

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.



Phone: 0816-2212629 | Fax: 0816-2212628 | Email: info@shrideviengineering.org | Web: http://www.shrideviengineering.org

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Ref: SIET/2020-21/EEE/ 128a

14-08-2021

To

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

Respected Sir,

Sub: Suggestion for proposed 2021 scheme of VTU syllabus - Reg.

With reference to the above subject, we have proposed suggestions for some courses in the proposed 2021 Scheme/syllabus of Electrical & Electronics Engineering board Visvesvaraya Technological University, Belagavi.

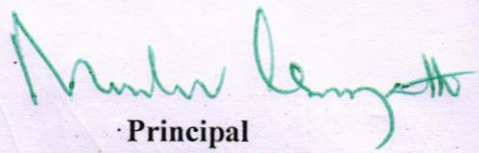
We highly recommend you the following changes in the list and request you to consider these during the revision of the curriculum and syllabus by the university

Curricular Gaps and Proposed Suggestions

We suggest the BOS member to add Basic Electrical Engineering Lab to I/II semester to 2021 scheme 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.


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

Visvesvaraya Technological University, Belagavi													
Scheme of Teaching and Examinations 2021													
Outcome-Based Education(OBE) and Choice Based Credit System (CBCS)													
(Effective from the academic year 2021 - 22)													
I Semester (Physics Group)				[Common to all B.E./B.Tech. Programs]									
Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self-Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	BSC	21MAT11	Calculus & Differential Equations	TD and PSB: Mathematics	2	2	--		03	50	50	100	3
2	BSC	21PHY12	Engineering Physics	TD and PSB: Physics	2	2	--		03	50	50	100	3
3	ESC	21ELE13	Basic Electrical Engineering	TD and PSB: E and E Engineering	2	2	--		03	50	50	100	3
4	ESC	21CIV14	Elements of Civil Engineering and Mechanics	TD and PSB: Civil Engineering	3	--	--		03	50	50	100	3
5	ESC	21EVN .15	Engineering Visualization	TD: ME, Auto, IP, IEM, Mfg. Engineering PSB: Mechanical Engg	2	--	2		03	50	50	100	3
6	BSC	21PHYL16	Engineering Physics Laboratory	TD and PSB: Physics	--	--	2		03	50	50	100	1
7	ESC	21ELEL17	Basic Electrical Engineering Laboratory	TD and PSB: E and E Engineering	--	--	2		03	50	50	100	1
8	HSMC	21EGH18	Communicative English	TD and PSB: Humanities	1	1	1		02	50	50	100	2
9	AEC	21IDT19/29	Innovation and Design Thinking	Any Engineering Department	1	--	--		01	50	50	100	1
		OR											
		21SFH19/29	Scientific Foundations of Health										
TOTAL					13	07	07		24	450	450	900	20
Note: BSC: Basic Science Course, ESC: Engineering Science Course, HSMC: Humanity and Social Science & Management Courses, AEC –Ability Enhancement Courses.													

Visvesvaraya Technological University, Belagavi
Scheme of Teaching and Examinations 2021
 Outcome-Based Education(OBE) and Choice Based Credit System (CBCS)
 (Effective from the academic year 2021 - 22)

II Semester (For students who attended I semester under Physics Group)**[Common to all B.E./B.Tech Programs]**

