(Autonomous Institution Affiliated to VTU, 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 Sen	nester (Civil E	Engineering S	Stream)	Dept CV			hing /Week			istry G	roup		
SI. No	Course and Course Code		Course Title	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	uration in hours	CIE Marks	SEE Marks	Total Marks	Credits
		1			L	Т	Р	S	D				
1	*ASC(IC)	**22MATC11	Mathematics for Civil Engg Stream-I	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22CHEC12	Chemistry for Civil Engg Stream-I	Chemistry	2	2	2	0	03	50	50	100	04
3	ESC	22CED13	Computer-Aided Engineering Drawing	Civil/Mech Engg dept	2	0	2	0	03	50	50	100	03
4	ESC-I	22ESC144	Introduction to Mechanical Engineering	Respective Dept	3	0	0	0	03	50	50	100	03
5	PLC-I	22PLC15B	Introduction to Python Programming	Any Dept	2	0	2	0	03	50	50	100	03
6	AEC	22ENG16	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMS	22IC017	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
8	HSMS	22SFH18	Scientific Foundations of Health	Any Dept	1	0	0	0	01	50	50	100	01
				TOTAL	15	06	10	00	27	400	400	800	20

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)

*-22MAT11 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.

#-22CHEC12- 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:	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
2-hoursTutorial(T) per week=1Credit	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, everyregular 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.

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	(ESC-I) Engineering Science Courses-I					(ETC-I) Emerging Technology Courses-I			
Code	Title	L	Τ	Р	Code	Title	L	Τ	F
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	Introduction to Nano Technology	3	0	0
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Sustainable Engineering	3	0	0
22ESC145	Introduction to C Programming	2	0	2	22ETC15E	Renewable Energy Sources	3	0	0
					22ETC15F	Waste Management	3	0	0
					22ETC15G	Emerging Applications of Biosensors	3	0	0
					22ETC15H	Introduction to Internet of Things (IOT)	3	0	0
					22ETC15I	Introduction to Cyber Security	3	0	0
(PLC-I) Prog	gramming Language Courses-I								-
Code	Title	L	Τ	Ρ					
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 course	22ESC145/245, Introduction to C Program	nmin	g, a	nd a	all courses un	der PLC and ETC groups can be taught by facu	lty o	f AN	IY
DEPARTME	NT		-				-		

- 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**, **22ESC141-IntroductiontoCivil 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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(Autonomous Institution Affiliated to VTU, 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 Sei	II Semester (Civil Engineering Stream) Dept CV (For the students who attended I semester under Chemistry Group)												
						Teac Hours/				Exami	nation		
SI. No	Course CourseC		Course Title	TD/PSB	н Theory Lecture	H Tutorial	ط Practical/ Drawing	sDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	*ASC (IC)	**22MATC21	Mathematics for Civil Engineering-II	Maths	2	2	2	0	03	50	50	100	04
2	#ASC (IC)	22PHYC22	Physics for Civil Engineering	РНҮ	2	2	2	0	03	50	50	100	04
3	ESC	22CIV23	Engineering Mechanics	Civil Engineering Dept	2	2	0	0	03	50	50	100	03
4	ESC-II	22ESC245	Introduction to C Programming	Respective Engg Dept	2	0	2	0	03	50	50	100	03
5	ETC-II	22ETC25B/ 22ETC25D	Green Building/ Introduction to Sustainable Engineering	Any Dept	3	0	0	0	03	50	50	100	03
6	AEC	22PWS26	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
7	НЅМС	22KSK27 22KBK27	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	01
8	AEC/SDC	22IDT28	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	01
				TOTAL						400	400	800	20
Emer CIE –	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) *-22MATC21 Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers. ** The												
mat	nathematics subject should be taught by single faculty member per division, with no sharing of the course(subject)module-wise by different faculty												



members.

#-22PHYC22 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	Τ	Р	Code	Title	L	Τ	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	Introduction to Nano Technology	3	0	0
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0
22ESC245	Introduction to C Programming	2	0	2	22ETC25E	Renewable Energy Sources	3	0	0
					22ETC25F	Waste Management	3	0	0
					22ETC25G	Emerging Applications of Biosensors	3	0	0
					22ETC25H	Introduction to Internet of Things(IoT)	3	0	0
					22ETC25I	Introduction to Cyber Security	3	0	0
(PLC-II) Pro	gramming Language Courses-II								
Code	Title	L	Τ	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 course	22ESC145/245, Introduction to C Program	nmin	ıg, a	nd a	all courses ur	der PLC and ETC groups can be taught by facu	lty o	f AN	IY
DEDADTME	NIT		-			• •	-		

- 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**, **22ESC241** 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



