



SRI SRINIVASA EDUCATIONAL AND CHARITABLE TRUST®
SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to Visvesvaraya Technological University, Belagavi and Approved by AICTE, New Delhi)
 (Accredited by NAAC with "A" grade) Accredited by NBA (CSE, ECE, EEE, ISE, ME)
 (An ISO 9001:2015 & ISO 14001:2015 Certified)



CIVIL ENGINEERING

Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Experiential learning details through project work/field work/internship
FINAL YEAR				
Civil Engineering	CV	Design of Pre-Stressed concrete	18CV81	Flyash bricks
Civil Engineering	CV	Retrofitting and Rehabilitation	18CV824	Effect of sugarcane bagasse on the properties of concrete
Civil Engineering	CV	Quantity Surveying and Contract Management	18CV71	Red soil stabilization
Civil Engineering	CV	Design of RCC and Steel Structures	18CV72	Efficient construction using self-compacting concrete
Civil Engineering	CV	Pavement Materials and Construction	18CV733	Experimental study of plastic bricks
Civil Engineering	CV	Computer Aided Detailing of Structures	18CVL76	Stabilization of black cotton soil using fly ash and coir pith
Civil Engineering	CV	Geotechnical Engineering Laboratory	18CVL77	Plastic mix bituminous road
Civil Engineering	CV			Analysis of Intze water tank using STAAD.Pro
Civil Engineering	CV			Strength of concrete by using bacteria
Civil Engineering	CV			Analysis of Multi-storey buildings subjected to Blast load
THIRD YEAR				
Civil Engineering	CV	Construction Management and Entrepreneurship	HSMC 21CV61	Co2 As a Admixture For Concrete
Civil Engineering	CV	Concrete Technology	IPCC 21CV62	Types Of Beams
Civil Engineering	CV	Computer Aided Detailing of Structure	PCC 21CVL66	Concrete Bridge Model
Civil Engineering	CV	Mini Project	MP21CVMP67	Column Footing
Civil Engineering	CV	Innovation/Entrepreneurship /Societal Internship	21INT68	Floating Tiles
Civil Engineering	CV	Hydrology and Water Resources Engineering	BSC 21CV51	One Way Slab and Two-Way Slab
Civil Engineering	CV	Transportation Engineering	IPCC 21CV52	Types of Foundation
Civil Engineering	CV	Design of RC Structural Elements	PCC 21CV53	Geo-Polymer Bricks
Civil Engineering	CV	Geotechnical Engineering	PCC 21CV54	
Civil Engineering	CV	Geotechnical Engineering Lab	PCC 21CVL55	
SECOND YEAR				
Civil Engineering	CV	Analysis of Structures	BCV401	Concrete Bridge
Civil Engineering	CV	Fluid Mechanics and Hydraulics	BCV402	Swing Bridge
Civil Engineering	CV	Transportation Engineering	BCV403	Green buildings
Civil Engineering	CV	Building Materials Testing Lab	BCVL404	
Civil Engineering	CV	Strength of Materials	BCV301	
Civil Engineering	CV	Engineering Survey	BCV302	
Civil Engineering	CV	Engineering Geology	BCV303	
Civil Engineering	CV	Water Supply and Wastewater Engineering	BCV304	
Civil Engineering	CV	Computer Aided Building Planning and Drawing	BCV305	
FIRST YEAR				
Civil Engineering	CV	Applied Chemistry for Civil Engineering stream	BCHEC202	Flood /Drought Model

HOD, Dept. of Civil Engg.
S.C.E, Bangalore-560 057

Principal
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road.
Bangalore-560 057

Civil Engineering	CV	Applied Physics for Civil Stream	BPHYC102	Volcanic Eruption
Civil Engineering	CV	Engineering Mechanics	BCIVC103	Wind Mill Power Generation
				HOD, CIVIL

3

Principal
Sapthagiri College of Engineering
Chikkasandra, Hasaraghatta Road
Bangalore-560 057

