



# SRI SRINIVASA EDUCATIONAL AND CHARITABLE TRUST®

## SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to Visvesvaraya Technological University, Belagavi and Approved by AICTE, New Delhi)

(Accredited by NAAC with "A" grade) Accredited by NBA (CSE, ECE, EEE, ISE, ME)

(An ISO 9001:2015 & ISO 14001:2015 Certified)



Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Experiential learning details through project work/field work/internship
		<b>FOURTH YEAR</b>		
Civil Engineering	CV	Quality surveying and contract management	18CV71	Translucent concrete
Civil Engineering	CV	Design of RCC and Steel structures	18CV72	Implementation of rejuvenators on used bitumen to determine the
Civil Engineering	CV	Pavement materials and construction	18CV733	Comparative study of quality concrete by partially replacement of cement
Civil Engineering	CV	Computer aided detailing of structures	18CVL76	Comparison of concrete mix design
Civil Engineering	CV	Geotechnic Engineering laboratory	18CVL77	Assessment of geo technical properties of bio polymer based soil
Civil Engineering	CV	Design of Pre stressed concrete	18CV81	Stabilization of expansive soil using sugarcane bagasse ash and wheat
Civil Engineering	CV	Retrofitting and Rehabilitation	18CV824	A case study on NH 48 yedehalli traffic analysis using data from sky
Civil Engineering	CV			Prediction of top story displacement of RC frame using artificial neural network
Civil Engineering	CV			Experimental investigation of partial replacement of mud by cement and GGBS for the production of interlocking blocks
Civil Engineering	CV			An investigation on mechanical properties of concrete blended with GGBS and macro synthetic fibre
Civil Engineering	CV			Application of nano particles in concrete and its ecological impact
Civil Engineering	CV			Studies on traffic and pavement condition on the selected stretch
Civil Engineering	CV			Data management in construction industry using AI
Civil Engineering	CV			Strengthening of existing building using retrofitting technique
Civil Engineering	CV			Square Expert
Civil Engineering	CV			Evolve Designs Construction
Civil Engineering	CV			Associate Property Advisor
Civil Engineering	CV			Development of trip generation
Civil Engineering	CV			Bangalore metro rail corporation
Civil Engineering	CV			Construction site intern
Civil Engineering	CV			Navami builders
Civil Engineering	CV			Bangalore metro rail corporation
Civil Engineering	CV			Yashawi Engineering consultants
Civil Engineering	CV			Bangalore metro rail corporation
Civil Engineering	CV			Construction of residential building
Civil Engineering	CV			Analysis of design multistorey building
Civil Engineering	CV			VCNR builders

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Bangalore



Civil Engineering	CV			Checklist on building construction
Civil Engineering	CV			Banglore metro tail corporation
Civil Engineering	CV			Works on residential building
Civil Engineering	CV			Construction of diagnostic center
Civil Engineering	CV			SRS construction
Civil Engineering	CV			Employee portal using core JAVA
Civil Engineering	CV			Banglore metro tail corporation
Civil Engineering	CV			Prison smart engineers
Civil Engineering	CV			Infinity construction
Civil Engineering	CV			Royal indraprastha builders
Civil Engineering	CV			Banglore metro tail corporation
Civil Engineering	CV			Layout planning construction
Civil Engineering	CV			Checklist on building construction
Civil Engineering	CV			Travel survey by house old interview
Civil Engineering	CV			Ola tank Porject
Civil Engineering	CV			New Tank Project
Civil Engineering	CV			Highway Engineering Project
Civil Engineering	CV			Town planning
Civil Engineering	CV			Water supply project
Civil Engineering	CV	THIRD YEAR		
Civil Engineering	CV	Construction management and entrepreneurship	18CV51	Old tank project
Civil Engineering	CV	Analysis of Indeterminant Structures	18CV52	New tank project
Civil Engineering	CV	Concrete and Highway Material Laboratory	18CVL58	Town planning
Civil Engineering	CV	Design of Steel Structural elements	18CV61	Water supply project
Civil Engineering	CV	Railways, Harbour, Tunneling and Airports	18CV645	Highway engineering Laboratory
Civil Engineering	CV	Environmental Engineering Laboratory	18CVL67	Two way slab
Civil Engineering	CV	Extensive Survey project	18CVP68	Bubble deck project
Civil Engineering	CV			Water quality analysis
Civil Engineering	CV			Model on box culvert
Civil Engineering	CV			Light weight concrete blocks
Civil Engineering	CV	SECOND YEAR		
Civil Engineering	CV	Complex analysis, probability and statistical methods	21MAT41	CO2 as a miture for concrete
Civil Engineering	CV	Fluid Mechanics and Hydraulics	21CV42 PCC	Types of beams
Civil Engineering	CV	Analysis of Structures	21CV44	Concrete bridge model
Civil Engineering	CV	Green building	21CV485	Column footing
Civil Engineering	CV	Geodetic Engineering	IPCC 21CV32	Floating tiles
Civil Engineering	CV	Strength of Materials	IPCC 21CV33	One way and Two way slab
Civil Engineering	CV			Types of Foundation
Civil Engineering	CV			Geo polymer blocks
Civil Engineering	CV	FIRST YEAR		
Civil Engineering	CV	Applied Physics for Civil Engineering Stream	BPHYC102	Sloar power irrigation system