Sl. No	Course and Course Code		Course Title	Teaching Department(TD) and Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self-Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	BSC	21MAT21	Advanced Calculus and Numerical Methods	TD and PSB: Mathematics	2	2	--		03	50	50	100	3
2	BSC	21CHE22	Engineering Chemistry	TD and PSB: Chemistry	2	2	--		03	50	50	100	3
3	ESC	21PSP23	Problem-Solving through Programming	TD and PSB: Computer Science and Engineering	2	2	--		03	50	50	100	3
4	ESC	21ELN24	Basic Electronics & Communication Engineering	TD: ECE/E and I/ TCPSB: ECE	2	2	--		03	50	50	100	3
5	ESC	21EME25	Elements of Mechanical Engineering	TD: ME, Auto, IP, IEM, Mfg Engineering PSB: Mechanical Engg	2	--	2		03	50	50	100	3
6	BSC	21CHEL26	Engineering Chemistry Laboratory	TD and PSB: Chemistry	--	--	2		03	50	50	100	1
7	ESC	21CPL27	Computer Programming Laboratory	TD and PSB: Computer Science and Engineering	--	--	2		03	50	50	100	1
8	HSMC	21EGH28	Professional Writing Skills in English	TD and PSB: Humanities	1	1	1		02	50	50	100	2
9	AEC	21SFH19/29	Scientific Foundations of Health	Any Department	1	--	--		01	50	50	100	1
		OR											
		21IDT19/29	Innovation and Design Thinking										
TOTAL					13	09	07		24	450	450	900	20

Note: BSC: Basic Science Course, ESC: Engineering Science Course, HSMC: Humanity and Social Science & Management Courses, AEC - Ability Enhancement Courses.

L - Lecture, T - Tutorial, P - Practical/ Drawing, S - Self Study Component, CIE: Continuous Internal Evaluation, SEE: Semester End Examination



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An ISO 9001:2015 Certified Institution

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Ref: SIET/2019-20/ECE/ 1285

14-08-2021

To

The Chairman

Board of Studies (BOS)

Electronics & Communication Engineering

VTU, BELGAVI

Respected Sir,

Sub: Suggestion for proposed 2021 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 2021 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 not to club Optical & Wireless Communication-PCC21EC72 in VII Semester 2021 Scheme & Syllabus as a single subject, instead make them individual subjects so that students can gain more knowledge about both the areas, which is very much essential for a graduating student, 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

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
B.E. in Electronics and Communication Engineering (ECE)
Scheme of Teaching and Examinations 2021
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021 - 22)

Swappable VII and VIII SEMESTER												
VII SEMESTER												
Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Self-Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P	S					
1	PCC 21EC71	Advanced VLSI	TD: ECE PSB: ECE	3	0	0		3	50	50	100	3
2	PCC 21EC72	Optical & Wireless Communication	TD: ECE PSB: ECE	2	0	0		3	50	50	100	2
3	PEC 21EC72X	Professional elective Course-II	TD: ECE PSB: ECE					3	50	50	100	3
4	PEC 21EC73X	Professional elective Course-III	TD: ECE PSB: ECE					3	50	50	100	3
5	OEC 21EC74X	Open elective Course-II	Concerned Department					3	50	50	100	3
6	Project 21ECP75	Project work		Two contact hours /week for interaction between the faculty and students.				3	100	100	200	10
Total								350	350	700	24	
VIII SEMESTER												
Sl. No	Course and Course Code	Course Title	Teaching Department	Teaching Hours /Week				Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Self-Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P	S					
1	Seminar 21EC81	Technical Seminar		One contact hour /week for interaction between the faculty and students.				--	100	--	100	01
2	INT 21INT82	Research Internship/ Industry Internship		Two contact hours /week for interaction between the faculty and students.				03 (Batch wise)	100	100	200	15
3	NCMC	21NS83 National Service Scheme (NSS)	NSS	Completed during the intervening period of III semester to VIII semester.				--	50	50	100	0
		21PE83 Physical Education (PE) (Sports and Athletics)	PE.									
		21YO83 Yoga	Yoga									
Total								250	150	400	16	
Professional Elective - II												
21EC721	Advanced Design Tools for VLSI (L:T:P :: 2:0:2)		21EC724	Biomedical Signal Processing (L:T:P :: 3:0:0)								
21EC722	Digital Image Processing (L:T:P :: 2:0:2)		21EC725	Speech Signal Processing (L:T:P :: 3:0:0)								
21EC723	DSP Algorithms & Architecture (L:T:P :: 3:0:0)											
Professional Elective - III												
21EC731	IoT & Wireless Sensor Networks (L:T:P :: 3:0:0)		21EC734	Machine Learning with Python (L:T:P :: 2:0:2)								
21EC732	Network Security (L:T:P :: 3:0:0)		21EC735	Multimedia Communication (L:T:P :: 2:0:2)								
21EC733	Fabrication technology (L:T:P :: 3:0:0)											



