System Protection	EEE	3	--	--	03	40	60	100	3
3	PEC	18 EE73X	Professional Elective - 2	EEE	3	--	--	03	40	60	100	3
4	PEC	18 EE74X	Professional Elective - 3	EEE	3	--	--	03	40	60	100	3
5	OEC	18 EE75X	Open Elective -B	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL76	PSS laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL77	Relay & HV lab	EEE	--	2	2	03	40	60	100	2
8	Project	18 EEP78	Project Work Phase - 1	EEE	--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					14	06	06	21	380	420	800	20
Note: PCC: Professional core, PEC: Professional Elective.												
Professional Elective - 2												
Course code under 18XX73X		Course Title										
18EE731		Solar and Wind Energy										
18EE732		Micro and Nano Scale Sensors and Transducers										
18 EE733		Integrated of Distribution Generation.										
18 EE734		Advanced Control Systems										
18 EE735		Reactive Power Control in Electric Power Systems										
Professional Electives - 3												
Course code under 18 EE74X		Course Title										
18 EE741		Industrial Drives and Application										
18 EE742		Utilization of Electrical Power										
18 EE743		AI Techniques for Electrical and hybrid Electric Vehicles										
18 EE744		Smart Grid										
18 EE745		Artificial Neural Network With Applications to Power Systems										
Open Elective -B												
Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).												
Selection of an open elective shall not be allowed if,												
The candidate has studied the same course during the previous semesters of the programme.												
The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.												
A similar course, under any category, is prescribed in the higher semesters of the programme.												
Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.												

B. E. ELECTRICAL AND ELECTRONICS ENGINEERING CHOICE BASED CREDIT SYSTEM (CBCS) AND OUTCOME BASED EDUCATION (OBE) SEMESTER – VII			
ADVANCED CONTROL SYSTEMS (PROFESSIONAL ELECTIVE)			
Course Code	18EE734	CIE Marks	40
Teaching Hours/Week (L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03
Course objectives:			
<ul style="list-style-type: none"> • To introduce state variable approach for linear time invariant systems in both the continuous and discrete time systems. • To explain development of state models for linear continuous – time and discrete – time systems. • To explain application of vector and matrix algebra to find the solution of state equations for linear continuous – time and discrete – time systems. • To define controllability and observability of a system and testing techniques for controllability and observability of a given system. • To explain design techniques of pole assignment and state observer using state feedback. • To explain about inherent and intentional nonlinearities that can occur in control system and developing the describing function for the nonlinearities. • To explain stability analysis of nonlinear systems using describing function analysis. • To explain the analysis of nonlinear systems using Lyapunov function and design of Lyapunov function for stable systems. 			
Module-1			
State Variable Analysis and Design: Introduction, Concept of State, State Variables and State Model, State Models for Linear Continuous–Time Systems, State Variables and Linear Discrete– Time Systems.			
Module-2			
State Variable Analysis and Design (continued): Diagonalization, Solution of State Equations, Concepts of Controllability and Observability.			
Module-3			
Pole Placement Design and State Observers: Introduction, Stability Improvements by State Feedback, Necessary and Sufficient Conditions for Arbitrary Pole Placement, State Regulator Design, Design of State Observer, Compensator Design by the Separation Principle.			
Module-4			
Non-linear systems Analysis: Introduction, Common Nonlinear System Behaviours, Common Nonlinearities in Control Systems, Fundamentals, Describing Functions of Common Nonlinearities, Stability Analysis by Describing Function Method, Concept of Phase Plane Analysis, Construction of Phase Portraits, System Analysis on the Phase Plane.			
Module-5			
Non-linear systems Analysis (continued): Simple Variable Structure Systems, Lyapunov Stability Definitions, Lyapunov Stability Theorems, Lyapunov Functions for Nonlinear Systems.			
Course Outcomes: At the end of the course the student will be able to:			
<ul style="list-style-type: none"> • Discuss state variable approach for linear time invariant systems in both the continuous and discrete time systems. • Develop of state models for linear continuous–time and discrete–time systems. • Apply vector and matrix algebra to find the solution of state equations for linear continuous–time and discrete–time systems. • Define controllability and observability of a system and test for controllability and observability of a given system. • Design pole assignment and state observer using state feedback. 			

DEPARTMENT OF CIVIL ENGINEERING

Ref: SIET/CV/2019-20/ 119b

Date: 21/08/2019

To,

The Chairman
Board of Studies
Civil Engineering
VTU, Belgavi.

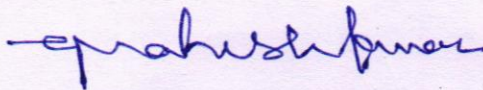
Sub: Proposed suggestion for proposed syllabus 2018- scheme of VTU
Syllabus- reg

With reference to the above subject, we have hereby enclosed a list of curricular gaps and the proposed suggestions for some course as of proposed 2018 scheme/ syllabus of civil engineering board VTU, Belagavi.

