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
	OR												
	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
			OR										
		BPWSK106	Professional Writing Skills in English										
7	HSMC	**BKSKK107/ BKBKK107**	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	01
			OR										
		BICOK107	Indian Constitution										
8	AEC/SDC	**BIDTK158**	Innovation and Design Thinking	Any Dept	1	0	0	0	01	50	50	100	01
			OR		OR								
		BSFHK158	Scientific Foundations of Health		1	0	0	0	01				
				TOTAL						**400**	**400**	**800**	**20**

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)

Credit Definition: 1-hour Lecture **(L)** per week=**1Credit** 2-hoursTutorial**(T)** per week=**1Credit** 2-hours Practical / Drawing (**P**) per week=**1Credit** **2-**hous Skill Development Actives **(SDA)** per week = **1 Credit**	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

Student's Induction Program: 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 1st semester.

AICTE Activity Points 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.

- BMATC101** Shall have the 03 hours of theory examination (SEE), however, practical sessions question shall be included in the theory question papers* 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.**

#- BPHYC102 SEE shall have the 03 hours of theory examination and 02-03 hours of practical examination

ESC or ETC of 03 credits Courses 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).

All 01 Credit- 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 BESC104E, 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, BESCK**104A **Introduction to Civil Engineering**
- The students have to opt for the courses from ESC group without repeating the course either 1st or 2nd semester
- The students must select one course from either ETC-I or PLC-I group.
- If students study the subject from ETC-I in 1st semester he/she has to select the course from PLC-II in the 2nd semester and vice-versa

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)

II Semester (Civil Engineering Stream) (for students who attended I semester under Physics Group)

Sl. No	Course and Course Code		Course Title	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)	**BMATC201**	**Mathematics-II** for Civil Engg Stream	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	**BCHEC202**	**Applied Chemistry** for Civil Engineering stream	Chemistry	2	2	2	0	03	50	50	100	04
3	ESC	**BCEDK203**	Computer-Aided Engineering Drawing	Civil/Mech Engg dept	2	0	2	0	03	50	50	100	03
4	ESC-II	**BESCK204x**	Engineering Science Course-II	Respective EnggDept	3	0	0	0	03	50	50	100	03
5	PLC-II	**BPLCK205x**	Programming Language Course-II	Any. Dept	2	0	2	0	03	50	50	100	03
	OR												
	ETC-II	**BETCK205x**	Emerging Technology Course-II		3	0	0	0	03				
6	AEC	**BPWSK206**	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
			OR										
		BENGK206	Communicative English										
7	HSMS	**BICOK207**	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
		OR											
		BKSKK207/ BKBKK207	Samskrutika Kannada/ Balake Kannada										
8	HSMS	**BSFHK258**	Scientific Foundations of Health	AnyDept	1	0	0	0	01	50	50	100	01
	OR				OR								
	HSMS	**BIDTK258**	Innovation and Design Thinking	Any	1	0	0	0	01	50	50	100	
				TOTAL						**400**	**400**	**800**	**20**

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)

Credit Definition: 1-hour Lecture **(L)** per week=**1Credit** 2-hoursTutorial**(T)** per week=**1Credit** 2-hours Practical / Drawing (**P**) per week=**1Credit** **2-**hous Skill Development Actives **(SDA)** per week = **1 Credit**	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

***- BMATC201** Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers. ** **The mathematics subject should be taught bysingle faculty member per division, with no sharing of the course(subject)module-wise by different faculty members.**

#- BCHEC202 SEE shall have the 03 hours of theory examination and 02-03 hours of practical examination

ESC or ETC of 03 credits Courses shall have only a theory component (L:T :P:S=3:0:0:0) or if the nature the of course required practical learning syllabus shall be designed as an Integrated course (L:T:P:S= 2:0:2:0).