Scheme of Teaching and Examinations-2022

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

(Effective from the academic year 2022-23)

I Sem	nester (CSE	Stream)		Dept CSE						(Ph	ysics Gr	oup)	
						Teacl Hours/				Examir	nation		
SI. No	Course ai co	nd course de	Course title	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	;
					L	Т	Р	S					
1	*ASC(IC)	**22MATS11	Mathematics for CSE Stream-I	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22PHYS12	Physics for CSE stream	Physics	2	2	2	0	03	50	50	100	04
3	ESC	22POP13	Principles of Programming Using C	CSE	2	0	2	0	03	50	50	100	03
4	ESC-I	22ESC144	Introduction to Mechanical Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	ETC-I	22ETC15H	Introduction to Internet of Things (IoT)	Any Dept	3	0	0	0	03	50	50	100	03
6	AEC	22ENG16	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMC	22KSK17 22KBK17	Samskrutika Kannada/ BalakeKannada	Humanities	1	0	0	0	01	50	50	100	01
8	AEC/SDC	22IDT18	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	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:	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
2-hoursTutorial(T) per week=1Credit	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 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.

*-22MATS11 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.

#-22PHYS12 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 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	Т	P	Code	Title	L	Т	Р
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	Introduction to Nano Technology	3	0	0
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Sustainable Engineering	3	0	0
22ESC145	Introduction to C Programming	2	0	2	22ETC15E	Renewable Energy Sources	3	0	0
					22ETC15F	Waste Management	3	0	0
					22ETC15G	Emerging Applications of Biosensors	3	0	0
					22ETC15H	Introduction to Internet of Things (IOT)	3	0	0
					22ETC15I	Introduction to Cyber Security	3	0	0
(PLC-I) Prog	gramming Language Courses-I								1
Code	Title	L	Т	P					1
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 course DEPARTME		imin	g, a	nd a	all courses un	ider PLC and ETC groups can be taught by ANY			

- 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**, **22ESC145-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

II Semes			David	e academic year 202	-		J		J 1 et				
	ster (CSE Str	eamj	Dept		()		hing	tende		nester un		/sics Gr	oup
SI. No	Course and Course Code		ourse Course Title		Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	;
					L	Т	Р	S	0				
1	*ASC(IC)	**22MATS21	Mathematics for CSE Stream-II	Maths	2	2	2	0	03	50	50	100	0
2	#ASC(IC)	22CHES22	Chemistry for CSE Stream	Chemistry	2	2	2	0	03	50	50	100	0
3	ESC	22CED23	Computer-Aided Engineering Drawing	Civil/Mech Engg dept	2	0	2	0	03	50	50	100	0
4	ESC-II	22ESC243	Introduction to Electronics Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	0
5	PLC-II	22PLC25D	Introduction to C++ Programming	Any Dept	2	0	2	0	03	50	50	100	0
6	AEC	22PWS26	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	0
7	HSMS	22IC027	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	0
8	HSMS	22SFH28	Scientific Foundations of Health	Any Dept	1	0	0	0	01	50	50	100	0

Internal Evaluation, SEE- Semester End Examination, IC – Integrated Course (Theory Course Integrated with Practical Course)

*-22MATS21 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.

#-22CHES22- 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	Т	P	Code	Title	L	Τ	Р
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22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0
22ESC245	Introduction to C Programming	2	0	2	22ETC25E	Renewable Energy Sources	3	0	0
					22ETC25F	Waste Management	3	0	0
					22ETC25G	Emerging Applications of Biosensors	3	0	0
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					22ETC25I	Introduction to Cyber Security	3	0	0
(PLC-II) Pro	gramming Language Courses-II								
Code	Title	L	Т	Р					
22PLC25A	Introduction to Web Programming	2	0	2					
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22PLC25D	Introduction to C++ Programming	2	0	2					
The course	22ESC145/245, Introduction to C Progr	amr	ning	g, a	nd all course	es under PLC and ETC groups can be taugh	t by	AN	Y
DEPARTME	NT								

- 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**, **22ESC245-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
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(Autonomous Institution Affiliated to VTU, 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 Sem	I Semester (CSE Stream) Dept AI/ML (Physics Group)												
						Teacl Hours/				Examir	nation		
SI. No	Course ar coi		Course title	TD/PSB	г Theory Lecture	L Tutorial	ਚ Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
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7	HSMC	22KSK17 22KBK17	Samskrutika Kannada/ BalakeKannada	Humanities	1	0	0	0	01	50	50	100	01
8	AEC/SDC	22IDT18	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	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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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.

*-22MATS11 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.