We highly recommend you the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

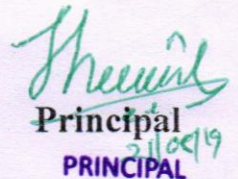
Thank you,

Encl: Circular Gaps and Proposed Suggestions



Head of the Department
Civil Engineering

HOB
Dept. of Civil Engineering
SIET, TUMKUR - 6.



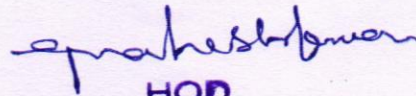
Principal
21/08/19
PRINCIPAL

SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

Circular Gaps and Proposed Suggestions

1. Since the final year students are doing their project work in the seventh semester, it is necessary to study the subject Research methodology, we kindly request you to include Research Methodology as one of the subjects in the sixth or seventh semester. This helps students to peruse their project works.
2. Railways, Harbours Tunnelling and Airports was a professional elective subject. For Civil Engineering students studying of this subject is necessary to know the infrastructural details. Hence we recommend making this a Core subject.

C. Nagaraja
(Dr. C. Nagaraja)


HOD
Dept. of Civil Engineering
SIET, TUMKUR - 6.

B. E. CIVIL ENGINEERING
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
SEMESTER - VI

RAILWAYS, HARBOUR, TUNNELING AND AIRPORTS

Course Code	18CV645	CIE Marks	40
Teaching Hours/Week(L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03

Course Learning Objectives: This course will enable students to

1. Understand the history and development, role of railways, railway planning and development based on essential criteria's.
2. Learn different types of structural components, engineering properties of the materials, to calculate the material quantities required for construction
3. Understand various aspects of geometrical elements, points and crossings, significance of maintenance of tracks.
4. Design and plan airport layout, design facilities required for runway, taxiway and impart knowledge about visual aids
5. Apply design features of tunnels, harbors, dock and necessary navigational aids; also expose them to various methods of tunneling and tunnel accessories.

Module-1

Railway Planning: Significance of Road, Rail, Air and Water transports – Coordination of all modes to achieve sustainability – Elements of permanent way

– Rails, Sleepers, Ballast, rail fixtures and fastenings, – Track Stress, coning of wheels, creep in rails, defects in rails
 – Route alignment surveys, conventional and modern methods- – Soil suitability analysis – Geometric design of railways, gradient, super elevation, widening of gauge on curves- Points and Crossings(Explanation & Sketches of Right and Left hand turnouts only).

Module-2

Railway Construction and Maintenance: Earthwork – Stabilization of track on poor soil, Calculation of Materials required for track laying – Construction and maintenance of tracks – Modern methods of construction & maintenance – Railway stations and yards and passenger amenities- Urban rail – Infrastructure for Metro, Mono and underground railways.

Module-3

Harbour and Tunnel Engineering: Definition of Basic Terms: Planning and Design of Harbours: Requirements, Classification, Location and Design

Principles – Harbour Layout and Terminal Facilities , Coastal Structures, Inland Water Transport – Wave action on Coastal Structures and Coastal Protection Works.

Tunneling: Introduction, size and shape of the tunnel, tunneling methods in soils, tunnel lining, tunnel drainage and ventilation.

Module-4

Airport Planning: Air transport characteristics, airport classification, air port planning: objectives, components, layout characteristics, and socio-economic characteristics of the catchment area, criteria for airport site selection and ICAO stipulations, typical airport layouts, Parking and circulation area.

Module-5

Airport Design: Runway Design: Orientation, Wind Rose Diagram, Runway length, Problems on basic and Actual Length, Geometric design of runways, Configuration and Pavement Design Principles, Elements of Taxiway Design, Airport Zones, Passenger Facilities and Services, Runway and Taxiway Markings and lighting.

Course outcomes: After studying this course, students will be able to:

1. Acquires capability of choosing alignment and also design geometric aspects of railway system, runway and taxiway.
2. Suggest and estimate the material quantity required for laying a railway track and also will be able to determine the hauling capacity of a locomotive.
3. Develop layout plan of airport, harbor, dock and will be able relate the gained knowledge to identify required type of visual and/or navigational aids for the same.
4. Apply the knowledge gained to conduct surveying, understand the tunneling activities.

Question paper pattern:

Signature

- The question paper will have ten full questions carrying equal marks.
- Each full question will be for 20 marks.
- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.
- The students will have to answer five full questions, selecting one full question from each module.

Textbook:

1. Saxena Subhash C and Satyapal Arora, "A Course in Railway Engineering", Dhanpat Rai and Sons, Delhi.
2. Satish Chandra and Agarwal M. M, "Railway Engineering", 2nd Edition, Oxford University Press, New Delhi.
3. Khanna S K, Arora M G and Jain S S, "Airport Planning and Design", Nemch and Brothers, Roorkee.
4. C Venkatramaiah, "Transportation Engineering", Volume II: Railways, Airports, Docks and Harbours, Bridges and Tunnels, Universities Press.
5. Bindra S P, "A Course in Docks and Harbour Engineering", Dhanpat Rai and Sons, New Delhi.