2

HOD, Dept. of Civil Engg.
S.C.E, Bangalore-560 057

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18CV71	Quality Surveying and Contract Management	Civil Engg.	3	--	--	03	40	60	100	3
2	PCC	18CV72	Design of RCC and Steel Structures	Civil Engg.	3	--	--	03	40	60	100	3
3	PEC	18CV73X	Professional Elective - 2	Civil Engg.	3	--	--	03	40	60	100	3
4	PEC	18CV74X	Professional Elective - 3	Civil Engg.	3	--	--	03	40	60	100	3
5	OEC	18CV75X	Open Elective -B	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CVL76	Computer Aided Detailing of Structures	Civil Engg.	--	2	2	03	40	60	100	2
7	PCC	18CVL77	Geotechnical Engineering Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
8	Project	18CVP78	Project Work Phase - 1		--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					15	04	06	21	380	420	00	20
Note: PCC: Professional core, PEC: Professional Elective.												
Professional Elective - 2												
Course code under 18CV73X		Course Title										
18CV731		Theory of Elasticity										
18CV732		Air Pollution and Control										
18CV733		Pavement Materials & Construction										
18CV734		Ground Water Hydraulics										
18CV735		Masonry Structures										
Professional Electives - 3												
Course code under 18CV74X		Course Title										
18CV741		Earthquake Engineering										
18CV742		Design Concepts of Building Services										
18CV743		Reinforced Earth Structures										

Principal
 Sapthagiri College of Engineering
 Chikkasandra, Hesaraghatta Road,
 Bangalore-560 057

18CV744	Design of Hydraulic Structures
18CV745	Urban Transport Planning
Open Elective -B	
Course code under 18CV75X	Course Title
18CV751	Finite Element Method
18CV752	Numerical Methods and Applications
18CV753	Environmental Protection and Management
<p>Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).</p> <p>Selection of an open elective shall not be allowed if,</p> <ul style="list-style-type: none"> • The candidate has studied the same course during the previous semesters of the programme. • The syllabus content of open elective is similar to that of the Departmental core courses or professional electives. • A similar course, under any category, is prescribed in the higher semesters of the programme. <p>Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.</p>	
<p>Project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.</p> <p>CIE procedure for Project Work Phase - 1: (i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates.</p> <p>(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.</p> <p>Internship: All the students admitted to III year of BE/B. Tech shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.</p> <p>AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.</p>	


 Principal
 Sapthagiri College of Engineering
 Chikkasandra, Hesaraghatta Road,
 Bangalore-560 057

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

VIII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P					
1	PCC	18CV81	Design of Pre-stressed Concrete	Civil Engg.	3	--	--	03	40	60	100	3
2	PEC	18CV82X	Professional Elective - 4	Civil Engg.	3	--	--	03	40	60	100	3
3	Project	18CVP83	Project Work Phase - 2	Civil Engg.	--	--	16	03	40	60	100	8
4	Seminar	18CVS84	Technical Seminar	Civil Engg.	--	--	2	03	100	--	100	1
5	Internship	18CVI85	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	18	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18CV82X	Course Title
18CV821	Bridge Engineering
18CV822	Prefabricated Structures
18CV823	Advanced Foundation Engineering
18CV824	Rehabilitation & Retrofitting
18CV825	Pavement Design

Project Work

CIE procedure for Project Work Phase - 2:

(i) Single discipline: The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

Principal
 Sapthagiri College of Engineering
 Chikkasandra, Hasaraghatta Road.
 Bangalore-560 057

(i) Single discipline: Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) Interdisciplinary: Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).