#-22PHYS12 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 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	Т	P	Code	Title	L	Т	Р
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	Introduction to Nano Technology	3	0	0
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Sustainable Engineering	3	0	0
22ESC145	2	0	2	22ETC15E	Renewable Energy Sources	3	0	0	
					22ETC15F	Waste Management	3	0	0
					22ETC15G	Emerging Applications of Biosensors	3	0	0
					22ETC15H	Introduction to Internet of Things (IOT)	3	0	0
					22ETC15I	Introduction to Cyber Security	3	0	0
(PLC-I) Prog	gramming Language Courses-I								1
Code	Title	L	Т	P					1
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 course DEPARTME		imin	g, a	nd a	all courses un	ider PLC and ETC groups can be taught by ANY			

• 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**, **22ESC145-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

	Character ster		-	n Affiliated to d Examinations and Choice Based (academic year 202	VTU, -2022 Credit S <u>y</u> 22-23)	Bela ystem	gavi) (CBCS)						
II Sem	ester (CSE Sti	ream)	Dept	AI/ML		idents at	ttende	d 1 st sen			ysics Gr	oup)	
				TD/PSB		Hours	ours/Week		E	xaminatio	n		
SI. No	- Course and Course		0 m'+1		Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	Т	Р	S	Д				
1	*ASC(IC)	**22MATS21	Mathematics for CSE Stream-II	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22CHES22	Chemistry for CSE Stream	Chemistry	2	2	2	0	03	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	22ESC244	Introduction to Mechanical Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	PLC-II	22PLC25D	Introduction to C++ Programming	Any Dept	2	0	2	0	03	50	50	100	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
8	HSMS	22SFH28	Scientific Foundations of Health	Any Dept	1	0	0	0	01	50	50	100	01
				TOTAL						400	400	800	20
	-		FD/PSB- Teaching Department / Paper Setting hancement Course, HSMS -Humanity and Social				-		-			-	g

Internal Evaluation, SEE- Semester End Examination, IC – Integrated Course (Theory Course Integrated with Practical Course)

*-22MATS21 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.

#-22CHES22- 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	Τ	P	Code	Title	L	Τ	Р
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	Introduction to Nano Technology	3	0	0
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0
22ESC245	22ESC245 Introduction to C Programming			2	22ETC25E	Renewable Energy Sources	3	0	0
					22ETC25F	Waste Management	3	0	0
					22ETC25G	Emerging Applications of Biosensors	3	0	0
					22ETC25H	Introduction to Internet of Things(IoT)	3	0	0
					22ETC25I	Introduction to Cyber Security	3	0	0
(PLC-II) Pro	gramming Language Courses-II								
Code	Title	L	Т	Р					
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					
	22ESC145/245, Introduction to C Progr	amr	ning	g, a	nd all course	es under PLC and ETC groups can be taugh	t by	AN	Y
DEPARTME	IN I								

- 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**, **22ESC245-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

(Autonomous Institution Affiliated to VTU, 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 (CSE Stream) Dept - ISE (For Chemistry Group)														
							:hing /Week		I	Examinatio	on			
SI. Course and Course No Code				TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks Total Marks		Curveliter	
					L	Т	Р	S	I					
1	*ASC(IC)	**22MATS11	Mathematics for CSE Stream-I	Maths	2	2	2	0	03	50	50	100	04	
2	#ASC(IC)	22CHES12	Chemistry for CSE Stream	Chemistry	2	2	2	0	03	50	50	100	04	
3	ESC	22CED13	Computer-Aided Engineering Drawing	Civil/Mech Engg dept	2	0	2	0	03	50	50	100	03	
4	ESC-I	22ESC143	Introduction to Electronics Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	03	
5	PLC-I	22PLC15B	Introduction to Python Programming	Any Dept	2	0	2	0	03	50	50	100	03	
6	AEC	22ENG16	Communicative English	Humanities	1	0	0	0	01	50	50	100	01	
7	HSMS	22IC017	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01	
8	HSMS	22SFH18	Scientific Foundations of Health	Any Dept	1	0	0	0	01	50	50	100	0	
				TOTAL						400	400	800	20	

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)

*-22MATS11 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. #-22CHES12- 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 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	03-Credits courses are to be designed for 40 hours of Teaching-Learning Session
2- hours Practical / Drawing (P) per week=1Credit	02- Credits courses are to be designed for 25 hours of Teaching-Learning Session
2-hous Skill Development Actives (SDA) per week = 1 Credit	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 timeduring the semester weekends, and holidays, as per the liking and convenience of the student from the year of entry to the program. However, the minimumhours' 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	Т	P	Code	Title	L	Т	Р
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	Introduction to Nano Technology	3	0	0
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Sustainable Engineering	3	0	0
22ESC145	22ESC145 Introduction to C Programming			2	22ETC15E	Renewable Energy Sources	3	0	0
					22ETC15F	Waste Management	3	0	0
					22ETC15G	Emerging Applications of Biosensors	3	0	0
					22ETC15H	Introduction to Internet of Things (IOT)	3	0	0
					22ETC15I	Introduction to Cyber Security	3	0	0
(PLC-I) Prog	gramming Language Courses-I								
Code	Title	L	Т	Р					
22PLC15A	Introduction to Web Programming	2	0	2					1
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 course	22ESC145/245, Introduction to C Prog	ramr	ning	g, a :	nd all course	es under PLC and ETC groups can be taugh	t by	AN	Y