Reference Books:

1. Oza H.P. and Oza G.H., "A course in Docks & Harbour Engineering", Charotar Publishing Co.,
2. Mundrey J. S. "A course in Railway Track Engineering", Tata Mc Graw Hill.
3. Srinivasan R. Harbour, " Dock and Tunnel Engineering", 26th Edition 2013.

epahushumar

M.Tech Name of the programme (XXX)			
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)			
SEMESTER - I			
RESEARCH METHODOLOGY AND IPR			
(Professional Core Course) and (Common to all M.Tech Programmes)			
Course Code	18RMI17	CIE Marks	40
Number of Lecture Hours/Week	02	Exam Hours	03
Total Number of Lecture Hours	25	SEE Marks	60
Credits - 02			
Course objectives:			
<ul style="list-style-type: none"> • To give an overview of the research methodology and explain the technique of defining a research problem • To explain the functions of the literature review in research. • To explain carrying out a literature search, its review, developing theoretical and conceptual frameworks and writing a review. • To explain various research designs and their characteristics. • To explain the details of sampling designs, and also different methods of data collections. • To explain the art of interpretation and the art of writing research reports. • To explain various forms of the intellectual property, its relevance and business impact in the changing global business environment. • To discuss leading International Instruments concerning Intellectual Property Rights. ■ 			
Module-1			Teaching Hours
Research Methodology: Introduction, Meaning of Research, Objectives of Research, Motivation in Research, Types of Research, Research Approaches, Significance of Research, Research Methods versus Methodology, Research and Scientific Method, Importance of Knowing How Research is Done, Research Process, Criteria of Good Research, and Problems Encountered by Researchers in India. ■			05
Revised Bloom's Taxonomy Level	L ₁ – Remembering, L ₂ – Understanding.		
Module-2			
Defining the Research Problem: Research Problem, Selecting the Problem, Necessity of Defining the Problem, Technique Involved in Defining a Problem, An Illustration. Reviewing the literature: Place of the literature review in research, Bringing clarity and focus to your research problem, Improving research methodology, Broadening knowledge base in research area, Enabling contextual findings, How to review the literature, searching the existing literature, reviewing the selected literature, Developing a theoretical framework, Developing a conceptual framework, Writing about the literature reviewed. ■			05
Revised Bloom's Taxonomy Level	L ₁ – Remembering, L ₂ – Understanding.		
Module-3			
Research Design: Meaning of Research Design, Need for Research Design, Features of a Good Design, Important Concepts Relating to Research Design, Different Research Designs, Basic Principles of Experimental Designs, Important Experimental Designs. Design of Sample Surveys: Introduction, Sample Design, Sampling and Non-sampling Errors, Sample Survey versus Census Survey, Types of Sampling Designs. ■			05
Revised Bloom's Taxonomy Level	L ₁ – Remembering, L ₂ – Understanding.		
Module-4			

Signature

Data Collection: Experimental and Surveys, Collection of Primary Data, Collection of Secondary Data. Selection of Appropriate Method for Data Collection, Case Study Method. Interpretation and Report Writing: Meaning of Interpretation, Technique of Interpretation, Precaution in Interpretation, Significance of Report Writing, Different Steps in Writing Report, Layout	05
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M.Tech Name of the programme (XXX)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
SEMESTER - I
18RMI17RESEARCH METHODOLOGY AND IPR
(Professional Core Course) and (Common to all M.Tech Programmes)

Module-4 (continued)	Teaching Hours
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Interpretation and Report Writing (continued): of the Research Report, Types of Reports, Oral Presentation, Mechanics of Writing a Research Report, Precautions for Writing Research Reports. ■
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Revised Bloom's Taxonomy Level	L ₁ – Remembering, L ₂ – Understanding, L ₃ – Applying, L ₄ – Analysing.
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Module-5

<p>Intellectual Property: The Concept, Intellectual Property System in India, Development of TRIPS Complied Regime in India, Patents Act, 1970, Trade Mark Act, 1999, The Designs Act, 2000, The Geographical Indications of Goods (Registration and Protection) Act 1999, Copyright Act, 1957, The Protection of Plant Varieties and Farmers' Rights Act, 2001, The Semi-Conductor Integrated Circuits Layout Design Act, 2000, Trade Secrets, Utility Models, IPR and Biodiversity, The Convention on Biological Diversity (CBD) 1992, Competing Rationales for Protection of IPRs, Leading International Instruments Concerning IPR, World Intellectual Property Organisation (WIPO), WIPO and WTO, Paris Convention for the Protection of Industrial Property, National Treatment, Right of Priority, Common Rules, Patents, Marks, Industrial Designs, Trade Names, Indications of Source, Unfair Competition, Patent Cooperation Treaty (PCT), Advantages of PCT Filing, Berne Convention for the Protection of Literary and Artistic Works, Basic Principles, Duration of Protection, Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement, Covered under TRIPS Agreement, Features of the Agreement, Protection of Intellectual Property under TRIPS, Copyright and Related Rights, Trademarks, Geographical indications, Industrial Designs, Patents, Patentable Subject Matter, Rights Conferred, Exceptions, Term of protection, Conditions on Patent Applicants, Process Patents, Other Use without Authorization of the Right Holder, Layout-Designs of Integrated Circuits, Protection of Undisclosed Information, Enforcement of Intellectual Property Rights, UNSECO. ■</p>	05
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Revised Bloom's Taxonomy Level	L ₁ – Remembering, L ₂ – Understanding, L ₃ – Applying, L ₄ – Analysing.
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- | |
|--|
| <p>Course outcomes:
At the end of the course the student will be able to:</p> <ul style="list-style-type: none"> • Discuss research methodology and the technique of defining a research problem • Explain the functions of the literature review in research, carrying out a literature search, developing theoretical and conceptual frameworks and writing a review. • Explain various research designs and their characteristics. • Explain the art of interpretation and the art of writing research reports |
|--|

