Visvesvaraya Technological University, Belagavi SchemeofTeaching and examinations-2022 Outcome-Based Education (OBE)andChoiceBasedCreditSystem(CBCS) (Effectivefromtheacademicyear 2022-23)

ISemester (CSE Stream) (Physics Group)

		Stream) (Pny				Teac Hours	hing /Week						
SI. No	Course a	nd course de	Course titlee	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P	S					
1	*ASC(IC)	BMATS101	Mathematics-I for CSE Stream	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	BPHYS102	Applied Physics for CSE stream	Physics	2	2	2	0	03	50	50	100	04
3	ESC	BPOPS103	Principles of Programming Using C	CSE	2	0	2	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
	ETC-I	BETCK105x	Emerging Technology Course-I		3	0	0	0	03				
5			OR	Any Dept						50	50	100	03
	PLC-I	BPLCK105x	Programming Languages Course-I		2	0	2	0	03				
		BENGK106	Communicative English										
6	AEC		OR	Humanities	1	0	0	0	01	50	50	100	01
		BPWSK106	Professional Writing Skills in English										
_		BKSKK107 BKBKK107	Samskrutika Kannada/ Balake Kannada						0.1	FO	F.0	100	0.1
7	HSMC		OR	- Humanities	1	0	0	0	01	50	50	100	01
		BICOK107	Indian Constitution										
		BIDTK158	Innovation and Design Thinking		1	0	0	0	02				
8	AEC/SDC		OR	Any Dept						50	50	100	01
		BSFHK158 Scientific Foundations of Health				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 hours' 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.

*- BMATS101Shall 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.

#-BPHYS102SEE 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 then, 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-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) Prog	ramming Language Courses-I								
Code	Title	L	T	P					1
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					1

The course 22ESC145/245, Introduction to C Programming, and all courses under PLC and ETC groups can be taught by ANY DEPARTMENT

- The student has to select one course from the ESC-I group.
- CSE/ISE and allied branches Students shall opt for any one of the courses from the ESC-I group **except**, BESCK104E**-Introduction to C Programming**
- 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
Schemeof Teaching and Examinations-2022
Outcome-Based Education (OBE)andChoiceBasedCreditSystem(CBCS)
(Effectivefromtheacademicyear 2022-23)

IISem	ester(CSEStre	eam)	((For students att		t seme	ester und	ler Ph	ysics Gr	oup)			
						Teac Hours	ching s/Week		E	xaminatio	n		
SI. No		nd Course ode	Course Title	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	Т	P	S		5 0	.	400	
1	*ASC(IC)	BMATS201	Mathematics-II for CSE Stream	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	BCHES202	Applied Chemistry for CSE 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 Engg. Dept	3	0	0	0	03	50	50	100	03
	PLC-II	BETCK205x	Programming Language Course-II		2	00	2	0	03				
5	1		OR	Any Dept						50	50	100	03
	ETC-II	BPLCK205x	Emerging Technology Course-II		3	0	0	0	03				
		BPWSK206	Professional Writing Skills in English										
6	AEC		OR	Humanities	1	0	0	0	01	50	50	100	01
		BENGK206	Communicative English										
		BICOK207	Indian Constitution		1	0	0	0					
7	HSMS		OR	Humanities					01	50	50	100	01
		BKSKK207/ BKBKK207	Samskrutika Kannada/ Balake Kannada		1	0	0	0					
		BSFHK258 Scientific Foundations of Health			1	0	0	0	01				
8	HSMS	SMS OR	Any Dept						50	50	100	01	
		KIDTK258	Innovation and Design Thinking	Zopi	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)

*- BMATS201Shall 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.