- 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**, **22ESC145-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

6	ಸದ್ಯ ಮನ್ನ			he academic year 20	22-23)	5		- 1 d at				<u> </u>	
Sen	iester (LSE	r (CSE Stream) Dept ISE				Teach Teach Hours/	ning	ea I st	semeste	er under Examin	Chemist	ry Gro	up)
SI. Course and Course No Code		0 1111		TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	Т	Р	S			50	100	
1	*ASC(IC)	**22MATS21	Mathematics for CSE Stream -II	Maths	2	2	2	0	03	50	50	100	(
2	#ASC(IC)	22PHYS22	Physics for CSE Stream	Physics	2	2	2	0	03	50	50	100	(
3	ESC	22P0P23	Principles of Programming Using C	CSE	2	0	2	0	03	50	50	100	(
4	ESC-II	22ESC244	Introduction to Mechanical Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	C
5	ETC-II	22ETC25H	Introduction to Internet of Things (IoT)	Any Dept	3	0	0	0	03	50	50	100	(
5	AEC	22PWS26	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	
7	HSMC	22KSK27 22KBK27	Samskrutika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	
8	AEC/SDC	22IDT28	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	
				TOTAL						400	400	800	

*-22MATS21 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.

#-22PHYS22 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 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 MCQ

	(ESC-II) Engineering Science Courses-II					(ETC-II) Emerging Technology Courses-II	y Courses-II			
Code	Title	L	Т	P	Code	Title	L	Τ	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	Introduction to Nano Technology	3	0	0	
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0	
22ESC245 Introduction to C Programming			0	2	22ETC25E	Renewable Energy Sources	3	0	0	
					22ETC25F	Waste Management	3	0	0	
					22ETC25G	Emerging Applications of Biosensors	3	0	0	
					22ETC25H	Introduction to Internet of Things (IoT)	3	0	0	
					22ETC25I	Introduction to Cyber Security	3	0	0	
(PLC-II) Pro	gramming Language Courses-II									
Code	Title	L	Т	Р						
22PLC25A	Introduction to Web Programming	2	0	2						
22PLC25B	Introduction to Python Programming	2	0	2					1	
22PLC25C	Basics of JAVA programming	2	0	2						
22PLC25D	Introduction to C++ Programming	2	0	2					i)	
The course	22ESC145/245, Introduction to C Prog	ramr	ning	g, a	nd all course	es under PLC and ETC groups can be taugh	t by	AN	Y	
DEPARTME	NT									

- 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**, **22ESC245-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



(Autonomous Institution Affiliated to VTU, 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 & El	ectronics Engineering Stream)	Dept EEE					(For Physics Group						
					Teac	hing Ho	urs / Wee	k		Examir	nation				
Sl. No	Course Course		Course Title	TD/PSB	г Theory Lecture	L Tutorial	H Practical/ Drawing	s SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits		
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	РНҮ	2	2	2	0	03	50	50	100	04		
3	ESC	22EEE13	# Element of Electrical Engineering	EEE/ECE/TCE	2	2	0	0	03	50	50	100	03		
4	ESC-I	22ESC145	Introduction to C Programming	Respective Engg Dept	2	0	2	0	03	50	50	100	03		
5	ETC-I	22ETC15E	Renewable Energy Sources	Any Dept	3	0	0	0	03	50	50	100	03		
6	AEC	22ENG16	Communicative English	Humanities	1	0	0	0	01	50	50	100	01		
7	HSMC	22KSK17/ 22KBK17	Samskrutika Kannada/ BalakeKannada	Humanities	1	0	0	0	01	50	50	100	01		
8 AEC/SDC 22IDT18 Innovation and Design Thinking		Any Dept	0	2	0	0	02	50	50	100	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
2-hoursTutorial (T) per week=1Credit	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 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. ** 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.