Civil Engineering	CV	Green Buildings	BETCK105B	Permeable road model
Civil Engineering	CV			RCC Structure

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**HOD, Dept. of Civil Engg.**  
**S.C.E, Bangalore-560 057**

**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: CIVIL ENGINEERING**

**V SEMESTER**

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	
1	HSMC	18CV51	Construction Management & Entrepreneurship	Civil Engg.	2	2	--	03	40	60	100	3
2	PCC	18CV52	Analysis of Indeterminate Structures	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV53	Design of RC Structural Elements	Civil Engg.	3	2	--	03	40	60	100	4
4	PCC	18CV54	Basic Geotechnical Engineering	Civil Engg.	3	--	--	03	40	60	100	3
5	PCC	18CV55	Municipal Wastewater Engineering	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CV56	Highway Engineering	Civil Engg.	3	--	--	03	40	60	100	3
7	PCC	18CVL57	Surveying Practice	Civil Engg.	--	2	2	03	40	60	100	2
8	PCC	18CVL58	Concrete and Highway Materials Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18CIV59	Environmental Studies	Civil/Environmental	1	--	--	02	40	60	100	1
				[Paper setting Board: Civil Engineering]								
TOTAL					18	10	04	26	360	540	900	25

**Note:** PCC: Professional Core, HSMC: Humanity and Social Science.

**AICTE activity Points:** In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

  
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI												
CIVIL ENGINEERING												
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	18CV61	Design of Steel Structural Elements	Civil Engg.	3	2	--	03	40	60	100	4
2	PCC	18CV62	Applied Geotechnical Engineering	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV63	Hydrology and Irrigation Engineering	Civil Engg.	3	2	--	03	40	60	100	4
4	PEC	18CV64X	Professional Elective -1	Civil Engg.	3	--	--	03	40	60	100	3
5	OEC	18CV65X	Open Elective -A	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CVL66	Software Application Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
7	PCC	18CVL67	Environmental Engineering Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
8	EP	18CVEP68	Extensive Survey project	Civil Engg.	--	2	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	12	06	24	320	480	800	24
Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.												
Professional Elective -1												
Course code under18CV64X												
18CV641			Matrix Method of Structural Analysis									

18CV642	Solid Waste Management
18CV643	Alternate Building Materials
18CV644	Ground Improvement Techniques
18CV645	Railway, Harbours, Tunnelling & Airports
<b>Open Elective -A</b>	
<b>Course code under 18CV65X</b>	
18CV651	Remote Sensing & GIS
18CV652	Traffic Engineering
18CV653	Occupational Health & Safety
18CV654	Sustainability Concepts in Civil Engineering
<b>18CV655</b>	<b>Intelligent Transportation Systems</b>
<b>18CV656</b>	<b>Conservation of Natural Resources</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 18XX65X).	
Selection of an open elective shall not be allowed if,	
<ul style="list-style-type: none"> <li>• The candidate has studied the same course during the previous semesters of the programme.</li> <li>• The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.</li> <li>• A similar course, under any category, is prescribed in the higher semesters of the programme.</li> </ul>	
Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.	
<b>Internship:</b> 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>AICTE activity Points:</b> In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.	



## VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

## B.E. in Civil Engineering

Scheme of Teaching and Examinations 2021

Outcome Based Education(OBE) and Choice Based Credit System (CBCS)  
(Effective from the academic year 2021 - 22)

## III 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	BSC 21MAT31	Transform Calculus, Fourior Series and Numerical Techniques (Common to all)	TD- Maths PSB-Maths					03	50	50	100	3
2	IPCC 21CV32	Geodetic Engineering	TD: Civil Engg PSB: Civil Engg	2	2	2		03	50	50	100	4
3	IPCC 21CV33	Strength of Materials	TD: Civil Engg PSB: Civil Engg	2	2	2		03	50	50	100	4
4	PCC 21CV34	Earth Resources and Engineering	TD: Geology PSB: Geology	3	0	0		03	50	50	100	3
5	PCC 21CVL35	Computer-Aided Building Planning and Drawing	TD: Civil Engg PSB: Civil Engg	0	0	2		03	50	50	100	1
6	UHV 21SCR36	Social Connect and Responsibility	Any Department	0	0	1		01	50	50	100	1
7	HSMC 21KSK37/47	Samskrutika Kannada	TD and PSB HSMC	0	2	0		01	50	50	100	1
	HSMC 21KBK37/47	Balake Kannada										
	OR											
	HSMC 21CIP37/47	Constitution of India and Professional Ethics										
8	AEC 21CV38X	Ability Enhancement Course - III	TD: Concerned department PSB: Concerned Board	If offered as Theory Course				01	50	50	100	1
				0	2	0						
				If offered as lab. course				02				
				0	0	2						
Total									400	400	800	18

9	Scheduled activities for III to VIII semesters	NCMC 21NS83	National Service Scheme (NSS)	NSS	All students have to register for any one of the courses namely National Service Scheme, Physical Education (PE)(Sports and Athletics), and Yoga with the concerned coordinator of the course during the first week of III semester. The activities shall be carried out between III semester to VIII semester (for 5 semesters). SEE in the above courses shall be conducted during VIII semester examinations and the accumulated CIE marks shall be added to the SEE marks. Successful completion of the registered course is mandatory for the award of the degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities.							
		NCMC 21PE83	Physical Education (PE)(Sports and Athletics)	PE								
		NCMC 21YO83	Yoga	Yoga								

## Course prescribed to lateral entry Diploma holders admitted to III semester B.E./B.Tech programs

1	NCMC 21MATDIP31	Additional Mathematics - I	Maths	02	02	--	--	---	100	---	100	0
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**Note:** BSC: Basic Science Course, IPCC: Integrated Professional Core Course, PCC: Professional Core Course, INT -Internship, HSMC: Humanity and Social Science & Management Courses, AEC-Ability Enhancement Courses. UHV: Universal Human Value Course.

L -Lecture, T - Tutorial, P- Practical/ Drawing, S - Self Study Component, CIE: Continuous Internal Evaluation, SEE: Semester End Examination.TD- Teaching Department, PSB: Paper Setting department

21KSK37/47 Samskrutika Kannada is for students who speak, read and write Kannada and 21KBK37/47 Balake Kannada is for non-Kannada speaking, reading, and writing students.

**Integrated Professional Core Course (IPCC):** Refers to Professional Theory Core Course Integrated with practical of the same course. Credit for IPCC can be 04 and its Teaching-Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./B.Tech.) 2021-22 may be



## VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

**B.E. in Civil Engineering**

Scheme of Teaching and Examinations 2021

Outcome-Based Education (OBE) and Choice Based Credit System (CBCS)

(Effective from the academic year 2021 - 22)