Signature

Question paper pattern:

Examination will be conducted for 100 marks with question paper containing 10 full questions, each of 20 marks.

- Each full question can have a maximum of 4 sub questions.
- There will be 2 full questions from each module covering all the topics of the module
- Students will have to answer 5 full questions, selecting one full question from each module
- The total marks will be proportionally reduced to 60 marks as SEE marks is 60

M.Tech Name of the programme (XXX)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
SEMESTER - I

18RMI17 RESEARCH METHODOLOGY AND IPR
(Professional Core Course) and (Common to all M.Tech Programmes)

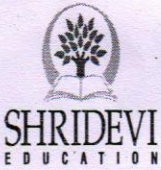
Textbooks

1	Research Methodology: Methods and Techniques	C.R. Kothari, Gaurav Garg	New Age International	4 th Edition, 2018
2	Research Methodology step-by-step guide for beginners. (For the topic Reviewing the literature under module 2)	Ranjit Kumar	SAGE Publications Ltd	3 rd Edition, 2011
3	Study Material (For the topic Intellectual Property under module 5)	Professional Programme Intellectual Property Rights, Law and Practice, The Institute of Company Secretaries of India, Statutory Body Under an Act of Parliament, September 2013		

Reference Books

1	Research Methods: the concise knowledge base	Trochim	Atomic Dog Publishing	2005
2	Conducting Research Literature Reviews: From the Internet to Paper	Fink A	Sage Publications	2009

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Sri Shridevi Charitable Trust (R.)

SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY

(Recognised by Govt. of Karnataka, Affiliated to VTU, Belagavi and Approved by AICTE, New Delhi)

Sira Road, Tumakuru - 572 106. Karnataka.



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Ref: SIET/2019-20/EEE/ 1a1

23-08-2019

To

The Chairman
Board of Studies (BOS)
Electrical & Electronics Engineering
VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above subject, we have proposed suggestions for some courses in the proposed 2018 Scheme/syllabus of Electrical & Electronics Engineering board Visvesvaraya Technological University, Belagavi.

We highly recommend you the following changes in the list and request you to consider these during the revision of the curriculum and syllabus by the university

Curricular Gaps and Proposed Suggestions

In 2018 Scheme, the Industrial Drives & Applications(18EE741) is offered as professional elective course. We suggest the board to consider it as core course during the revision of scheme & syllabus

Thanking you,

G. H. Ramu
Head of the Department
Electrical & Electronics Engineering
Head of the Department
Electrical & Electronics Engineering
Shridevi Institute of Engineering & Technology
TUMKUR-572106.

Manuel
Principal
SIET, TUMAKURU
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination			Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P					
1	PCC	18 EE71	Power System Analysis – 2	EEE	2	2	--	03	40	60	100	3
2	PCC	18 EE72	Power System Protection	EEE	3	--	--	03	40	60	100	3
3	PEC	18 EE73X	Professional Elective - 2	EEE	3	--	--	03	40	60	100	3
4	PEC	18 EE74X	Professional Elective - 3	EEE	3	--	--	03	40	60	100	3
5	OEC	18 EE75X	Open Elective -B	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL76	PSS laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL77	Relay & HV lab	EEE	--	2	2	03	40	60	100	2
8	Project	18 EEP78	Project Work Phase - 1	EEE	--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					14	06	06	21	380	420	800	20

Note: PCC: Professional core, PEC: Professional Elective.