All 01 Credit- courses shall have the SEE of 01 hours duration and the pattern of the question paper shall be MCQ

(ESC-II) Engineering Science Courses-II					(ETC-II) Emerging Technology Courses-II				
Code	**Title**	**L**	**T**	**P**	**Code**	**Title**	**L**	**T**	**P**
BESCK204A	Introduction to Civil Engineering	3	0	0	**BETCK205A**	Smart materials and Systems	3	0	0
BESCK204B	Introduction to Electrical Engineering	3	0	0	**BETCK205B**	Green Buildings	3	0	0
BESCK204C	Introduction to Electronics **Communication**	3	0	0	**BETCK205C**	Introduction to Nano Technology	3	0	0
BESCK204D	Introduction to Mechanical Engineering	3	0	0	**BETCK205D**	Introduction to Sustainable Engineering	3	0	0
BESCK204E	Introduction to C Programming	2	0	2	**BETCK205E**	Renewable Energy Sources	3	0	0
					BETCK205F	Waste Management	3	0	0
					BETCK205G	Emerging Applications of Biosensors	3	0	0
					BETCK205H	Introduction to Internet of Things(IoT)	3	0	0
					BETCK205I	Introduction to Cyber Security	3	0	0
					BETCK205J	Introduction to Embedded System	3	0	0
(PLC-II) Programming Language Courses-II									
Code	**Title**	**L**	**T**	**P**					
BPLCK205A	Introduction to Web Programming	2	0	2					
BPLCK205B	Introduction to Python Programming	2	0	2					
BPLCK205C	Basics of JAVA programming	2	0	2					
BPLCK205D	Introduction to C++ Programming	2	0	2					
The course BESC204E, 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-II group.
- Civil Engineering Students shall opt for any one of the courses from the ESC-II group **except,** BESCK204A **-Introduction to Civil Engineering**
- The students have to opt for the courses from ESC group without repeating the course in either 1st or 2nd semester
- The students must select one course from either ETC-II or PLC-II group.
- If students study the subject from ETC-I in 1st semester he/she has to select the course from PLC-II in the 2nd semester and vice-versa

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) (Chemistry Group)

Sl. No	Course and Course Code		Course Title	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)	**BCHEC102**	**Applied Chemistry** for Civil Engg Stream	Chemistry	2	2	2	0	03	50	50	100	04
3	ESC	**BCEDK103**	Computer-aided engineering Drawing	Civil/Mech Engg dept	2	0	2	0	03	50	50	100	03
4	ESC-I	**BESCK104x**	Engineering Science Course-I	Respective 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
	OR												
	PLC-I	**BPLCK105x**	Programming Language Course-I		2	0	2	0	03				
6	AEC	**BPWSK106**	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
			OR										
		BENGK106	Communicative English										
7	HSMS	**BICOK107**	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
			OR										
		BKSK107/ BKBK107	Samskrutika Kannada/ Balake Kannada										
8	HSMS	**BSFHK158**	Scientific Foundations of Health	AnyDept	1	0	0	0	01	50	50	100	01
	OR												
	HSMS	**BITDK158**	Innovation and Design Thinking	Any Dept	1	0	0	0	01				
				TOTAL	**15**	**06**	**10**	00	**27**	**400**	**400**	**800**	**20**

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)

- BMATC101** Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers. * The mathematics subject should be taught by single faculty member per division, with no sharing of the course(subject)module-wise by different faculty members.**

#- BCHEC102- SEE shall have the 03 hours of theory examination and 02-03 hours of practical examination

ESC or ETC of 03 credits Courses shall have only a theory component (L:T :P:S=3:0:0:0) or if the nature the of course required practical learning syllabus shall be designed as an Integrated course (L:T:P:S= 2:0:2:0).

All 01 Credit- courses shall have the SEE of 01 hours duration and the pattern of the question paper shall be MCQ

Credit Definition:	
1-hour Lecture **(L)** per week=**1Credit**	04-Credits courses are to be designed for 50 hours of Teaching-Learning Session
2-hoursTutorial**(T)** per week=**1Credit**	04-Credits (IC) are to be designed for 40 hours' theory and 12-14 hours of practical sessions
2-hours Practical / Drawing (**P**) per week=**1Credit**	03-Credits courses are to be designed for 40 hours of Teaching-Learning Session
2-hous Skill Development Actives **(SDA)** per week = **1 Credit**	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

Student's Induction Program: 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 1st semester.

AICTE Activity Points 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.