Principal
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

B.E. in Civil Engineering

Scheme of Teaching and Examinations 2021

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

(Effective from the academic year 2021 - 22)

V SEMESTER

V SEMESTER												
Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question and Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Self -Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P	S					
1	BSC 21CV51	Hydrology and Water Resources Engineering	TD: Civil Engg PSB: Civil Engg	3	0	0		03	50	50	100	3
2	IPCC 21CV52	Transportation Engineering	TD: Civil Engg PSB: Civil Engg	2	2	2		03	50	50	100	4
3	PCC 21CV53	Design of RC Structural Elements	TD: Civil Engg PSB: Civil Engg	2	2	0		03	50	50	100	3
4	PCC 21CV54	Geotechnical Engineering	TD: Civil Engg PSB: Civil Engg	2	2	0		03	50	50	100	3
5	PCC 21CVL55	Geotechnical Engineering Lab	TD: Civil Engg PSB: Civil Engg	0	0	2		03	50	50	100	1
6	AEC 21RMI56	Research Methodology & Intellectual Property Rights	TD: Any Department PSB: As identified by University	1	2	0		02	50	50	100	2
7	HSMC 21CIV57	Environmental Studies	TD: Civil/ Environmental /Chemistry/ Biotech. PSB: Civil Engg	0	2	0		1	50	50	100	1
8	AEC 21CV58X	Ability Enhancement Course-V	Concerned Board	If offered as Theory courses				01	50	50	100	1
				0	2	0						
				If offered as lab. courses				02				
				0	0	2						
Total								400	400	800	18	


Ability Enhancement Course - V

21CV581	Data Analysis with Python	21CV584	Quality Control and Quality Assurance
21CV582	Software Applications	21CV585	Offshore Structures
21CV583	Gender Sensitization		

Note: BSC: Basic Science Course, PCC: Professional Core Course, IPCC: Integrated Professional Core Course, AEC –Ability Enhancement Course INT – Internship, HSMC: Humanity and Social Science & Management Courses.

L –Lecture, T – Tutorial, P- Practical/ Drawing, S – Self Study Component, CIE: Continuous Internal Evaluation, SEE: Semester End Examination.

Integrated Professional Core Course (IPCC): refers to Professional Theory Core Course Integrated with Practical of the same course. Credit for IPCC can be 04 and its Teaching – Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by CIE only and there shall be no SEE. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (BE/B.Tech.) 2021-22 may be referred.


 Principal
 Sapthagiri College of Engineering
 Chikkasandra, Hesaraghatta Road,
 Bangalore-560 057

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

B.E. in Civil Engineering

Scheme of Teaching and Examinations 2021

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

(Effective from the academic year 2021 - 22)

VI SEMESTER

VI SEMESTER												
Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Self -Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P	S					
1	HSMC 21CV61	Construction Management and Entrepreneurship	TD: Civil Engg PSB: Civil Engg	3	0	0		03	50	50	100	3
2	IPCC 21CV62	Concrete Technology	TD: Civil Engg PSB: Civil Engg	2	2	2		03	50	50	100	4
3	PCC 21CV63	Design of Steel structure	TD: Civil Engg PSB: Civil Engg	2	2	0		03	50	50	100	3
4	PEC 21CV64x	Professional Elective Course-I	TD: Civil Engg PSB: Civil Engg					03	50	50	100	3
5	OEC 21CV65x	Open Elective Course-I	Concerned Department					03	50	50	100	3
6	PCC 21CVL66	Computer Aided Detailing of Structure	TD: Civil Engg PSB: Civil Engg	0	0	2		03	50	50	100	1
7	MP 21CVMP67	Mini Project	TD: Civil Engg PSB: Civil Engg	Two contact hours /week for interaction between the faculty and students.				--	100	--	100	2
8	INT 21INT68	Innovation/Entrepreneurship /Societal Internship	Completed during the intervening period of IV and V semesters.				--	100	--	100	3	
Total								500	300	800	22	

Professional Elective - I

21CV641	Design of Prestressed Concrete Structures	21CV644	Design Concept in Building Services
21CV642	Applied Geotechnical Engineering	21CV645	Ground Water Hydraulics
21CV643	Railways, Harbors, Tunneling and Airports	21CV646	Alternative Building Materials

Open Electives – I offered by the Department to other Department students

21CV651	Remote Sensing and GIS	21CV653	Occupational Health and Safety
21CV652	Traffic Engineering	21CV654	Conservation of Natural Resources

Note: HSMC: Humanity and Social Science & Management Courses, IPCC: Integrated Professional Core Course, PCC: Professional Core Course, PEC: Professional Elective Courses, OEC–Open Elective Course, MP –Mini Project, INT–Internship.