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DEPARTMENT OF MECHANICAL ENGINEERING

Ref: SIET/2020-21/ME/ 128 c

14/08/2021

To

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

Sub: Suggestions for Proposed Syllabus 2021 Scheme - VTU

With reference to the above cited subject, we have hereby enclosed a list of proposed suggestions for some courses in 2021 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 the present scenario, world in moving toward the Hybrid Electric vehicles. We suggest to include Hybrid Eclectic vehicle course as per the current trends of the industry requirements during the revision

Thanking you

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

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

B. E. MECHANICAL ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER – VI			
Professional Elective- 1			
REFRIGERATION AND AIR CONDITIONING			
Course Code	18ME642	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"> • Study the basic definition, ASHRAE Nomenclature for refrigerating systems. • Understand the working principles and applications of different types of refrigeration systems. • Study the working of air conditioning systems and their applications. • Identify the performance parameters and their relations of an air conditioning system. 			
Module-1			
<p>Introduction to Refrigeration –Basic Definitions, ASHRAE Nomenclature, Air Refrigeration Cycles-reversed Carnot cycle, Bell-Coleman cycle analysis, Air Refrigeration systems-merits and demerits and applications: Aircraft refrigeration cycles, Joule Thompson coefficient and Inversion Temperature, Linde, Claude and Stirling cycles for liquefaction of air.</p> <p>Industrial Refrigeration-Chemical and process industries, Dairy plants , Petroleum refineries, Food processing and food chain, Miscellaneous</p>			
Module-2			
<p>Vapour Compression Refrigeration System(VCRS): Comparison of Vapour Compression Cycle and Gas cycle, Vapour Compression Refrigeration system Working and analysis, Limitations, Superheat horn and throttling loss for various refrigerants, efficiency, Modifications to standard cycle – liquid-suction heat exchangers, Grindlay cycle and Lorenz cycle, Optimum suction condition for optimum COP Actual cycles with pressure drops, Complete Vapour Compression Refrigeration System, Multi-Pressure, Multi-evaporator systems or Compound Vapour Compression Refrigeration Systems – Methods like Flash Gas removal, Flash inter cooling and water Inter cooling.</p>			
Module-3			
<p>Vapour Absorption Refrigeration Systems: Absorbent – Refrigerant combinations, Water-Ammonia Systems, Practical problems, Lithium- Bromide System, Contrast between the two systems, Modified Version of Aqua-Ammonia System with Rectifier and Analyzer Assembly. Practical problems – crystallization and air leakage, Commercial systems</p> <p>Other types of Refrigeration systems: Brief Discussion on (i) Steam-Jet refrigeration system and (ii) Thermoelectric refrigeration, pulse tube refrigeration, thermoacoustic refrigeration systems</p>			
Module-4			
<p>Refrigerants: Primary and secondary refrigerants, Designation of Refrigerants, Desirable properties of refrigerants including solubility in water and lubricating oil, material compatibility, toxicity, flammability, leak detection, cost, environment and performance issues Thermodynamic properties of refrigerants, Synthetic and natural refrigerants, Comparison between different refrigerants vis a vis applications, Special issues and practical implications Refrigerant mixtures – zeotropic and azeotropic mixtures</p> <p>Refrigeration systems Equipment: Compressors, Condensers, Expansion Devices and Evaporators, A brief look at other components of the system.</p>			
Module-5			
<p>Air-Conditioning: Introduction to Air-Conditioning, Basic Definition, Classification, power rating, Mathematical Analysis of Air-Conditioning Loads, Related Aspects, Different Air-Conditioning Systems-Central – Station Air-Conditioning System, Unitary Air-Conditioning System, Window Air-Conditioner and Packaged Air-Conditioner, Components related to Air-Conditioning Systems.</p> <p>Transport air conditioning Systems: Air conditioning systems for automobiles (cars, buses etc.), Air conditioning systems for trains, Air conditioning systems for ships</p>			

Course Outcomes: At the end of the course, the student will be able to:

CO1: Illustrate the principles, nomenclature and applications of refrigeration systems.