**IV 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	BSC 21MAT41	Complex Analysis, Probability and Statistical Methods.	TD, PSB-Maths					03	50	50	100	3
2	IPCC 21CV42	Fluid Mechanics and Hydraulics	TD: Civil Engg PSB: Civil Engg	2	2	2		03	50	50	100	4
3	IPCC 21CV43	Public Health Engineering	TD: Civil Engg PSB: Civil Engg	2	2	2		03	50	50	100	4
4	PCC 21CV44	Analysis of Structures	TD: Civil Engg PSB: Civil Engg	2	2	0		03	50	50	100	3
5	AEC 21BE45	Biology for Engineers	BT, CHE, PHY	1	2	0		02	50	50	100	2
6	PCC 21CVL46	Earth Resources and Engineering Lab	TD: Geology PSB: Geology	0	0	2		03	50	50	100	1
7	HSMC 21KSK37/47	Samskrutika Kannada	HSMC	0	2	0		01	50	50	100	1
	HSMC 21KBK37/47	Balake Kannada										
	OR											
	HSMC 21CIP37/47	Constitution of India & Professional Ethics										
8	AEC 21CV48X	Ability Enhancement Course- IV	TD and PSB: Concerned department	If offered as theory Course				01	50	50	100	1
				0	2	0						
				If offered as lab. course				02				
				0	0	2						
9	UHV 21UH49	Universal Human Values	Any Department	0	2	0		01	50	50	100	1
10	INT 21INT49	Inter/Intra Institutional Internship	Evaluation By the appropriate authorities	Completed during the intervening period of II and III semesters by students admitted to first year of BE./B.Tech and during the intervening period of III and IV semesters by Lateral entry students admitted to III semester.				3	100	--	100	2
Total									550	450	1000	22

**Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs**

1	NCMC 21MATDIP41	Additional Mathematics - II	Maths	02	02	--	--	--	100	--	100	0
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**Note:** BSC: Basic Science Course, IPCC: Integrated Professional Core Course, PCC: Professional Core Course, AEC –Ability Enhancement Courses, HSMC: Humanity and Social Science and Management Courses, UHV- Universal Human Value Courses.

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

21KSK37/47 Samskrutika Kannada is for students who speak, read and write Kannada and 21KBK37/47 Balake Kannada is for non-Kannada speaking, reading, and writing students.

**Integrated Professional Core Course (IPCC):** Refers to Professional Theory Core Course Integrated with Practical of the same course. Credit for IPCC can be 04 and its Teaching–Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (BE/B.Tech.) 2021-22 may be referred.



Visvesvaraya Technological University, Belagavi													
Scheme of Teaching and Examinations-2022													
Outcome-Based Education (OBE)and Choice Based Credit System (CBCS)													
(Effective from the academic year 2022-23)													
I Semester (Civil Engineering Stream)										(Physic Group)			
Sl. No	Course and Course Code		CourseTitle	TD/PSB	Teaching Hours/Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	*ASC(IC)	BMATC101	Mathematics-I for Civil Engg stream	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	BPHYC102	Applied Physics for Civil Engineering Stream	PHY	2	2	2	0	03	50	50	100	04
3	ESC	BCIVC103	Engineering Mechanics	Civil Engineering Dept	2	2	0	0	03	50	50	100	03
4	ESC-I	BESCK104x	Engineering Science Course-I	Respective Engg dept	3	0	0	0	03	50	50	100	03
5	ETC-I	BETCK105x	Emerging Technology Course-I	Any Dept	3	0	0	0	03	50	50	100	03
	PLC-I	BPLCK105x	Programming Language Course-I		2	0	2	0	03				
6	AEC AEC	BENGK106	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
		BPWSK106	Professional Writing Skills in English										
7	HSMC	BKSKK107/ BKBKK107	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	01
		BICOK107	Indian Constitution										
8	AEC/SDC	BIDTK158	Innovation and Design Thinking	Any Dept	1	0	0	0	01	50	50	100	01
		BSFHK158	Scientific Foundations of Health		1	0	0	0	01				
TOTAL										400	400	800	20