Professional Elective - 2

Course code under 18XX73X	Course Title
18EE731	Solar and Wind Energy
18EE732	Micro and Nano Scale Sensors and Transducers
18 EE733	Integrated of Distribution Generation.
18 EE734	Advanced Control Systems
18 EE735	Reactive Power Control in Electric Power Systems

Professional Electives - 3

Course code under 18 EE74X	Course Title
18 EE741	Industrial Drives and Application
18 EE742	Utilization of Electrical Power
18 EE743	AI Techniques for Electrical and hybrid Electric Vehicles
18 EE744	Smart Grid
18 EE745	Artificial Neural Network With Applications to Power Systems

Open Elective -B

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

B. E. ELECTRICAL AND ELECTRONICS ENGINEERING CHOICE BASED CREDIT SYSTEM (CBCS) AND OUTCOME BASED EDUCATION (OBE) SEMESTER – VII			
INDUSTRIAL DRIVES AND APPLICATION (PROFESSIONAL ELECTIVE)			
Course Code	18EE741	CIE Marks	40
Teaching Hours/Week (L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03
Course Learning Objectives:			
<ul style="list-style-type: none"> • To define electric drive, its parts, advantages and explain choice of electric drive. • To explain dynamics and modes of operation of electric drives. • To explain selection of motor power ratings and control of DC motor using rectifiers. • To analyze the performance of induction motor drives under different conditions. • To explain the control of induction motor, synchronous motor and stepper motor drives. • To discuss typical applications electrical drives in the industry. 			
Module-1			
<p>Electrical Drives: Electrical Drives, Advantages of Electrical Drives. Parts of Electrical Drives, Choice of Electrical Drives, Status of DC and ac Drives.</p> <p>Dynamics of Electrical Drives: Fundamental Torque Equations, Speed Torque Conventions and Multi-quadrant Operation. Equivalent Values of Drive Parameters, Components of Load Torques, Nature and Classification of Load Torques, Calculation of Time and Energy Loss in Transient Operations, Steady State Stability, Load Equalization.</p> <p>Control Electrical Drives: Modes of Operation, Speed Control and Drive Classifications, Closed loop Control of Drives.</p>			
Module-2			
<p>Direct Current Motor Drives: Controlled Rectifier Fed DC Drives, Single Phase Fully Controlled Rectifier Control of DC Separately Excited Motor, Single Phase Half Controlled Rectifier Control of DC Separately Excited Motor, Three Phase Fully Controlled Rectifier Control of DC Separately Excited Motor, Three Phase Half Controlled Rectifier Control of DC Separately Excited Motor, Multi-quadrant Operation of DC Separately Excited Motor Fed From Fully Controlled Rectifier, Rectifier Control of DC Series Motor, Supply Harmonics, Power Factor and Ripple in Motor Current, Chopper Control of Separately Excited DC Motor, Chopper Control of Series Motor.</p>			
Module-3			
<p>Induction Motor Drives: Analysis and Performance of Three Phase Induction Motors, Operation with Unbalanced Source Voltage and Single Phasing, Operation with Unbalanced Rotor Impedances, Analysis of Induction Motor Fed From Non-Sinusoidal Voltage Supply, Starting, Braking, Transient Analysis. Speed Control Techniques-Stator Voltage Control, Variable Voltage Frequency Control from Voltage Sources.</p>			
Module-4			
<p>Induction Motor Drives (continued): Voltage Source Inverter (VSI) Control, Cycloconverter Control, Closed Loop Speed Control and Converter Rating for VSI and Cycloconverter Induction Motor Drives, Variable Frequency Control from a Current Source, Current Source (CSI) Control, current regulated voltage source inverter control, speed control of single phase induction motors.</p> <p>Synchronous Motor Drives: Operation from fixed frequency supply-starting, synchronous motor variable speed drives, variable frequency control of multiple synchronous motors.</p>			
Module-5			
<p>Synchronous Motor Drives (continued): Self-controlled synchronous motor drive employing load commutated thyristor inverter, Starting Large Synchronous Machines, Permanent Magnet ac (PMAC) Motor Drives, Sinusoidal PMAC Motor Drives, Brushless DC Motor Drives.</p> <p>Stepper Motor Drives: Variable Reluctance, Permanent Magnet, Important Features of Stepper Motors, Torque Versus Stepping rate Characteristics, Drive Circuits for Stepper Motor.</p> <p>Industrial Drives: Textile Mills, Steel Rolling Mills, Cranes and Hoists, Machine Tools.</p>			

DEPARTMENT OF CIVIL ENGINEERING

Ref: SIET/CV/2019-20/121a

Date: 23/08/2019

To,

The Chairman
Board of Studies
Civil Engineering
VTU, Belgavi.

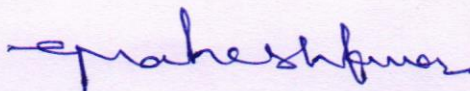
Sub: Proposed suggestion for proposed syllabus 2018- scheme of VTU
Syllabus- reg

With reference to the above subject, we have hereby enclosed a list of curricular gaps and the proposed suggestions for some course as of proposed 2018 scheme/ syllabus of civil engineering board VTU, Belagavi.

We highly recommend you the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

Thank you,

Encl: Circular Gaps and Proposed Suggestions



Head of the Department
Civil Engineering
Dept. of Civil Engineering
SIET, TUMKUR - 6.

