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 (Electrical & Electronics Engineering Stream)   **(For Physics Group)**

Sl. No	Course and Course Code		Course Title	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)	22MATE11	Mathematics for EEE Streams-I	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22PHYE12	Physics for EEE Stream	PHY	2	2	2	0	03+02	50	50	100	04
3	ESC	22EEE13	# Element of Electrical Engineering	EEE/ECE/TCE	If offered as a theory Course				03	50	50	100	03
					2	2	0	0					
		OR			If offered as an integrated Course								
		22BEE13	## Basic Electronics		2	0	2	0					
4	ESC-I	22ESC14x	Engineering Science Course-I	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	ETC-I	22ETC15x	Emerging Technology Course-I	Any Engg Dept	3	0	0	0	03	50	50	100	03
		OR											
	PLC-I	22PLC15x	Programming Language Course-I		2	0	2	0	03+02				
6	AEC	22ENG16	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMC	22KSK17/ 22KBK17	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	01
		OR											
		22ICO17	Indian Constitution		1	0	0	0					
8	AEC/SDC	22IDT18	Innovation and Design Thinking	Any Dept	1	0	0	0	01	50	50	100	01
		OR											
		22SFH18	Scientific Foundations of Health		1	0	0	0	01				
			TOTAL							400	400	800	20

Electrical & Electronics Engineering Students have to study 22EEE13- Element of Electrical Engineering compulsorily
Where as Electronics and allied stream students have to study 22BEE13 Basic Electronics compulsorily

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:	04-Credits courses are to be designed for 50 hours of Teaching-Learning Session
1-hour Lecture **(L)** per week=**1Credit**	04-Credits (IC) are to be designed for 40 hours' theory and 12-14 hours of practical sessions
2-hoursTutorial**(T)** per week=**1Credit**	
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 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.

*-22MATE11 Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers
#-22PHYE12 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-I) Engineering Science Courses-I					(ETC-I) Emerging Technology Courses-I				
Code	Title	L	T	P	Code	Title	L	T	P
22ESC141	Introduction to Civil Engineering	3	0	0	22ETC15A	Smart Materials and Systems	3	0	0
22ESC142	Introduction to Electrical Engineering	3	0	0	22ETC15B	Green Buildings	3	0	0
22ESC143	Introduction to Electronics Engineering	3	0	0	22ETC15C	Operation and Maintenance of Solar Electric Systems	3	0	0
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Embedded System	3	0	0
22ESC145	Introduction to C Programming	2	0	2	22ETC15E	Introduction to Nano Technology	3	0	0
					22ETC15F	Introduction to Drone Technology	3	0	0
					22ETC15G	Introduction to Sustainable Engineering	3	0	0
					22ETC15H	Renewable Energy Sources	3	0	0
					22ETC15I	Waste Management	3	0	0
					22ETC15J	Emerging Applications of Biotechnology	3	0	0
					22ETC15K	Introduction to Internet of Things (IOT)	3	0	0
					22ETC15L	Introduction to Cyber Security	3	0	0
(PLC-I) Programming Language Courses-I									
Code	Title	L	T	P					
22PLC15A	Introduction to Web Programming	2	0	2					
22PLC15B	Introduction to Python Programming	2	0	2					
22PLC15C	Basics of JAVA programming	2	0	2					
22PLC15D	Introduction to C++ Programming	2	0	2					

- The student has to select one course from the ESC-I group.
- **EEE** Students shall opt for any one of the courses from the ESC-I group **except, 22ESC142-Introduction to Electrical Engineering** and **ECE/ETC/BM/ML** students shall opt any one of the courses from ESC-I **except 22ESC143 Introduction to Electronics** 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

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Visvesvaraya Technological University, Belagavi
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Outcome-Based Education(OBE)and Choice Based Credit System (CBCS)
(Effective from the   academic year 2022-23)

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II Semester (Electrical & Electronics Engineering Stream)   **(For the students who attended 1st semester under Physics Group)**

Sl. No	Course and Course Code		Course Title	TD/PSB	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	SDA (S)	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	*ASC(IC)	22MATE21	Mathematics for EES-II	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22CHEE22	Chemistry for EES	Chemistry	2	2	2	0	03+02	50	50	100	04
3	ESC	22CED23	Computer-Aided Engineering Drawing	Civil/Mech Engg dept	2	0	2	0	03	50	50	100	03
4	ESC-II	22ESC24x	Engineering Science Course-II	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	PLC-II	22PLC25x	Programming Language Course-II	Any Engg Dept	2	0	2	0	03+02	50	50	100	03
	OR												
	ETC-II	22PLC25x	Emerging Technology Course-II		03	0	0	0	03				
6	AEC	22PWS26	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMS	22ICO27	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
			OR										
		22KSK27/ 22KBK27	Samskrutika Kannada/ Balake Kannada										
8	HSMS	22SFH28	Scientific Foundations of Health	Any Dept.	1	0	0	0	01	50	50	100	01
			OR										
		22IDT28	Innovation and Design Thinking		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)

