

1.3.2 Number of courses that include experiential learning through project work/field work/internship during the year 2021-22

SI No	Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Details of Experimental Learning through projects/Internship
FINAL YEAR					
1	Civil Engineering	CV	Construction Management Entrepreneurship	18CV51	Utilisation of black cotton soil in the manufacture of bricks
2	Civil Engineering	CV	Analysis of Indeterminate Structures	18CV52	M sand cement mortar with partial replacement of nano aluminium oxide
3	Civil Engineering	CV	Design of RCC	18CV53	Analysis and design of multistorey buildings using cost effective material
4	Civil Engineering	CV	Basic Geotechnical Engineering	18CV54	Determination of optimum binder content of bituminous concrete
5	Civil Engineering	CV	Municipal wastewater Engineering	18CV55	Solid waste management
6	Civil Engineering	CV	Highway Engineering	18CV56	Improving compressive strength of the concrete by crushed aggregates
7	Civil Engineering	CV	Surveying Laboratory	18CVL57	Studies on properties of bricks with cyclonic filter resisting polluted air .
8	Civil Engineering	CV	Highway and Concrete Testing Laboratory	18CVL58	Analysis and design of a multilevel residential building using ETabs
9	Civil Engineering	CV	Design of Steel structures	18CV61	Study of Strength Characteristics of Cladding Material using quarry dust and bio medical plastic waste
10	Civil Engineering	CV	Applied Geotechnical Engineering	18CV62	Smart village
11	Civil Engineering	CV	Hydrology and Irrigation Engineering	18CV63	partial replacement of GGBS and FLYASH in cement
12	Civil Engineering	CV	Railway, Harbours, Tunnel	18CV64	Application of solid waste management around Pavagada Taluk
13	Civil Engineering	CV	Conservation of Natural Resources	18CV656	Retrofitting of columns by the method of jacketing
14	Civil Engineering	CV	Software Application Laboratory	18CVL66	Translucent concrete
15	Civil Engineering	CV	Environmental Engineering Laboratory	18CVL67	Analysis and design of a warehouse using etabs
16	Civil Engineering	CV	Extensive Survey Project	18CVEP68	Experimental study on dense Bituminous macadam using crumb rubber
17	Civil Engineering	CV	Quantity Estimation and Contract Management	18CV71	EXPERIMENTAL INVESTIGATION ON DURABILITY OF CONCRETE BY
18	Civil Engineering	CV	Design of RCC and steel structures	18CV72	SELF COMPACTING CONCRETE



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19	Civil Engineering	CV	Air pollution	18CV732	Banglore Nirmithi kendra
20	Civil Engineering	CV	Pavement Materials	18CV733	Execution of receiving sub station (RSS)
21	Civil Engineering	CV	Urban Transportation Engineering	18CV745	Public work department road design and traffic census
22	Civil Engineering	CV	Environmental Protection management	18CV753	Multi level car storage parking
23	Civil Engineering	CV	Computer Aided Detailing of Structures	18CVL76	Residential building
24	Civil Engineering	CV	Geotechnical Engineering laboratory	18CVL77	Shobha Rajvilas
25	Civil Engineering	CV	Project Phase	18CVP78	Construction of residential building
26	Civil Engineering	CV	Internship	18CVI85	Study on Residential building
27	Civil Engineering	CV	Engineering mathematics	18MAT31	Widening of roads
28	Civil Engineering	CV	Strength of materials	18CV32	Railway sleepers production plants
29	Civil Engineering	CV	Fluid mechanics	18CV33	Exposure of residential building construction
30	Civil Engineering	CV	Building Materials and Construction	18CV34	Site operation at BSN Complex near laggere
31	Civil Engineering	CV	Basic surveying	18CV35	Construction of Commercial building
32	Civil Engineering	CV	Engineering Geology	18CV36	RMC plant and site visiting
33	Civil Engineering	CV	Computer Aided Building drawing	18CVL37	Types of water proofing
34	Civil Engineering	CV	Building matetails testing laboratory	18CVL38	Contriever planning and 3D modelling of commercial building
THIRD YEAR					
35	Civil Engineering	CV	Complex Analysis probability methods	18MAT41	Under water tunnel
36	Civil Engineering	CV	Analysis of Dterminate structures	18CV42	Vertical opening bridge
37	Civil Engineering	CV	Applied hydraulics	18CV43	Hydraulic Press
38	Civil Engineering	CV	Concrete technology	18CV44	Speed breaker power generator
39	Civil Engineering	CV	Advanced surveying	18CV45	Sieve Shaker
40	Civil Engineering	CV	Water supply treatment engineering	18CV46	Rotating Bridge
41	Civil Engineering	CV	Engineering geology laboratory	18CVL47	Base Isolation and Earthquake resistance
42	Civil Engineering	CV	Fluid mechanics and hydraulics laboratory	18CVL48	Application of EPS Geofarm


