Ser	nester (Civil	Engineering St		he academic year 20		,					(Physi	c Grou	ıp)
						Teac Hours				Examir	nation		
SI. No		rse and se Code	Lourse Title		Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	;
	****	000445044			L	Т	Р	S		50	F0	100	
1	*ASC(IC)	22MATC11	Mathematics for Civil Engg stream-I	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22PHYC12	Physics for Civil Engg Stream	РНҮ	2	2	2	0	03+02	50	50	100	04
				Civil	If of 2	fered as t 2	heory Cour 0	se 0	-				
3	ESC	22CIV13 Engineering Mechanics		Engineering			utegrated C		03	50	50	100	0
				Dept	2	0	2	0					ł
4	ESC-I	22ESC14x	Engineering Science Course-I	Respective Engg dept	3	0	0	0	03	50	50	100	0
	ETC-I	22ETC15x	Emerging Technology Course-I		3	0	0	0	03				ł
5	DI G I		OR	Any Engg. Dept		0			02.02	50	50	100	0
	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	0
		22KSK17/ 22KBK17	Samskrutika Kannada/ Balake Kannada							- 0	-	100	
7	HSMC		OR	Humanities	1	0	0	0	01	50	50	100	0
		22IC017	Indian Constitution										
		22IDT18	Innovation and Design Thinking		1	0	0	0	01				
8	AEC/SDC		OR	Any Dept			OR	I	<u>.</u>	50	50	100	0
		22SFH18	Scientific Foundations of Health		1	0	0	0	01				
	1			TOTAL		-	-	-		400	400	800	2

## 06112022/V5 Tentative Scheme for Civil Engineering and Allied branches (CV/EV/TR/CT)

**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)

	0 ( )
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 1<sup>st</sup> semester.

**AICTE Activity Points** to be earned by students admitted to BE/ B.Tech., / B. Plan day college program (For more details refer to Chapter 6, AICTE Activity Point Program, Model Internship Guidelines): Over and above the academic grades, every regular student admitted to the 4 years Degree program and every student entering 4 years Degree programs through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Program. Students transferred from other Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, any time during the semester weekends, and holidays, as per the liking and convenience of the student from the year of entry to the program. However, the minimum hour's requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, an Eighth Semester Grade Card shall be issued only after earning the required activity points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

\*-22MATC11 Shall have the 03 hours of theory examination(SEE), however, practical sessions question shall be included in the theory question papers #-22PHYC12 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 then the syllabus shall be designed as an Integrated course (L:T:P:S= 2:0:2:0).

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

## 06112022/V5 Tentative Scheme for Civil Engineering and Allied branches (CV/EV/TR/CT)

	(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	Operation and Maintenance of Solar Electric	3	0	0
						Systems			
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) Prog	gramming Language Courses-I			•					
Code	Title	L	Τ	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.

- Civil Engineering Students shall opt for any one of the courses from the ESC-I group **except**, **22ESC141-Introduction to Civil Engineering**
- The students have to opt for the courses from ESC group without repeating the course either 1<sup>st</sup> or 2<sup>nd</sup> semester
- The students must select one course from either ETC-I or PLC-I group.
- If students study the subject from ETC-I in 1<sup>st</sup> semester he/she has to select the course from PLC-II in the 2<sup>nd</sup> semester and vice-versa

			Visvesvaraya Technol <b>Scheme of Teaching</b> Outcome-Based Education(OBE) a (Effective from the	<b>, and Examinati</b> and Choice Based	ons-20 l Credit	22 2 Syste		CS)					
II Ser	nester (Civil l	Engineering					who at	tende	d I seme	ster un	ler Phy	sics Gr	oup )
					Ĩ		ching s/Week		I	Examinati			
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			L	Т	Р	S					
1	*ASC(IC)	22MAT21	Mathematics for Civil Engg Stream-II	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	22CHE22	Chemistry for Civil Engg Stream	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
	PLC-II	22PLC25x	Programming Language Course-II	Any Enga	2	0	2	0	03+02				
5			OR	Any Engg. Dept						50	50	100	03
	ETC-II	22ETC25x	Emerging Technology Course-II	- • • •	3	0	0	0	03				
6	AEC	22PWS26	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
		22ICO27	Indian Constitution										
7	HSMS		OR	Humanities	1	0	0	0	01	50	50	100	01
		22KSK27 22KBK27	Samskrutika Kannada/ Balake Kannada										
	HSMS	22SFH28	Scientific Foundations of Health	Any Dept	1	0	0	0	01	50	50	100	
8		•	OR	-					OR				01
	HSMS	22ITD29	Innovation and Design Thinking	Any	1	0	0	0	01	50	50	100	
				TOTAL						400	400	800	20

**SDA**-Skill Development Activities, **TD/PSB**- Teaching Department / Paper Setting Board, **ASC**-Applied Science Course, **ESC**- Engineering Science Courses, **ETC**-Emerging Technology Course, **AEC**- Ability Enhancement Course, **HSMS**-Humanity and Social Science and management Course, **SDC**- Skill Development Course, **CIE** -Continuous Internal Evaluation, **SEE**- Semester End Examination, **IC** – Integrated Course (Theory Course Integrated with Practical Course)

Credit Definition:	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 <b>(T)</b> 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
*-22MAT21 Shall have the 03 hours of theory examination(SEE), howe	ver, practical sessions question shall be included in the theory question papers

#-22CHE22- 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	Т	Р	Code	Title	L	Т	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	Operation and Maintenance of Solar Electric	3	0	0
						Systems			
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) 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					

• 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 1<sup>st</sup> or 2<sup>nd</sup> semester

• The students must select one course from either ETC-II or PLC-II group.