#-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	Т	P	Code	Title	L	Τ	Р				
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	Introduction to Nano Technology	3	0	0				
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Sustainable Engineering	3	0	0				
22ESC145	22ESC145 Introduction to C Programming			2	22ETC15E	Renewable Energy Sources	3	0	0				
					22ETC15F	Waste Management	3	0	0				
					22ETC15G	Emerging Applications of Biosensors	3	0	0				
				22ETC15H	Introduction to Internet of Things (IOT)	3	0	0					
					22ETC15I	Introduction to Cyber Security	3	0	0				
(PLC-I) Prog	gramming Language Courses-I												
Code	Title	L	Т	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 course	22ESC145/245, Introduction to C Program	nmin	g, a	nd a	all courses ur	der PLC and ETC groups can be taught by facu	lty o	f AN	Y				
DEPARTME	NT												

- 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

II Com			MS INSTITUTE OF TECH (Autonomous Institution Scheme of Teaching and Outcome-Based Education (OBE): (Effective from the	Affiliated to d Examination and Choice Based academic year 2	b VTU, s-2022 l Credit S 022-23)	Bela ystem	gavi) (CBCS)			mostor	und on Dia	wing		
II Semester (Electrical & Electronics Engineering Stream) Dept EE (For the students who attended 1st semester under Physics Group) II Semester (Electrical & Electronics Engineering Stream) Dept EE (For the students who attended 1st semester under Physics Group) II Semester (Electrical & Electronics Engineering Stream) Dept EE (For the students who attended 1st semester under Physics Group) II Semester (Electrical & Electronics Engineering Stream) Dept EE (For the students who attended 1st semester under Physics Group) II Semester (Electrical & Electronics Engineering Stream) Dept EE (For the students who attended 1st semester under Physics Group) II Semester (Electrical & Electronics Engineering Stream) Dept EE (For the students who attended 1st semester under Physics Group) II Semester (Electrical & Electronics Engineering Stream) Establisher Establisher II Semester (Electrical & Electronics Engineering Stream) Establisher Establisher														
SI. No		nd Course de	Course Title	TD/PSB	н Theory Lecture	Tutorial	A Practical/	o SDA	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	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	22ESC243	Introduction to Electronics Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	03	
5	PLC-II	22PLC25D	Introduction to C++ Programming	Any Dept	2	0	2	0	03	50	50	100	03	
6	AEC	22PWS26	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01	
7	HSMS	22IC027	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01	
8	HSMS	22SFH28	Scientific Foundations of Health	Any Dept.	1	0	0	0	01	50	50	100	01	
				TOTAL						400	400	800	20	
echno	logy Course, A l	EC- Ability Enha	D/PSB- Teaching Department / Paper Setting Bo ancement Course, HSMS- Humanity and Social So ination, IC – Integrated Course (Theory Course I	ience and Manage	ment Cou	rse, SD								

*-22MATE21 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.

#-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	Τ	P	Code	Title	L	Τ	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	Introduction to Nano Technology	3	0	0
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0
22ESC245	Introduction to C Programming	2	0	2	22ETC25E	Renewable Energy Sources	3	0	0
					22ETC25F	Waste Management	3	0	0
					22ETC25G	Emerging Applications of Biosensors	3	0	0
					22ETC25H	Introduction to Internet of Things(IoT)	3	0	0
					22ETC25I	Introduction to Cyber Security	3	0	0
(PLC-II) Pro	gramming Language Courses-II						+	<u> </u>	
Code	Title	L	Т	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 course 22ESC145/245, 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.

• 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

		BI	MS INSTITUTE OF TEC (Autonomous Instituti Scheme of Teaching Outcome-Based Education (OE (Effective from t	on Affiliated to and Examinations	VTU, -2022 Credit S	Bela	gavi)		ENT				
I Sem	ester (Electri	cal & Electron	ics Engineering Stream)	Dept ECE	Tea	ching H	ours/Wee	k		or Chemi		up)	
SI. No		nd Course de	Course Title	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	s SDA	Duration in hours	Examinatio CIE Warks W	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	50	50	100	04
3	ESC	22CED13	Computer-Aided Engineering Drawing	Mechanical	2	0	2	0	03	50	50	100	03
4	ESC-I	22ESC142	Introduction to Electrical Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	PLC-I	22PLC15B	Introduction to Python Programming	Any Dept.	2	0	2	0	03	50	50	100	03
6	AEC	22ENG16	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMS	22IC017	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
8	HSMS	22SFH18	Scientific Foundations of Health	Any Dept.	1	0	0	0	01	50	50	100	01
				TOTAL						400	400	800	20

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)