<b>SDA-Skill Development Activities, TD/PSB- Teaching Department / Paper Setting Board, ASC-Applied Science Course, ESC- Engineering Science Courses, ETC- Emerging Technology Course, AEC- Ability Enhancement Course, HSMS-Humanity and Social Science and management Course, SDC- Skill Development Course, CIE –Continuous Internal Evaluation, SEE- Semester End Examination, IC – Integrated Course (Theory Course Integrated with Practical Course)</b>	
<b>Credit Definition:</b> 1-hour Lecture (L) per week= <b>1Credit</b> 2-hours Tutorial (T) per week= <b>1Credit</b> 2-hours Practical / Drawing (P) per week= <b>1Credit</b> 2-hous Skill Development Actives (SDA) per week = <b>1 Credit</b>	04-Credits courses are to be designed for 50 hours of Teaching-Learning Session 04-Credits (IC) are to be designed for 40 hours' theory and 12-14 hours of practical sessions 03-Credits courses are to be designed for 40 hours of Teaching-Learning Session 02- Credits courses are to be designed for 25 hours of Teaching-Learning Session 01-Credit courses are to be designed for 12-15 hours of Teaching-Learning sessions
<b>Student's Induction Program:</b> Motivating (Inspiring) Activities under the Induction program – The main aim of the induction program is to provide newly admitted students a broad understanding of society, relationships, and values. Along with the knowledge and skill of his/her study, students' character needs to be nurtured as an essential quality by which he/she would understand and fulfill the responsibility as an engineer. The following activities are to be covered in 21 days. Physical Activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to Local areas, Familiarization with Department/Branch and Innovation, etc. For details, refer the ANNEXURE-I of Induction Programs notification of the University published at the beginning of the 1 <sup>st</sup> semester.	
<b>AICTE Activity Points</b> to be earned by students admitted to BE/ B.Tech., / B. Plan day college program (For more details refer to Chapter 6, AICTE Activity Point Program, Model Internship Guidelines): Over and above the academic grades, every regular student admitted to the 4 years Degree program and every student entering 4 years Degree programs through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Program. Students transferred from other Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, any time during the semester weekends, and holidays, as per the liking and convenience of the student from the year of entry to the program. However, the minimum hour's requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, an Eighth Semester Grade Card shall be issued only after earning the required activity points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.	
<b>*- BMATC101</b> Shall have the 03 hours of theory examination (SEE), however, practical sessions question shall be included in the theory question papers** <b>The mathematics subject should be taught by a single faculty member per division, with no sharing of the course (subject) module-wise by different faculty members.</b> <b>#- BPHYC102</b> SEE shall have the 03 hours of theory examination and 02-03 hours of practical examination <b>ESC or ETC of 03 credits Courses</b> shall have only a theory component (L:T :P:S=3:0:0:0) or if the nature theof course required practical learning then the syllabus shall be designed as an Integrated course (L:T:P:S= 2:0:2:0 ). <b>All 01 Credit-</b> courses shall have the SEE of 01 hours duration and the pattern of the question paper shall be MCQ	



(ESC-I) Engineering Science Courses-I					(ETC-I) Emerging Technology Courses-I				
Code	Title	L	T	P	Code	Title	L	T	P
BESCK104A	Introduction to Civil Engineering	3	0	0	BETCK105A	Smart Materials and Systems	3	0	0
BESCK104B	Introduction to Electrical Engineering	3	0	0	BETCK105B	Green Buildings	3	0	0
BESCK104C	Introduction to Electronics Communication	3	0	0	BETCK105C	Introduction to Nano Technology	3	0	0
BESCK104D	Introduction to Mechanical Engineering	3	0	0	BETCK105D	Introduction to Sustainable Engineering	3	0	0
BESCK104E	Introduction to C Programming	2	0	2	BETCK105E	Renewable Energy Sources	3	0	0
					BETCK105F	Waste Management	3	0	0
					BETCK105G	Emerging Applications of Biosensors	3	0	0
					BETCK105H	Introduction to Internet of Things (IOT)	3	0	0
					BETCK105I	Introduction to Cyber Security	3	0	0
					BETCK105J	Introduction to Embedded System	3	0	0
(PLC-I) Programming Language Courses-I									
Code	Title	L	T	P					
BPLCK105A	Introduction to Web Programming	2	0	2					
BPLCK105B	Introduction to Python Programming	2	0	2					
BPLCK105C	Basics of JAVA programming	2	0	2					
BPLCK105D	Introduction to C++ Programming	2	0	2					
The course BESCK104E, Introduction to C Programming, and all courses under PLC and ETC groups can be taught by faculty of ANY DEPARTMENT									

- The student has to select one course from the ESC-I group.
- Civil Engineering Students shall opt for any one of the courses from the ESC-I group except, BESCK104A Introduction to Civil Engineering
- The students have to opt for the courses from ESC group without repeating the course either 1<sup>st</sup> or 2<sup>nd</sup> semester
- The students must select one course from either ETC-I or PLC-I group.
- If students study the subject from ETC-I in 1<sup>st</sup> semester he/she has to select the course from PLC-II in the 2<sup>nd</sup> semester and vice-versa