CO2: Explain vapour compression refrigeration system and identify methods for performance improvement

CO3: Study the working principles of air, vapour absorption, thermoelectric and steam-jet and thermoacoustic refrigeration systems.

CO4: Estimate the performance of air-conditioning systems using the principles of psychrometry.

CO5: Compute and Interpret cooling and heating loads in an air-conditioning system.

CO6: Identify suitable refrigerant for various refrigerating systems.

Question paper pattern:

- 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	Refrigeration and Air-conditioning	Arora C.P	Tata Mc Graw –Hill, New Delhi	2 nd Edition, 2001
2	Principles of Refrigeration	Roy J. Dossat	Wiley Limited	
3	Refrigeration and Air-conditioning	Stoecker W.F., and Jones J.W.,	Mc Graw - Hill, New Delhi	2nd edition, 1982.
Reference Books				
1	Heating, Ventilation and Air Conditioning	McQuiston	Wiley Students edition	5 th edition 2000.
2	Air conditioning	PITA	Pearson	4th edition 2005
3	Refrigeration and Air-Conditioning	S C Arora & S Domkundwar	Dhanpat Rai Publication	
4	Principles of Refrigeration	Dossat	Pearson	2006
5	Refrigeration and Air-Conditioning	Manohar prasad		
6	Handbook of Air Conditioning and Refrigeration	Shan K. Wang	McGraw-Hill Education	2/e, 2001

Data Book:

1. Mathur M.L. & Mehta, Refrigerant and Psychrometric Properties (Tables & Charts) SI Units, F.S., Jain Brothers, 2008

E- Learning

- <http://nptel.ac.in/courses/112105128/#>

E-Resources

- VTU, E- learning, MOOCS, Open courseware

DEPARTMENT OF CIVIL ENGINEERING

Ref: SIET/CV/2021-22/ 128d

Date: 17/08/2021

To,

The Chairman
Board of Studies
Civil Engineering
VTU, Belgavi.

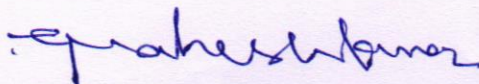
Sub: Proposed suggestion for proposed syllabus 2021- scheme of VTU Syllabus- reg

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 2021 scheme/ syllabus of civil engineering board VTU, Belagavi.

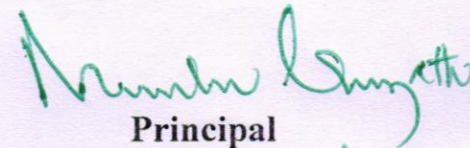
We highly recommend you the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

Thank you,

Encl : Circular Gaps and Proposed Suggestions



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

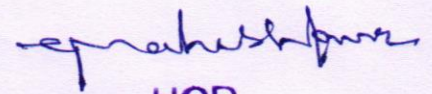


Principal
PRINCIPAL 17/8/21
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106

Circular Gaps and Proposed Suggestions

1. In 2018 scheme students are studying Concrete Technology subject in 4th semester. We request you to consider this subject/course in 2021 scheme during the higher semester with the inclusion of latest topic on smart materials.
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.
3. Since the final year students are doing their project work in the seventh semester itself, it is necessary to study the subject Research methodology & IPR. we kindly request you to include Research Methodology & IPR as one of the subjects in the 2nd year or 3rd year itself. This helps students to peruse their project works effectively.