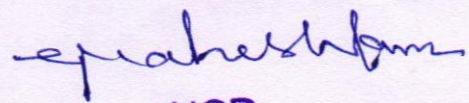


Principal
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

Circular Gaps and Proposed Suggestions

1. The material tests like tests on aggregates are being carried out in both Building material and testing laboratory and Concrete and Highway materials laboratory. It is recommended to consider tests on aggregates in either one of the laboratories.
2. Tests like XRD and SEM analysis of concrete technology are requested to be considered as a part in the Concrete and Highway materials laboratory.
3. Some portions of Advanced Concrete Technology is recommended to include in the regular Concrete technology.

C. Nagaraja
(Dr. C. Nagaraja)



HOD
Dept. of Civil Engineering
SIET, TUMKUR - 6.

TITLE OF THE COURSE: BUILDING MATERIALS TESTING LABORATORY B.E., III Semester, Civil Engineering [As per Choice Based Credit System (CBCS) scheme]

Course Code	17CVL37	CIE Marks	40
Number of Lecture Hours/Week	03=(1 Hour Instruction + 2 Hours Laboratory)	SEE Marks	60
RBT Levels	L1, L2, L3	Exam Hours	03

Credits - 02

Course Objectives: The objectives of this course is to make students to learn:

1. Ability to apply knowledge of mathematics and engineering in calculating the mechanical properties of structural materials.
2. Ability to function on multi-disciplinary teams in the area of materials testing.
3. Ability to use the techniques, skills and modern engineering tools necessary for engineering.
4. Understanding of professional and ethical responsibility in the areas of material testing.
5. Ability to communicate effectively the mechanical properties of materials.

Experiments:

1. Tension test on mild steel and HYSD bars.
2. Compression test on mild steel, cast iron and wood.
3. Torsion test on mild steel circular sections
4. Bending Test on Wood Under two point loading
5. Shear Test on Mild steel- single and double shear
6. Impact test on Mild Steel (Charpy & Izod)
7. Hardness tests on ferrous and non-ferrous metals- Brinell's, Rockwell and Vicker's
8. Tests on Bricks and Tiles
9. Tests on Fine aggregates-Moisture content, Specific gravity, Bulk density, Sieve analysis and Bulking
10. Tests on Coarse aggregates-Absorption, Moisture content, specific gravity, Bulk density and Sieve analysis
11. Demonstration of Strain gauges and Strain indicators

NOTE: All tests to be carried out as per relevant latest BIS Codes

Course outcomes: After successful completion of the course, the students will be able to:

1. Reproduce the basic knowledge of mathematics and engineering in finding the strength in tension, compression, shear and torsion.
2. Identify, formulate and solve engineering problems of structural elements subjected to flexure.
3. Evaluate the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to unsuitable materials.

Question paper pattern:

- Group experiments - Tension test, compression test, torsion test and

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bending test.

- Individual Experiments - Remaining tests.
- Two questions are to be set - One from group experiments and the other as individual experiment.
- Instructions as printed on the cover page of answer script for split up of marks to be strictly followed.
- All exercises are to be included for practical examination.

Reference Books:

1. Davis, Troxell and Hawk, "Testing of Engineering Materials", International Student Edition – McGraw Hill Book Co. New Delhi.
2. M L Gambhir and Neha Jamwal, "Building and construction materials-Testing and quality control", McGraw Hill education(India)Pvt. Ltd., 2014
3. Fenner, " Mechanical Testing of Materials", George Newnes Ltd. London.
4. Holes K A, "Experimental Strength of Materials", English Universities Press Ltd. London.
5. Suryanarayana A K, "Testing of Metallic Materials", Prentice Hall of India Pvt. Ltd.New Delhi.
6. Kukreja C B, Kishore K. and Ravi Chawla "Material Testing Laboratory Manual",Standard Publishers & Distributors 1996.
7. Relevant **latest IS Codes**

Prakash Kumar

TITLE OF THE COURSE: CONCRETE AND HIGHWAY MATERIALS LABORATORY
B.E., V Semester, Civil Engineering
[As per Choice Based Credit System (CBCS) scheme]

Course Code	17CVL58	CIE Marks	40
Number of Lecture Hours/Week	03=(1 Hour Instruction + 2 Hours Laboratory)	SEE Marks	60
Total Number of Hours	40	Exam Hours	03
RBT Levels	L1, L2, L3,		

Credits - 02

Course objectives: This course will enable students

1. To learn the principles and procedures of testing Concrete and Highway materials and to get hands on experience by conducting the tests and evolving inferences.