*-22MATE11 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. #-22CHEE12- 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:	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	03-Credits courses are to be designed for 40 hours of Teaching-Learning Session
2- hours Practical / Drawing (P) per week=1Credit	02- Credits courses are to be designed for 25 hours of Teaching-Learning Session
2-hous Skill Development Actives (SDA) per week = 1 Credit	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 timeduring the semester weekends, and holidays, as per the liking and convenience of the student from the year of entry to the program. However, the minimumhours' 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	Τ	P	Code	Title	L	Τ	Р
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	Introduction to Nano Technology	3	0	0
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Sustainable Engineering	3	0	0
22ESC145	Introduction toC Programming	2	0	2	22ETC15E	Renewable Energy Sources	3	0	0
					22ETC15F	Waste Management	3	0	0
					22ETC15G	Emerging Applications of Biosensors	3	0	0
					22ETC15H	Introduction to Internet of Things (IOT)	3	0	0
					22ETC15I	Introduction to Cyber Security	3	0	0
(PLC-I) Prog	gramming Language Courses-I								
Code	Title	L	Τ	Р					
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 course	22ESC145/245, Introduction to C Program	ımin	ig, a	nd a	all courses un	der PLC and ETC groups can be taught by facu	lty o	f AN	Y
DEPARTME	NT								

- 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



(Autonomous Institution Affiliated to VTU, 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 Sen	nester (Elect	rical & Electro	nics Engineering Stream) Dept E	CE (For stu				st semes	ter unde	er Chemi	stry Gr	oup)
						Teaching	g Hours/V	Veek		Examir	nation		
SI. No		and Course ode	Course Title	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	Т	Р	S	-				
1	*ASC(IC)	**22MATE21	Mathematics for EES-II	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22PHYE22	Physics for EES	РНҮ	2	2	2	0	03	50	50	100	04
3	ESC	22BEE23	## Basic Electronics	EEE/ECE/ETE	3	0	0	0	03	50	50	100	03
4	ESC -II	22ESC245	Introduction to C Programming	Respective Engg Dept.	2	0	2	0	03	50	50	100	03
5	ETC-II	22ETC25H	Introduction to Internet of Things (IoT)	Any Dept	3	0	0	0	03	50	50	100	03
6	AEC	22PWS26	Professional Writing Skills in 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
8	AEC/SDC	22IDT28	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	01
				TOTAL						400	400	800	20

Electrical & Electronics Engineering Students have to study 22EEE23- Elements of Electrical Engineering compulsorily ## Whereas Electronics and allied stream students have to study 22BEE23 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)

*-22MATE21 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. #-22PHYE22 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	Τ	P	Code	Title	L	Τ	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	Introduction to Nano Technology	3	0	0
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0
22ESC245	Introduction to C Programming	2	0	2	22ETC25E	Renewable Energy Sources	3	0	0
					22ETC25F	Waste Management	3	0	0
					22ETC25G	Emerging Applications of Biosensors	3	0	0
					22ETC25H	Introduction to Internet of Things(IoT)	3	0	0
					22ETC25I	Introduction to Cyber Security	3	0	0
(PLC-II) Pro	gramming Language Courses-II								
Code	Title	L	Τ	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 course	22ESC145/245, Introduction to C Program	nmin	ig, a	nda	all courses ur	der PLC and ETC groups can be taught by facu	llty o	f AN	Y

DEPARTMENT

- 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**, **22ESC242-Introduction to Electrical Engineering** and **ECE/ETC/BM/ML** students shall opt any one of the courses from ESC-I **except 22ESC243 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

			(Autonomous Institut Scheme of Teaching Outcome-Based Education (O (Effective from	and Examinations-	2022 Credit Sy								
Seme	ester (Electri	cal & Electron	ics Engineering Stream)	Dept ETE	Тор	ching U	ours/Wee	lr.		or Chemi		up)	
SI. No		nd Course de	Course Title	TD/PSB	Theory Lecture	Tutorial	A Drawing A	sDA	Duration in hours	CIE CIE Marks Marks	a SEE Marks	Total Marks	Credite
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	50	50	100	04
3	ESC	22CED13	Computer-Aided Engineering Drawing	Mechanical	2	0	2	0	03	50	50	100	03
4	ESC-I	22ESC142	Introduction to Electrical Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	PLC-I	22PLC15B	Introduction to Python Programming	Any Dept.	2	0	2	0	03	50	50	100	03
6	AEC	22ENG16	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
7	HSMS	22IC017	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
8	HSMS	22SFH18	Scientific Foundations of Health	Any Dept.	1	0	0	0	01	50	50	100	01
				TOTAL						400	400	800	20

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)