(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 in either 1st or 2nd semester
- The students must select one course from either ETC-I or PLC-I group.
- If students study the subject from ETC-I in 1st semester he/she has to select the course from PLC-II in the 2nd semester and vice-versa

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)

II Semester (Civil Engineering Stream) **(For the students who attended I semester under Chemistry Group)**

Sl. No	Course and Course Code		Course Title	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)	**BMATC201**	**Mathematics-II** for Civil Engineering	Maths	2	2	2	0	03	50	50	100	04
2	#ASC (IC)	**BPHYC202**	**Applied Physics** for Civil Engineering	PHY	2	2	2	0	03	50	50	100	04
3	ESC	**BCIVC203**	Engineering Mechanics	Civil Engineering Dept	2	2	0	0	03	50	50	100	03
4	ESC-II	**BESCK204x**	Engineering Science Course-II	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	PLC-II	**BPLCK205x**	Programming Language Course-II	Any Dept	2	0	2	0	03	50	50	100	03
	OR												
	ETC-II	**BETCK205x**	Emerging Technology Course-II		3	0	0	0	03				
6	AEC	**BENGK206**	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
			OR										
		BPWSK206	Professional Writing Skills in English										
7	HSMC	**BKSKK207 BKBKK207**	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	01
		OR											
		BICOK207	Indian Constitution										
8	AEC/SDC	**BIDTK258**	Innovation and Design Thinking	Any Dept	1	0	0	0	01	50	50	100	01
	OR												
		BSFHK258	Scientific Foundations of Health		1	0	0	0					
			TOTAL							**400**	**400**	**800**	**20**

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)

BMATC201 Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers. **** 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.**

#- BPHYC202 SEE shall have the 03 hours of theory examination and 02-03 hours of practical examination

ESC or ETC of 03 credits Courses shall have only a theory component (L:T :P:S=3:0:0:0) or **if the nature the of course required experimental learning then the syllabus shall be designed as an Integrated course (L:T:P:S= 2:0:2:0). However, there is no SEE for the practical component.**

All 01 Credit- courses shall have the SEE of 01 hours duration and the pattern of the question paper shall be MCQ

(ESC-II) Engineering Science Courses-II					**(ETC-II) Emerging Technology Courses-II**				
Code	**Title**	**L**	**T**	**P**	**Code**	**Title**	**L**	**T**	**P**
BESCK204A	Introduction to Civil Engineering	3	0	0	**BETCK205A**	Smart materials and Systems	3	0	0
BESCK204B	Introduction to Electrical Engineering	3	0	0	**BETCK205B**	Green Buildings	3	0	0
BESCK204C	Introduction to Electronics **Communication**	3	0	0	**BETCK205C**	Introduction to Nano Technology	3	0	0
BESCK204D	Introduction to Mechanical Engineering	3	0	0	**BETCK205D**	Introduction to Sustainable Engineering	3	0	0
BESCK204E	Introduction to C Programming	2	0	2	**BETCK205E**	Renewable Energy Sources	3	0	0
					BETCK205F	Waste Management	3	0	0
					BETCK205G	Emerging Applications of Biosensors	3	0	0
					BETCK205H	Introduction to Internet of Things(IoT)	3	0	0
					BETCK205I	Introduction to Cyber Security	3	0	0
					BETCK205J	Introduction to Embedded System	3	0	0
(PLC-II) Programming Language Courses-II									
Code	**Title**	**L**	**T**	**P**					
BPLCK205A	Introduction to Web Programming	2	0	2					
BPLCK205B	Introduction to Python Programming	2	0	2					
BPLCK205C	Basics of JAVA programming	2	0	2					
BPLCK205D	Introduction to C++ Programming	2	0	2					

The course BESCK245E**, 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-II group.
- Civil Engineering Students shall opt for any one of the courses from the ESC-II group **except,** BESCK241A **-** Introduction to **Civil Engineering**
- The students have to opt for the courses from ESC group without repeating the course in either 1st or 2nd semester
- The students must select one course from either ETC-II or PLC-II group.
- If students study the subject from ETC-I in 1st semester he/she has to select the course from PLC-II in the 2nd semester and vice-versa