Modules

Part A: Concrete Lab

1. Tests on Cement:
 - a. Normal Consistency
 - b. setting time
 - c. compressive strength
 - d. fineness by air permeability test
 - e. specific gravity
2. Tests on Concrete:
 - a. Design of concrete mix as per IS-10262
 - b. Tests on fresh concrete:
 - i. slump,
 - ii. compaction factor and
 - iii. Vee Bee test
 - c. Tests on hardened concrete:
 - i. compressive strength test,
 - ii. split tensile strength test,
 - iii. flexural strength test
 - d. NDT tests by rebound hammer and pulse velocity test.
3. Tests on Self Compacting Concrete:
 - a. Design of self compacting concrete,
 - b. slump flow test,
 - c. V-funnel test,
 - d. J-Ring test,
 - e. U Box test and
 - f. L Box test

Part B: High way materials Lab

1. Tests on Aggregates
 - a. Aggregate Crushing value
 - b. Los Angeles abrasion test
 - c. Aggregate impact test
 - d. Aggregate shape tests (combined index and angularity number)
2. Tests on Bituminous Materials
 - a. Penetration test
 - b. Ductility test
 - c. Softening point test
 - d. Specific gravity test
 - e. Viscosity test by tar viscometer
 - f. Bituminous Mix Design by Marshall Method (Demonstration only)

Signature

3. Tests on Soil
 - a. Wet sieve analysis
 - b. CBR test

Course outcomes: During this course, students will develop expertise in;

1. Conduct appropriate laboratory experiments and interpret the results
2. Determine the quality and suitability of cement
3. Design appropriate concrete mix
4. Determine strength and quality of concrete
5. Test the road aggregates and bitumen for their suitability as road material.
6. Test the soil for its suitability as sub grade soil for pavements.

Question paper pattern:

- All are individual experiments
- Instructions as printed on the cover page of answer script for split up of marks to be strictly followed.
- All exercises are to be included for practical examination.

Reference Books:

1. M.L.Gambir, "Concrete Manual", Danpat Rai and sons, New Delhi
2. Shetty M.S, "Concrete Technology", S. Chand & Co. Ltd, New Delhi.
3. Mehta P.K, "Properties of Concrete", Tata McGraw Hill Publications, New Delhi.
4. Neville AM, "Properties of Concrete", ELBS Publications, London.
5. Relevant BIS codes.
6. S K Khanna, C E G Justo and A Veeraragavan, "Highway Materials Testing Laboratory Manual ", Nem Chand Bros, Roorkee
7. L R Kadiyali, "Highway Engineering ", Khanna Publishers, New Delhi

Sp. Anesh Kumar

**VIII -SEMESTER
ADVANCED CONCRETE TECHNOLOGY**

Subject Code	: 10CV81	IA Marks	: 25
No. of Lecture Hours/Week	: 04	Exam Hours	: 03
Total No. of Lecture Hours	: 52	Exam Marks	: 100

PART - A

UNIT - 1

Importance of Bogue's compounds, Structure of a Hydrated Cement Paste, Volume of hydrated product, porosity of paste and concrete, transition Zone, Elastic Modulus, factors affecting strength and elasticity of concrete, Rheology of concrete in terms of Bingham's parameter.

7 Hour

UNIT - 2

CHEMICAL ADMIXTURES- Mechanism of chemical admixture, Plasticizers and super Plasticizers and their effect on concrete property in fresh and hardened state, Marsh cone test for optimum dosage of super plasticizer, retarder, accelerator, Air-entraining admixtures, new generation superplasticiser.

MINERAL ADMIXTURE- Fly ash, Silica fume, GCBS, and their effect on concrete property in fresh state and hardened state.

6 Hours

UNIT - 3

MIX DESIGN - Factors affecting mix design, design of concrete mix by BIS method using IS10262 and current American (ACI)/ British (BS) methods. Provisions in revised IS10262-2004.

6 Hours

UNIT - 4

DURABILITY OF CONCRETE - Introduction, Permeability of concrete, chemical attack, acid attack, efflorescence, Corrosion in concrete. Thermal conductivity, thermal diffusivity, specific heat. Alkali Aggregate Reaction, IS456-2000 requirement for durability.

7 Hours

PART - B

UNIT - 5

RMC concrete - manufacture, transporting, placing, precautions, Methods of concreting- Pumping, under water concreting, shotcrete, High volume fly ash concrete concept, properties, typical mix
Self compacting concrete concept, materials, tests, properties, application and Typical mix.

6 Hours

UNIT - 6

Fiber reinforced concrete - Fibers types and properties, Behavior of FRC in compression, tension including pre-cracking stage and post-cracking stages, behavior in flexure and shear, Ferro cement - materials, techniques of manufacture, properties and application

7 Hours

UNIT - 7

Light weight concrete-materials properties and types. Typical light weight concrete mix High density concrete and high performance concrete-materials, properties and applications, typical mix.

6 Hours

UNIT - 8

Test on Hardened concrete-Effect of end condition of specimen, capping, H/D ratio, rate of loading, moisture condition. Compression, tension and flexure tests. Tests on composition of hardened concrete-cement content, original w/c ratio. NDT tests concepts-Rebound hammer, pulse velocity methods.