*-22MATE21 Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers

#-22CHEE22- 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**
22ESC241	Introduction to Civil Engineering	3	0	0	22ETC25A	Smart materials and Systems	3	0	0
22ESC242	Introduction to Electrical Engineering	3	0	0	22ETC25B	Green Buildings	3	0	0
22ESC243	Introduction to Electronics Engineering	3	0	0	22ETC25C	Operation and Maintenance of Solar Electric Systems	3	0	0
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Embedded System	3	0	0
22ESC245	Introduction to C Programming	2	0	2	22ETC25E	Introduction to Nano Technology	3	0	0
					22ETC25F	Introduction to Drone Technology	3	0	0
					22ETC25G	Introduction to Sustainable Engineering	3	0	0
					22ETC25H	Renewable Energy Sources	3	0	0
					22ETC25I	Waste Management	3	0	0
					22ETC25J	Emerging Applications of Biotechnology	3	0	0
					22ETC25K	Introduction to Internet of Things(IoT)	3	0	0
					22ETC25L	Introduction to Cyber Security	3	0	0
(PLC-II) Programming Language Courses-II									
Code	**Title**	**L**	**T**	**P**					
22PLC25A	Introduction to Web Programming	2	0	2					
22PLC25B	Introduction to Python Programming	2	0	2					
22PLC25C	Basics of JAVA programming	2	0	2					
22PLC25D	Introduction to C++ Programming	2	0	2					

- The student has to select one course from the ESC-II group.
- **EEE** Students shall opt for any one of the courses from the ESC-I group **except, 22ESC142-Introduction to Electrical Engineering and ECE/ETC/BM/ML** students shall opt any one of the courses from ESC-I **except 22ESC143 Introduction to Electronics** 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

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Scheme of Teaching and Examinations-2022
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I Semester   (Electrical & Electronics Engineering Stream)   **(For Chemistry Group)**

Sl. No	Course and Course Code		Course Title	TD/PSB	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	SDA (S)	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	*ASC(IC)	22MATE11	Mathematics for EES-I	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22CHEE12	Chemistry for EES	Chemistry	2	2	2	0	03+02	50	50	100	04
3	ESC	22CED13	Computer-Aided Engineering Drawing	Mechanical	2	0	2	0	03	50	50	100	03
4	ESC-I	22ESC14x	Engineering Science Course-I	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	ETC-I	22ETC15x	Emerging Technology Course-I	Any Engg Dept	3	0	0	0	03	50	50	100	03
			OR										
	PLC-I	22PLC15x	Programming Language Course-I		2	0	2	0	03+02				
6	AEC	22PWS16	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMS	22ICO17	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
			OR										
		22KSK17/ 22KBK17	Samskrutika Kannada/ Balake Kannada										
8	HSMS	22SFH18	Scientific Foundations of Health	Any Dept.	1	0	0	0	01	50	50	100	01
			OR										
		22IDT18	Innovation and Design Thinking		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)

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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

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					22ETC15G	Introduction to Sustainable Engineering	3	0	0
					22ETC15H	Renewable Energy Sources	3	0	0
					22ETC15I	Waste Management	3	0	0
					22ETC15J	Emerging Applications of Biotechnology	3	0	0
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(PLC-I) Programming Language Courses-I									
Code	Title	L	T	P					
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II Semester (Electrical & Electronics Engineering Stream)　　　　　　　　　　**(For students who attended 1st 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	
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					2	2	0	0					
		OR			If offered as an integrated Course								
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5	PLC-II	22PLC25x	Programming language Course-II	Any Engg Dept	2	0	2	0	03+02	50	50	100	03
		OR											
	ETC-II	22ETC25x	Emerging Technology Course-II		3	0	0	0	03				
6	AEC	22ENG26	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMC	22KSK27/ 22KBK27	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	01
		OR											
		22ICO27	Indian Constitution		1	0	0	0					
8	AEC/SDC	22IDT18	Innovation and Design Thinking	Any Dept	1	0	0	0	01	50	50	100	01
		OR											
		22SFH28	Scientific Foundations of Health		1	0	0	0	01				
			TOTAL							400	400	800	20

 # Electrical & Electronics Engineering Students have to study   22EEE13- Elements of Electrical Engineering compulsorily **## Whereas Electronics and allied stream students have to study 22BEE13 Basic Electronics compulsorily**
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)
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(ESC-II) Engineering Science Courses-II		L	T	P	(ETC-II) Emerging Technology Courses-II		L	T	P
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					22ETC25H	Renewable Energy Sources	3	0	0
					22ETC25I	Waste Management	3	0	0
					22ETC25J	Emerging Applications of Biotechnology	3	0	0
					22ETC25K	Introduction to Internet of Things(IoT)	3	0	0
					22ETC25L	Introduction to Cyber Security	3	0	0
(PLC-II) Programming Language Courses-II									
Code	**Title**	**L**	**T**	**P**					
22PLC25A	Introduction to Web Programming	2	0	2					
22PLC25B	Introduction to Python Programming	2	0	2					
22PLC25C	Basics of JAVA programming	2	0	2					
22PLC25D	Introduction to C++ Programming	2	0	2					

- The student has to select one course from the ESC-II group.
- **EEE** Students shall opt for any one of the courses from the ESC-I group **except, 22ESC142-Introduction to Electrical Engineering and ECE/ETC/BM/ML** students shall opt any one of the courses from ESC-I **except 22ESC143 Introduction to Electronics** Engineering
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- 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