• If students study the subject from ETC-I in 1<sup>st</sup> semester he/she has to select the course from PLC-II in the 2<sup>nd</sup> semester and vice-versa

l Sen	ester (Civil	Engineering	(Effective from the <b>Stream)</b>				hing		(Chemistry Group )					
						Hours	/Week	1	Examination					
SI. No	Course an 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	*****	2214 4 77 1 1		N d	L	Т	P	S	03	50	50	100	04	
1	*ASC(IC)	22MAT11	Mathematics for Civil Engg Stream-I	Maths	2	2	2	0	03	50	50	100	04	
2	#ASC(IC)	22CHE12	Chemistry for Civil Engg Stream-I	Chemistry	2	2	2	0	03+02	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	22ESC14x	Engineering Science Course-I	Respective Dept	3	0	0	0	03	50	50	100	03	
	ETC-I	22ETC15x	Emerging Technology Course-I	Any	3	0	0	0	03					
5			OR	Engineering						50	50	100	03	
	PLC-I	22PLC15x	Programming Language Course-I	Dept	2	0	2	0	03+02					
6	AEC	22PWS16	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01	
		22IC017	Indian Constitution											
7	HSMS		OR	Humanities	1	0	0	0	01	50	50	100	01	
		22KSK17/ 22KBK17	Samskrutika Kannada/ Balake Kannada		-	Ū	Ũ							
	HSMS	22SFH18	Scientific Foundations of Health	Any Dept	1	0	0	0	01					
8			OR							50	50	100	01	
	HSMS	22ITD18	Innovation and Design Thinking	Any Dept	1	0	0	0	01					
	L			TOTAL	15	06	10	00	27	400	400	800	20	

*-22MAT11 Shall have the 03 hours of theory examination(SEE), ho	wever, practical sessions question shall be included in the theory question papers
#-22CHEC12- SEE shall have the 03 hours of theory examination an	d 02-03 hours of practical examination
ESC or ETC of 03 credits Courses shall have only a theory compon	ent (L:T :P:S=3:0:0:0) or if the nature the of course required practical learning syllabus shal
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 t	
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) Activ	ities under the Induction program – The main aim of the induction program is t
provide newly admitted students a broad understanding of so	ciety, relationships, and values. Along with the knowledge and skill of his/her study
students' character needs to be nurtured as an essential qual	ity by which he/she would understand and fulfill the responsibility as an engineer
The following activities are to be covered in 21 days. Physic	cal Activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules
Lectures by Eminent People, Visits to Local areas, Familiarizat	ion with Department/Branch and Innovation, etc. For details, refer the ANNEXURE
I of Induction Programs notification of the University publishe	
	D BE/ B.Tech., / B. Plan day college program (For more details refer to Chapter 6
	Over and above the academic grades, every regular student admitted to the 4 year
	rograms through lateral entry, shall earn 100 and 75 Activity Points respectively fo
	Students transferred from other Universities to the fifth semester are required t
	tivity Points earned shall be reflected on the student's eighth semester Grade Card
	g the semester weekends, and holidays, as per the liking and convenience of th
	minimum hour's requirement should be fulfilled. Activity Points (non-credit) do no
· ·	progression. In case students fail to earn the prescribed activity Points, an Eight
Vore actor Urada Cand chall be iccured only attan acressed the re-	aggirad activity points. Students shall be admitted for the award of the degree on
after the release of the Eighth semester Grade Card.	equired activity points. Students shall be admitted for the award of the degree on

	(ESC-I) Engineering Science Courses-I					(ETC-I) Emerging Technology Courses-I			
Code	Title	L	Т	P	Code	Title	L	Т	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) Prog	gramming Language Courses-I								
Code	Title	L	Т	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 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- Introduction to Civil Engineering** 

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

• The students must select one course from either ETC-I or PLC-I group.

• If students study the subject from ETC-I in 1<sup>st</sup> semester he/she has to select the course from PLC-II in the 2<sup>nd</sup> semester and vice-versa

			Stream)			Teac	ttende	4150		Exami		- <b>j</b>	<u>, 161</u>
						Hours	/Week			Exami	lation		1
SI. No		and Course ode	Course Title	TD/PSB	Theory Lecture		Drawing	o 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+02	50	50	100	04
				0: 11			heory Cou						
3	ESC	22CIV23	Elements of Civil Engineering	Civil Engineering	2	2	0	0	03	50	50	100	03
0	100			Dept	lf offer 2	ed as an in 0	tegrated C	ourse 0	05				03
4	ESC-II	22ESC24x	Engineering Science Course-II	Respective Engg Dept	3	0	0	0	03	50	50	100	03
	PLC-II	22PLC25x	Programming Language Course-II		2	0	2	0	03+02				
5			OR	Any Engg Dept						50	50	100	03
	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
		22KSK27 22KBK27	Samskrutika Kannada/ Balake Kannada				_			50	= 0	100	
7	HSMC		OR	Humanities	1	0	0	0	01	50	50	100	01
		22ICO27	Indian Constitution										
		22IDT28	Innovation and Design Thinking	Any	1	0	0	0					l
8	AEC/SDC		OR	Dept					01	50	50	100	01
		22SFH28	Scientific Foundations of Health		1	0	0	0					
				TOTAL Setting Board, ASC-Ap						400	400	800	20

**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	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	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) 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 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 1<sup>st</sup> or 2<sup>nd</sup> semester

• The students must select one course from either ETC-II or PLC-II group.

• If students study the subject from ETC-I in 1<sup>st</sup> semester he/she has to select the course from PLC-II in the 2<sup>nd</sup> semester and vice-versa