*-22MATE11 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. #-22CHEE12- 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:	04-Credits courses are to be designed for 50 hours of Teaching-Learning Session
3- 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	03-Credits courses are to be designed for 40 hours of Teaching-Learning Session
4- hours Practical / Drawing (P) per week=1Credit	02- Credits courses are to be designed for 25 hours of Teaching-Learning Session
2-hous Skill Development Actives (SDA) per week = 1 Credit	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 timeduring the semester weekends, and holidays, as per the liking and convenience of the student from the year of entry to the program. However, the minimumhours' 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	Τ	P	Code	Title	L	Τ	Р
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	Introduction to Nano Technology	3	0	0
22ESC144	Introduction to Mechanical Engineering	3	0	0	22ETC15D	Introduction to Sustainable Engineering	3	0	0
22ESC145	Introduction toC Programming	2	0	2	22ETC15E	Renewable Energy Sources	3	0	0
					22ETC15F	Waste Management	3	0	0
					22ETC15G	Emerging Applications of Biosensors	3	0	0
					22ETC15H	Introduction to Internet of Things (IOT)	3	0	0
					22ETC15I	Introduction to Cyber Security	3	0	0
(PLC-I) Prog	gramming Language Courses-I								
Code	Title	L	Т	Р					
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 course 2	22ESC145/245, Introduction to C Program	nmin	ig, a	nd a	all courses un	der PLC and ETC groups can be taught by facu	lty o	f AN	Y
DEPARTME	NT								

- 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

	nester (Elect		MS INSTITUTE OF TEC (Autonomous Instituti Scheme of Teaching a Outcome-Based Education (OE (Effective from t nics Engineering Stream) Dept E	on Affiliated to and Examination E)and Choice Based the academic year 20	5 VTU, s-2022 Credit S	Bela	gavi) (CBCS)			tor unde	or Chomi	ictry Gr	oup)
II Sel	iester (Liett						Hours/V		Jennes	Examin		isti y ui	oupj
SI. No		and Course code	Course Title	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	Т	Р	S					
1	*ASC(IC)	**22MATE21	Mathematics for EES-II	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22PHYE22	Physics for EES	РНҮ	2	2	2	0	03	50	50	100	04
3	ESC	22BEE23	##Basic Electronics	EEE/ECE/ETE	3	0	0	0	03	50	50	100	03
4	ESC -II	22ESC245	Introduction to C Programming	Respective Engg Dept.	2	0	2	0	03	50	50	100	03
5	ETC-II	22ETC25H	Introduction to Internet of Things (IoT)	Any Dept	3	0	0	0	03	50	50	100	03
6	AEC	22PWS26	Professional Writing Skills in 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
8	AEC/SDC	22IDT28	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	01
				TOTAL						400	400	800	20

Electrical & Electronics Engineering Students have to study 22EEE23- Elements of Electrical Engineering compulsorily ## Whereas Electronics and allied stream students have to study 22BEE23 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)

*-22MATE21 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. #-22PHYE22 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	Τ	Ρ	Code	Title	L	Τ	Р
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	Introduction to Nano Technology	3	0	0
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0
22ESC245	Introduction to C Programming	2	0	2	22ETC25E	Renewable Energy Sources	3	0	0
					22ETC25F	Waste Management	3	0	0
					22ETC25G	Emerging Applications of Biosensors	3	0	0
					22ETC25H	Introduction to Internet of Things(IoT)	3	0	0
					22ETC25I	Introduction to Cyber Security	3	0	0
(PLC-II) Pro	gramming Language Courses-II								
Code	Title	L	Τ	Ρ					
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 course	22ESC145/245, Introduction to C Program	nmin	ig, a	nd a	all courses un	der PLC and ETC groups can be taught by facu	llty o	f AN	Y
DEDADTME									

DEPARTMENT

- 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**, **22ESC242-Introduction to Electrical Engineering** and **ECE/ETC/BM/ML** students shall opt any one of the courses from ESC-I **except 22ESC243 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

(Autonomous Institution Affiliated to VTU, 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 Sem	I Semester (Mechanical Engineering Stream) Dept ME (For Physics Group)												
						Teacl Hours/			Examination				
SI. No	Course a Course (Course Title	TD/PSB		Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	Т	Р	S					
1	*ASC(IC)	**22MATM11	Mathematics for MES-I	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22PHYM12	Physics for MES	РНҮ	2	2	2	0	03	50	50	100	04
3	ESC	22EME13	Elements of Mechanical Engineering	Mechanical	2	2	0	0	03	50	50	100	03
4	ESC-I	22ESC145	Introduction to C Programming	Respective Engg Dept.	2	0	2	0	03	50	50	100	03
5	ETC-I	22ETC15A	Smart Materials and Systems	Any Dept	3	0	0	0	03	50	50	100	03
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
8	AEC/SDC	22IDT18	Innovation and Design Thinking	Any Dept	0	2	0	0	02	50	50	100	01
								400	400	800	20		
Emer	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)												

20112022/V6 Tentative Scheme for ME/IPE/AE/AU/CH/ST/TX/AG/AM/MS/MR/MM/MT/PC/RA/RI

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
2-hoursTutorial(T) per week=1Credit	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 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.