C. Nagaraja
(Dr. C. Nagaraja)


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

CIVIL ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER - IV			
CONCRETE TECHNOLOGY			
Course Code	18CV44	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:			
<ol style="list-style-type: none"> 1. To recognize material characterization of ingredients of concrete and its influence on properties of concrete 2. Proportion ingredients of Concrete to arrive at most desirable mechanical properties of Concrete. 3. Ascertain and measure engineering properties of concrete in fresh and hardened state which meet the requirement of real time structures. 			
Module-1			
Concrete Ingredients Cement – Cement manufacturing process, steps to reduce carbon footprint, chemical composition and their importance, hydration of cement, types of cement. Testing of cement. Fine aggregate: Functions, requirement, Alternatives to River sand, M-sand introduction and manufacturing. Coarse aggregate: Importance of size, shape and texture. Grading and blending of aggregate. Testing on aggregate, requirement. Recycled aggregates Water – qualities of water. Chemical admixtures – plasticizers, accelerators, retarders and air entraining agents. Mineral admixtures – Pozzolanic and cementitious materials, Fly ash, GGBS, silica fumes, Metakaolin and rice huskash.			
Module-2			
Fresh Concrete Workability-factors affecting workability. Measurement of workability–slump, Compaction factor and Vee-Bee Consistometer tests, flow tests. Segregation and bleeding. Process of manufacturing of concrete- Batching, Mixing, Transporting, Placing and Compaction. Curing – Methods of curing – Water curing, membrane curing, steam curing, accelerated curing, self- curing. Good and Bad practices of making and using fresh concrete and Effect of heat of hydration during mass concreting at project sites.			
Module-3			
Hardened Concrete Factors influencing strength, W/C ratio, gel/space ratio, Maturity concept, Testing of hardened concrete, Creep –factors affecting creep. Shrinkage of concrete – plastic shrinking and drying shrinkage, Factors affecting shrinkage. Definition and significance of durability. Internal and external factors influencing durability, Mechanisms- Sulphate attack – chloride attack, carbonation, freezing and thawing. Corrosion, Durability requirements as per IS-456, In situ testing of concrete- Penetration and pull out test, rebound hammer test, ultrasonic pulse velocity, core extraction – Principal, applications and limitations.			
Module-4			
Concrete Mix Proportioning Concept of Mix Design with and without admixtures, variables in proportioning and Exposure conditions, Selection criteria of ingredients used for mix design, Procedure of mix proportioning. Numerical Examples of Mix Proportioning using IS-10262:2019.			
Module-5			
Special Concretes RMC- manufacture and requirement as per QCI-RMCPSCS, properties, advantages and disadvantages. Self-Compacting concrete- concept, materials, tests, properties, application and typical mix Fiber reinforced concrete - Fibers types, properties, application of FRC. Light weight concrete-material properties and types. Typical light weight concrete mix and applications, materials, requirements, mix proportion and properties of Geo polymer Concrete, High Strength Concrete and High Performance Concrete.			
Course outcomes: After studying this course, students will be able to:			
<ol style="list-style-type: none"> 1. Relate material characteristics and their influence on microstructure of concrete. 2. Distinguish concrete behavior based on its fresh and hardened properties. 3. Illustrate proportioning of different types of concrete mixes for required fresh and hardened properties using professional codes. 4. Adopt suitable concreting methods to place the concrete based on requirement. 5. Select a suitable type of concrete based on specific application. 			

epurakeshwar

Question paper pattern:

- 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:

1. Neville A.M. "Properties of Concrete"-4th Ed., Longman.
2. M.S. Shetty, Concrete Technology - Theory and Practice Published by S. Chand and Company, New Delhi.
3. Kumar Mehta. P and Paulo J.M. Monteiro "Concrete-Microstructure, Property and Materials", 4th Edition, McGraw Hill Education, 2014
4. A.R. Santha Kumar, "Concrete Technology", Oxford Un iversity Press, New Delhi (NewEdition).

Reference Books:

1. M L Gambir, "Concrete Technology", McGraw Hill Education,2014.
2. N. V. Nayak, A. K. Jain Handbook on Advanced Concrete Technology, ISBN: 978-81-8487-186-9
3. Job Thomas, "Concrete Technology", CENGAGE Learning,2015.
4. IS 4926 (2003): Code of Practice Ready-Mixed Concrete [CED 2: Cement and Concrete] Criteria for RMC Production Control, Basic Level Certification for Production Control of Ready Mixed Concrete-BMTPC.
5. Specification and Guidelines for Self-Compacting Concrete, EFNARC, Association House.

apraheshkumar

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 			

epaheshwar

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			

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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
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. ■	
Revised Bloom's Taxonomy Level	L ₁ – Remembering, L ₂ – Understanding, L ₃ – Applying, L ₄ – Analysing.