L –Lecture, T – Tutorial, P - Practical / Drawing, S – Self Study Component, CIE: Continuous Internal Evaluation, SEE: Semester End Examination.

Integrated Professional Core Course (IPCC): Refers to Professional Theory Core Course Integrated with Practical of the same course. Credit for IPCC can be 04 and its Teaching – Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by CIE only and there shall be no SEE. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (BE/B.Tech) 2021-22 may be referred.

Professional Elective Courses(PEC):

A professional elective (PEC) course is intended to enhance the depth and breadth of educational experience in the Engineering and Technology curriculum. Multidisciplinary courses that are added supplement the latest trend and advanced technology in the selected stream of engineering. Each group will provide an option to select one course. The minimum number of students' strengths for offering professional electives is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.

Open Elective Courses:

Students belonging to a particular stream of Engineering and Technology are not entitled to the open electives offered by their parent Department. However, they can opt for an elective offered by other Departments, provided they satisfy the prerequisite condition if any. Registration to open electives shall be documented under the guidance of the Program Coordinator/ Advisor/Mentor.

Selection of an open elective shall **not be allowed** if,

- The candidate has studied the same course during the previous semesters of the program.
- The syllabus content of open electives is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the program.

In case, any college is desirous of offering a course (not included in the Open Elective List of the University) from streams such as Law, Business (MBA), Medicine, Arts, Commerce, etc., can seek permission, at least one month before the commencement of the semester, from the University by submitting a copy of the syllabus along with the details of expertise available to teach the same in the college.

The minimum students' strength for offering open electives is 10. However, this conditional shall not be applicable to cases where the admission to the programme is less than 10.

Mini-project work: Mini Project is a laboratory-oriented course which will provide a platform to students to enhance their practical knowledge and skills by the development of small systems/applications.

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two faculty members of the Department, one of them being the Guide. The CIE marks awarded for the Mini-project work shall be based on the evaluation of project report, project presentation skill, and question and answer session in the ratio of 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group-wise at the college level with the participation of all the guides of the project. The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

No SEE component for Mini-Project.

VII semester Class work and Research Internship /Industry Internship (21INT82)

Swapping Facility

Institutions can swap VII and VIII Semester Scheme of Teaching and Examinations to accommodate research internship/ industry internship after the VI semester.

(2) Credits earned for the courses of VII and VIII Semester Scheme of Teaching and Examinations shall be counted against the corresponding semesters whether VII or VIII semester is completed during the beginning of IV year or later part of IV year of the program.

Elucidation:

At the beginning of IV years of the program i.e., after VI semester, VII semester classwork and VIII semester Research Internship /Industrial Internship shall be permitted to be operated simultaneously by the University so that students have ample opportunity for an internship. In other words, a good percentage of the class shall attend VII semester classwork and a similar percentage of others shall attend to Research Internship or Industrial Internship.

Research/Industrial Internship shall be carried out at an Industry, NGO, MSME, Innovation center, Incubation center, Start-up, center of Excellence (CoE), Study Centre established in the parent institute and /or at reputed research organizations/institutes.

The mandatory Research internship /Industry internship is for 24 weeks. The internship shall be considered as a head of passing and shall be considered for the award of a degree. Those, who do not take up/complete the internship shall be declared to fail and shall have to complete it during the subsequent University examination after satisfying the internship requirements.