*-22MATM11 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.

#-22PHYM12 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

20112022/V6 Tentative Scheme for ME/IPE/AE/AU/CH/ST/TX/AG/AM/MS/MR/MM/MT/PC/RA/RI

	(ESC-I) Engineering Science Courses-I					(ETC-I) Emerging Technology Courses-I						
Code	Title		Τ	P	Code	Title	L	Τ	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	43 Introduction to Electronics Engineering		0	0	22ETC15C	Introduction to Nano Technology	3	0	0			
22ESC144	Introduction to Mechanical Engineering	Iechanical Engineering 3 0 0 22ETC15D Introduction to Sustainable Engineering		Introduction to Sustainable Engineering	3	0	0					
22ESC145	Introduction toC Programming	2	0	2	22ETC15E	Renewable Energy Sources	3	0	0			
					22ETC15F	Waste Management	3	0	0			
					22ETC15G	Emerging Applications of Biosensors	3	0	0			
					22ETC15H	Introduction to Internet of Things (IOT)	3	0	0			
					22ETC15I	Introduction to Cyber Security	3	0	0			
(PLC-I) Prog	gramming Language Courses-I											
Code	Title	L	Τ	Р								
22PLC15A	Introduction to Web Programming	2	0	2								
22PLC15B	Introduction to Python Programming	2	0	2								
22PLC15C	Basics to JAVA programming	2	0	2								
22PLC15D	Introduction to C++ Programming	2	0	2								
The course	22ESC145/245, Introduction to C Program	nmin	g, a	nd a	all courses un	der PLC and ETC groups can be taught by facu	lty of	AN	Y			
DEPARTME	NT											

- The student has to select one course from the ESC-I group.
- MES stream Students shall opt for any one of the courses from the ESC-I group **except**, **22ESC144-Introduction to Mechanical 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



(Autonomous Institution Affiliated to VTU, 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 (Mechanical Engineering Stream) Dept ME					for the st	Tead	s who at hing /Week	tend t	the 1 st semester under Physics (Examination				Group)
SI. No	Course ai Co	nd Course de	Course Title	TD/PSB	Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	*ASC(IC)	** 22MATM21	Mathematics for MES-II	Maths	L 2	т 2	<u>Р</u> 2	<u>s</u>	03	50	50	100	04
2	#ASC(IC)	22CHEM22	Chemistry for MES	Chemistry	2	2	2	0	03	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	22ESC243	Introduction to Electronics Engineering	Respective Engg Dept	3	0	0	0	03	50	50	100	03
5	PLC-II	22PLC25B	Introduction to Python Programming	Any Dept	2	0	2	0	03	50	50	100	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
8	AEC/SEC	22SFH28	Scientific Foundations for Health	Any Dept	1	0	0	0	01	50	50	100	01
TOTAL 400 400 800 2									20				

20112022/V6 Tentative Scheme for ME/IPE/AE/AU/CH/ST/TX/AG/AM/MS/MR/MM/MT/PC/RA/RI

*-22MATM21 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.

#-22CHEM22- 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	L T 3 0 3 0							
Code	Title	L	Τ	P	Code	Title	L	Т	P			
22ESC241	Introduction to Civil Engineering	3	0	0	22ETC25A	Smart materials and Systems		0	0			
22ESC242	Introduction to Electrical Engineering	3	0	0	22ETC25B	Green Buildings			0			
22ESC243	Introduction to Electronics Engineering	3	0	0	22ETC25C	Introduction to Nano Technology	3	0	0			
22ESC244	Introduction to Mechanical Engineering	3	0	0	22ETC25D	Introduction to Sustainable Engineering	3	0	0			
22ESC245	Introduction to C Programming	2	0	2	22ETC25E	Renewable Energy Sources	3	0	0			
					22ETC25F	Waste Management	3	0	0			
					22ETC25G	Emerging Applications of Biosensors	3	0	0			
					22ETC25H	Introduction to Internet of Things(IoT)	3	0	0			
					22ETC25I	Introduction to Cyber Security	3	0	0			
(PLC-II) Pro	gramming Language Courses-II											
Code	Title	L	Τ	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 course 2	22ESC145/245, Introduction to C Program	nmin	g, a	nd a	all courses un	der PLC and ETC groups can be taught by facu	lty o	f AN	Y			
DEPARTME	NT											

The student has to select one course from the ESC-II group.

2 Mechanical Engineering stream Students shall opt for any one of the courses from the ESC-II group except, 22ESC244-Introduction to Mechanical Engineering

The students have to opt for the courses from ESC group without repeating the course in either 1st or 2nd semester

 $\ensuremath{\mathbbmath$\mathbbms$}$ 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