#-BCHES202- 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 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	3	0	0	BETCK205C	Introduction to Nano Technology	3	0	0
	Communication								
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
					ВЕТСК205Н	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) Prog	gramming 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 BESCK204E, Introduction to C Programming, and all courses under PLC and ETC groups can be taught by ANY DEPARTMENT

- The student has to select one course from the ESC-II group.
- CSE/ISE and allied branches Students shall opt for any one of the courses from the ESC-II group **except,** BESCK245E**-Introduction to C Programming**
- 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 Schemeof Teaching and Examinations-2022 Outcome-Based Education(OBE)andChoiceBasedCreditSystem(CBCS) (Effectivefromtheacademicyear 2022-23)

I Sem	ester (CSE St	tream)							(For Ch	emistry	Group)		
Sl.							ching s/Week		F	Examinatio	n		
SI. No		Ourse and Course Course Title Code		TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P	S					
1	*ASC(IC)	BMATS101	Mathematics-I for CSE Stream	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	BCHES102	Applied Chemistry for CSE 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 Engg Dept	3	0	0	0	03	50	50	100	03
	ETC-I	BETCK105x	Emerging Technology Course-I		3	0	0	0	03				
5	5		OR							50	50	100	03
	PLC-I	BPLCK105x	Programming Language Course-I		2	0	2	0	03			<u> </u>	
		BPWSK106	Professional Writing Skills in English										
6	AEC		OR	Humanities	1	0	0	0	01	50	50	100	01
		BENGK106	Communicative English										
		BICOK107	Indian Constitution		1	0	0	0					
7	HSMS		OR	Humanities					01	50	50	100	01
		BKSKK107/ BKBKK107	Samskrutika Kannada/ Balake Kannada		1	0	0	0					
		BSFHK158	Scientific Foundations of Health		1	0	0	0	01				
8	HSMS	SMS OR	Any Dept						50	50	100	01	
		BIDTK158 Innovation and Design Thinking		Бере	1	0	0	0	02	02			
				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)

*- BMATS101Shall 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.

#- BCHES102- 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 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 Dellintion:
1-hour Lecture (L) per week=1Credit

2-hoursTutorial(T) per week=1Credit

Cradit Definition.

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 hours' 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	3	0	0	BETCK105C	Introduction to Nano Technology	3	0	0
	Communication								
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) Prog	ramming 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 ANY DEPARTMENT

- The student has to select one course from the ESC-I group.
- CSE/ISE & allied branch students shall opt for any one of the courses from the ESC-I group **except,** BESCK145E**-Introduction to C Programming**
- 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.
- \bullet 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)andChoiceBasedCreditSystem(CBCS) (Effectivefromtheacademicyear 2022-23)

II Sen	nester (CSE	Streams)	•	•	(For stu			ended	1st seme	ster und	ler Chen	nistry (iroup)
						Teac Hours	hing /Week			Examiı	nation		
Sl. No	Course a	nd Course de	Course Title		Theory	I Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	*ASC(IC)	BMATS201	Mathematics-II for CSEStream	Maths	2	т 2	P 2	S 0	03	50	50	100	04
2	#ASC(IC)	BPHYS202	Applied Physics for CSE Stream	Physics	2	2	2	0	03	50	50	100	04
3	ESC	BPOPS203	Principles of Programming Using C	CSE	2	0	2	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
	ETC-II	BPLCK205x	Programming Language Course-II		2	00	2	0	03				
5			OR	Any Dept						50	50	100	03
	PLC-II	BETCK205x	Emerging Technology Course-II		3	0	0	0	03				
		BENGK206	Communicative English										
6	AEC		OR	Humanities	1	0	0	0	01	50	50	100	01
		BPWSK206	Professional Writing Skills in English										
		BKSKK207 BKBKK207	Samskrutika Kannada/ Balake Kannada	Humanities					01	50	50	100	01
7	HSMC		OR	- Humaniues	1	0	0	0	01	50	50	100	01
		BICOK207	Indian Constitution										
		BIDTK258	Innovation and Design Thinking		1	0	0	0	01				
8	AEC/SDC		OR	Any Dept						50	50	100	01
		BSFHK258	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)

*- BMATS201Shall 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.

#- BPHYS202SEE 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 of the of course required experimental 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 MCO

	(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
					ВЕТСК205Н	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) Prog	ramming 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 BESCK204E, Introduction to C Programming, and all courses under PLC and ETC groups can be taught by 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,** BESCK204E**-Introduction to C Programming**
- 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