INT21INT82 Research Internship/ Industry Internship/Rural Internship

Research internship: A research internship is intended to offer the flavor of current research going on in the research field. It helps students get familiarized with the field and imparts the skill required for carrying out research.

Industry internship: Is an extended period of work experience undertaken by students to supplement their degree for professional development. It also helps them learn to overcome unexpected obstacles and successfully navigate organizations, perspectives, and cultures. Dealing with contingencies helps students recognize, appreciate, and adapt to organizational realities by tempering their knowledge with practical constraints.

The faculty coordinator or mentor has to monitor the students' internship progress and interact with them to guide for the successful completion of the internship.

The students are permitted to carry out the internship anywhere in India or abroad. University shall not bear any expenses incurred in respect of internship.

Principal
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

B.E. in Civil Engineering

Scheme of Teaching and Examinations 2022

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

(Effective from the academic year 2023-24)

III SEMESTER

III SEMESTER													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	BCV301	Strength of Materials	TD: CVPSB: CV	3	0	0		03	50	50	100	3
2	IPCC	BCV302	Engineering Survey	TD: CVPSB: CV	3	0	2		03	50	50	100	4
3	IPCC	BCV303	Engineering Geology	TD- Geology/CV PSB-Geology/CV	3	0	2		03	50	50	100	4
4	PCC	BCV304	Water Supply and Waste water Engineering	TD: CV PSB: CV	3	0	0		03	50	50	100	3
5	PCCL	BCV305	Computer Aided Building Planning and Drawing	TD: CV PSB: CV	0	0	2		03	50	50	100	1
6	ESC	BCV306x	ESC/ETC/PLC	PSB: CV	3	0	0		03	50	50	100	3
7	UHV	BSCK307	Social Connect and Responsibility	Any Department	0	0	2		01	100	---	100	1
8	AEC/ SEC	BCV358x	Ability Enhancement Course/Skill Enhancement Course - III		If the course is a Theory				01	50	50	100	1
					1	0	0						
					If a course is a laboratory				02				
					0	0	2						
9	MC	BNSK359	National Service Scheme (NSS)	NSS coordinator	0	0	2			100	---	100	0
		BPEK359	Physical Education (PE) (Sports and Athletics)	Physical Education Director									
		BYOK359	Yoga	Yoga Teacher									
Total										550	350	900	20

PCC: Professional Core Course, **PCCL:** Professional Core Course laboratory, **UHV:** Universal Human Value Course, **MC:** Mandatory Course (Non-credit), **AEC:** Ability Enhancement Course, **SEC:** Skill Enhancement Course, **L:** Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. K: This letter in the course code indicates common to all the stream of Engineering. **ESC:** Engineering Science Course, **ETC:** Emerging Technology Course, **PLC:** Programming Language Course

Engineering Science Course (ESC/ETC/PLC)			
BCV306A	Rural, Urban Planning and Architecture	BCV306C	Sustainable Design Concept for Building Services
BCV306B	Geospatial Techniques in Practice	BCV306D	Fire Safety in Buildings
Ability Enhancement Course – III			
BCVL358A	Data analytics with Excel (0:0:1)	BCVL358C	Problem Solving with PYTHON
BCV358B	Smart Urban Infrastructure	BCV358D	Personality Development for Civil Engineers
<p>Professional Core Course (IPCC): Refers to Professional Core Course Theory Integrated with practicals of the same course. Credit for IPCC can be 04 and its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./B.Tech.) 2022-23 may please be referred.</p> <p>National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first Week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the Degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of Degree.</p>			

VARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

B.E. in Civil Engineering

Scheme of Teaching and Examinations 2022

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

(Effective from the academic year 2023-24)