Module-5	
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. ■	05
Revised Bloom's Taxonomy Level	L ₁ – Remembering, L ₂ – Understanding, L ₃ – Applying, L ₄ – Analysing.

- Course outcomes:**
At the end of the course the student will be able to:
- 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

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 a 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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SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY

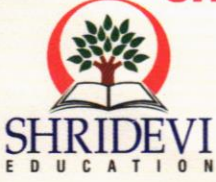
(An ISO 9001:2015 Certified Institution), Recognized by Govt. of Karnataka.

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)

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Ref. No.: SIET/OFF/2021-22/189

Date: 27/11/2021

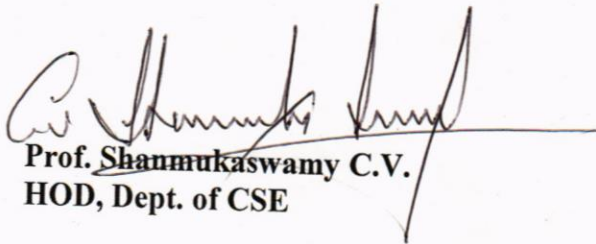
To
The Chairman
Board of studies (BoS)
Computer Science and Engineering
VTU, Belagavi-560018

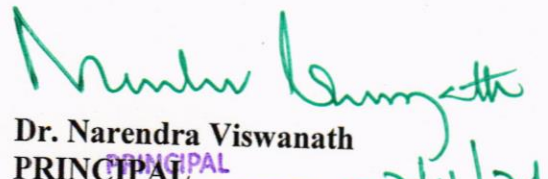
Sub: Proposed Suggestions for Proposed Syllabus 2021-Scheme of VTU Syllabus regarding

With reference to the above subject, we are hereby enclosing the list of curricular gaps and the proposed suggestions for some courses in proposed 2021 Scheme/Syllabus of CSE Board of Studies, Visvesvaraya Technological University.

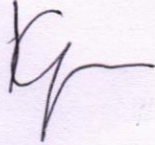
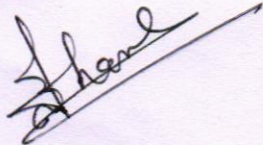
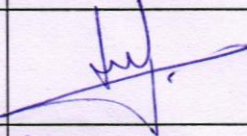

We highly recommend you to incorporate the following changes in the list and request you to consider those during the revision of the curriculum and syllabus by the university.

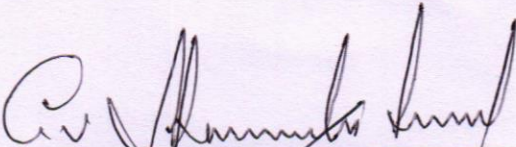
Thanking you


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


Dr. Narendra Viswanath
PRINCIPAL
SHRIDEVI INSTITUTE OF
ENGINEERING AND TECHNOLOGY
TUMKUR - 572106
27/11/21

LIST OF CURRICULAR GAPS AND THE PROPOSED SUGGESTIONS :

Sl No.	Curricular Gaps and Proposed Suggestions	Course Faculty In Charge Signature
1	In 2018 Scheme, 18CS38, Data Structure laboratory was included as separate Lab Component. We suggest you to include Data Structures laboratory as Integrated Course In 2021 Scheme & Syllabus	
2	In 2018 Scheme, 18CS47, Micro Controller laboratory was included as separate lab Component. We suggest you to include Microcontroller laboratory as Integrated Course in 2021 Scheme & Syllabus.	^{Sub} 
3	Python Programming can be included as core subject in 3 rd or 4 th Semester itself.	
4	As per industry requirements, it is suggested to include CSS, Java Script laboratory for 5th and 6th semester students respectively in 2021 Scheme & Syllabus.	^B 


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