7 Hours

TEXT / REFERENCE BOOKS:

1. **Properties of Concrete-** Neville, A.M. - ELBS Edition, Longman Ltd., London
2. **Concrete Technology-** M.S. Shetty
3. **Concrete Technology-** A.R. Santhakumar,-Oxford University Press.
4. **Concrete-** P.K. Mehta, P J M Monteiro,- Prentice Hall, New Jersey (Special Student Edition by Indian Concrete Institute Chennai)
5. ACI Code for Mix Design
6. IS 10262-2004

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7. **Concrete Mix Design-** N. Krishna Raju - Sehgal Publishers
8. **Concrete Manual-** Gambhir M.L.- Dhanpat Rai & Sons, New Delhi
9. **Advanced Concrete Technology Processes-** John Newman, Ban Seng Choo, - London.
10. **Advanced Concrete Technology Constituent materials-** John Newman, Ban Seng Choo- London
11. **Non-Destructive Test and Evaluation of Materials-** J.Prasad, C G K Nair,-Mc Graw Hill.
12. **High Performance Concrete-** Prof Aitcin P C- E and FN, London.
13. **Properties of Fresh Concrete-** Power T.C.- E and FN, London

DESIGN AND DRAWING OF STEEL STRUCTURES

Subject Code	:10CV82	IA Marks	: 25
No. of Lecture Hours/Week	: 02 (T) + 3 (D)	Exam Hours	: 04
Total No. of Lecture Hours	: 26 (T) + 39 (D)	Exam Marks	: 100

PART - A

(DRAWINGS TO BE PREPARED FOR GIVEN STRUCTURAL DETAILS)

UNIT - 1

CONNECTIONS: Bolted and welded, beam-beam, Beam-column, seated, stiffened and un-stiffened.

UNIT - 2

COLUMNS: Splices, Column-column of same and different sections. Lacing and battens.

UNIT - 3

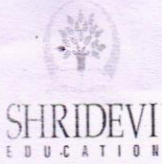
COLUMN BASES: Slab base and gusseted base, grillage foundation.
08 (T) + 15 (D)

PART - B

UNIT - 4

Design and drawing of

- i) Bolted and welded plate girder
- ii) Roof Truss (Forces in the members to be given)



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Ref: SIET/2019-20/ECE/ 1216

26-08-2019

To

The Chairman
Board of Studies (BOS)
Electronics & Communication Engineering
VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2018 scheme of VTU syllabus - Reg.

With reference to the above cited subject, it is herewith enclosed curricular gaps and the proposed suggestions for some courses in the proposed 2018 scheme / syllabus of Electronics & Communication Engineering board of Visvesvaraya Technological University, Belagavi.

We request you to kindly consider the following points during the revision of the curriculum and syllabus by the University.

Curricular Gaps and proposed suggestion:

We suggest the BOS member to remove Module-2 from the Basic Electronics-18ELN14/24 of 2018 scheme & syllabus as the topic is little bit hard to understand at first year level and introduce basic topic related to basics of communication, which gives good exposure to students in the area of communication which is very much essential in current technology trends, during the revision of the curriculum and syllabus by the University.

Thanking You,

Head of the Department
Electronics & Communication Engineering

HOD
Dept of E&C
SIET, Tumkur-6

Principal
SIET, TUMAKURU

PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

BASIC ELECTRONICS

Semester	: I/II	CIE Marks	: 40
Course Code	: 18ELN14/24	SEE Marks	: 60
Teaching Hours/week (L:T:P)	: 2:2:0	Exam Hours	: 03
Credits : 03			

Course Objectives:

This course will enable students to:

- Understand characteristics, operation and applications of the diodes, bipolar junction transistors, field effect transistors, SCRs and operational amplifiers in electronic circuits.
- Understand different number systems and working of fundamental building blocks of digital circuits.
- Understand the principle of basic communication system and mobile phones.

MODULE-1

Semiconductor Diodes and Applications:

p-n junction diode, Equivalent circuit of diode, Zener Diode, Zener diode as a voltage regulator, Rectification-Half wave rectifier, Full wave rectifier, Bridge rectifier, Capacitor filter circuit (2.2, 2.3, 2.4 of Text 1).

Photo diode, LED, Photo coupler. (2.7.4, 2.7.5, 2.7.6 of Text 1).

78XX series and 7805 Fixed IC voltage regulator (8.4.4 and 8.4.5 of Text 1).

(RBT Levels : L1, L2 & L3)

MODULE-2

FET and SCR:

Introduction, JFET: Construction and operation, JFET Drain Characteristics and Parameters, JFET Transfer Characteristic, Square law expression for I_D , Input resistance, MOSFET: Depletion and Enhancement type MOSFET-Construction, Operation, Characteristics and Symbols, (refer 7.1, 7.2, 7.4, 7.5 of Text 2), CMOS (4.5 of Text 1).

Silicon Controlled Rectifier (SCR) – Two-transistor model, Switching action, Characteristics, Phase control application (refer 3.4 upto 3.4.5 of Text 1).

(RBT Levels : L1, L2 & L3)

MODULE-3

Operational Amplifiers and Applications:

Introduction to Op-Amp, Op-Amp Input Modes, Op-Amp Parameters-CMRR, Input Offset Voltage and Current, Input Bias Current, Input and Output Impedance, Slew Rate (12.1, 12.2 of Text 2).