IV SEMESTER

IV SEMESTER			Course Title	Teaching Department (TD) and Question and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
Sl. No	Course and Course Code				Theory Lecture	Tutorial	Practical/ Drawing	Self -Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	BCV401	Analysis of Structures	TD: CV PSB: CV	3	0	0		03	50	50	100	3
2	IPCC	BCV402	Fluid Mechanics and Hydraulics	TD: CV PSB: CV	3	0	2		03	50	50	100	4
3	IPCC	BCV403	Transportation Engineering	TD: CV PSB: CV	3	0	2		03	50	50	100	4
4	PCCL	BCVL404	Building Materials Testing Lab	TD: CV PSB: CV	0	0	2		03	50	50	100	1
5	ESC	BCV405x	ESC/ETC/PLC		3	0	0		03	50	50	100	3
6	AEC/ SEC	BCV456x	Ability Enhancement Course/Skill Enhancement Course- IV	TD and PSB: Concerned department	If the course is Theory				01	50	50	100	1
					1	0	0						
					If the course is a lab				02				
					0	0	2						
7	BSC	BBOK407	Biology For Engineers	TD / PSB: BT, CHE,	3	0	0		03	50	50	100	3
8	UHV	BUHK408	Universal human values course	Any Department	1	0	0		01	50	50	100	1
9	MC	BNSK459	National Service Scheme (NSS)	NSS coordinator	0	0	2			100	---	100	0
		BPEK459	Physical Education (PE) (Sports and Athletics)	Physical Education Director									
		BYOK459	Yoga	Yoga Teacher									
Total									500	400	900	20	

PCC: Professional Core Course, **PCCL:** Professional Core Course laboratory, **UHV:** Universal Human Value Course, **MC:** Mandatory Course (Non-credit), **AEC:** Ability Enhancement Course, **SEC:** Skill Enhancement Course, **L:** Lecture, **T:** Tutorial, **P:** Practical **S= SDA:** Skill Development Activity, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Evaluation. **K:** This letter in the course code indicates common to all the stream of engineering.

Ability Enhancement Course / Skill Enhancement Course - IV			
BCVL456A	Building Information Modelling in Civil Engineering – Basics (0:0:2)	BCV456C	Electronic Waste Management - Issues and Challenges
BCV456B	GIS with Quantum GIS	BCV456D	Technical Writing Skills
Engineering Science Course (ESC/ETC/PLC)			
BCV405A	Finance for Professionals	BCV405C	Concreting Techniques & Practices
BCV405B	Construction Equipment, Plants and Machinery	BCV405D	Watershed Management
<p>Professional Core Course (IPCC): Refers to Professional Core Course Theory Integrated with practical of the same course. Credit for IPCC can be 04 and its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper. For more details, the regulation governing the Degree of Bachelor of Engineering /Technology (B.E./B.Tech.) 2022-23</p> <p>National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE)(Sports and Athletics), and Yoga(YOG) with the concerned coordinator of the course during the first Week of III semesters. Activities shall be carried out between III semester to the VI semester (for 4 semesters). Successful completion of the registered course and requisite CIE score is mandatory for the award of the Degree. The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the courses is mandatory for the award of Degree.</p>			



Principal
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

Visvesvaraya Technological University, Belagavi Scheme of Teaching and Examinations-2022 Outcome-Based Education (OBE) and Choice Based Credit System (CBCS) (Effective from the academic year 2022-23)													
I Semester (Civil Engineering Stream)										(Physic Group)			
Sl. No	Course and Course Code		CourseTitle	TD/PSB	Teaching Hours/Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	*ASC(IC)	BMATC101	Mathematics-I for Civil Engg stream	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	BPHYC102	Applied Physics for Civil Engineering Stream	PHY	2	2	2	0	03	50	50	100	04
3	ESC	BCIVC103	Engineering Mechanics	Civil Engineering Dept	2	2	0	0	03	50	50	100	03
4	ESC-I	BESCK104x	Engineering Science Course-I	Respective Engg dept	3	0	0	0	03	50	50	100	03
5	ETC-I	BETCK105x	Emerging Technology Course-I	Any Dept	3	0	0	0	03	50	50	100	03
	OR												
	PLC-I	BPLCK105x	Programming Language Course-I		2	0	2	0	03				
6	AEC	BENGK106	Communicative English	Humanities	1	0	0	0	01	50	50	100	01
	AEC	BPWSK106	Professional Writing Skills in English										
7	HSMC	BKSKK107/ BKBKK107	Sanskritika Kannada/ Balake Kannada	Humanities	1	0	0	0	01	50	50	100	01
		OR											
8	AEC/SDC	BIDTK158	Innovation and Design Thinking	Any Dept	1	0	0	0	01	50	50	100	01
		OR											
		BSFHK158	Scientific Foundations of Health		1	0	0	0	01				
TOTAL										400	400	800	20

Visvesvaraya Technological University, Belagavi													
Scheme of Teaching and Examinations-2022													
Outcome-Based Education (OBE)and Choice Based Credit System(CBCS)													
(Effective from the academic year 2022-23)													
II Semester (Civil Engineering Stream) (for students who attended I semester under Physics Group)													
Sl. No	Course and Course Code		Course Title	TD/PSB	Teaching Hours/Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	*ASC(IC)	BMATC201	Mathematics-II for Civil Engg Stream	Maths	2	2	2	0	03	50	50	100	04
2	#ASC(IC)	BCHEC202	Applied Chemistry for Civil Engineering stream	Chemistry	2	2	2	0	03	50	50	100	04
3	ESC	BCEDK203	Computer-Aided Engineering Drawing	Civil/Mech Engg dept	2	0	2	0	03	50	50	100	03
4	ESC-II	BESCK204x	Engineering Science Course-II	Respective EnggDept	3	0	0	0	03	50	50	100	03
5	PLC-II	BPLCK205x	Programming Language Course-II	Any. Dept	2	0	2	0	03	50	50	100	03
	OR												
	ETC-II	BETCK205x	Emerging Technology Course-II		3	0	0	0	03				
6	AEC	BPWSK206	Professional Writing Skills in English	Humanities	1	0	0	0	01	50	50	100	01
		OR											
		BENGK206	Communicative English										
7	HSMS	BICOK207	Indian Constitution	Humanities	1	0	0	0	01	50	50	100	01
		OR											
		BKSKK207/ BKBBK207	Sanskrutika Kannada/ Balake Kannada										
8	HSMS	BSFHK258	Scientific Foundations of Health	AnyDept	1	0	0	0	01	50	50	100	01
	OR			OR									
	HSMS	BIDTK258	Innovation and Design Thinking	Any	1	0	0	0	01	50	50	100	
TOTAL										400	400	800	20

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

Credit Definition:

1-hour Lecture (L) per week=1Credit

2-hours Tutorial (T) per week=1Credit

2-hours Practical / Drawing (P) per week=1Credit

2-hous Skill Development Actives (SDA) per week = 1 Credit

04-Credits courses are to be designed for 50 hours of Teaching-Learning Session

04-Credits (IC) are to be designed for 40 hours' theory and 12-14 hours of practical sessions

03-Credits courses are to be designed for 40 hours of Teaching-Learning Session

02- Credits courses are to be designed for 25 hours of Teaching-Learning Session

01-Credit courses are to be designed for 12-15 hours of Teaching-Learning sessions

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

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

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

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


Principal
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

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

- The student has to select one course from the ESC-II group.
- Civil Engineering Students shall opt for any one of the courses from the ESC-II group **except**, BESCK204A - **Introduction to Civil Engineering**
- The students have to opt for the courses from ESC group without repeating the course in either 1st or 2nd semester
- The students must select one course from either ETC-II or PLC-II group.
- If students study the subject from ETC-I in 1st semester he/she has to select the course from PLC-II in the 2nd semester and vice-versa


 Principal
 Sapthagiri College of Engineering
 Chikkasandra, Hesaraghatta Road,
 Bangalore-560 057