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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												
III 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	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CV32	Strength of Materials	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV33	Fluid Mechanics	Civil Engg.	3	0	--	03	40	60	100	3
4	PCC	18CV34	Building Materials and Construction	Civil Engg.	3	0	--	03	40	60	100	3
5	PCC	18CV35	Basic Surveying	Civil Engg.	3	0	--	03	40	60	100	3
6	PCC	18CV36	Engineering Geology	Geology	3	0	--	03	40	60	100	3
7	PCC	18CVL37	Computer Aided Building Planning & Drawing	Civil Engg.	--	2	2	03	40	60	100	2
8	PCC	18CVL38	Building Materials Testing Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18KVK39	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		OR										
		18KAK39	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39	Constitution of India, Professional Ethics and Cyber Law									
TOTAL					17	08	04	24	420	480	900	24
					OR	OR		OR	OR			
					18	10		26	360	540		
Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.												
18KVK39Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK39 Aadalitha Kannada (Kannada for Administration) is for students who speak, read and write Kannada.												
Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs												
10	NCMC	18MATDIP31	Additional Mathematics - I	Mathematics	02	01	--	03	40	60	100	0
(a)The mandatory non – credit courses Additional Mathematics I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B. Tech programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured F												

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Programme: CIVIL ENGINEERING

IV 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	
					L	T	P					
1	BSC	18MAT41	Complex Analysis, Probability And Statistical Methods	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CV42	Analysis of Determinate Structures	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV43	Applied Hydraulics	Civil Engg.	3	0	--	03	40	60	100	3
4	PCC	18CV44	Concrete Technology	Civil Engg.	3	0	--	03	40	60	100	3
5	PCC	18CV45	Advanced Surveying	Civil Engg.	3	0	--	03	40	60	100	3
6	PCC	18CV46	Water Supply & Treatment Engineering	Civil Engg.	3	0	--	03	40	60	100	3
7	PCC	18CVL47	Engineering Geology Laboratory	Geology	--	2	2	03	40	60	100	2
8	PCC	18CVL48	Fluid Mechanics and Hydraulic Machines Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for Communication)/	HSMC	--	2	--	--	100	--	100	1
		OR										
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39/49	Constitution of India, Professional Ethics and Cyber Law									
		Examination is by objective type questions				1	--	--	02	40		
TOTAL					17	08	04	24	420	480	900	24
					OR	OR		OR	OR			
					18	10		26	360	540		

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

18KVK39/49Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK39/49Aadalitha Kannada (Kannada for Administration) is for students who speak, read and write Kannada.

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

10	NCMC	18MATDIP41	Additional Mathematics - II	Mathematics	02	01	--	03	40	60	100	0
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(a)The mandatory non – credit courses Additional Mathematics I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B. Tech programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured F grade. In such a case, the students have to fulfill the requirements during subsequent semester/s to appear for SEE.

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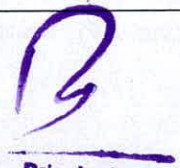
Programme: CIVIL ENGINEERING

V SEMESTER

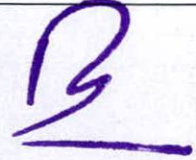
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	HSMC	18CV51	Construction Management & Entrepreneurship	Civil Engg.	2	2	--	03	40	60	100	3
2	PCC	18CV52	Analysis of Indeterminate Structures	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV53	Design of RC Structural Elements	Civil Engg.	3	2	--	03	40	60	100	4
4	PCC	18CV54	Basic Geotechnical Engineering	Civil Engg.	3	--	--	03	40	60	100	3
5	PCC	18CV55	Municipal Wastewater Engineering	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CV56	Highway Engineering	Civil Engg.	3	--	--	03	40	60	100	3
7	PCC	18CVL57	Surveying Practice	Civil Engg.	--	2	2	03	40	60	100	2
8	PCC	18CVL58	Concrete and Highway Materials Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18CIV59	Environmental Studies	Civil/Environmental	1	--	--	02	40	60	100	1
				[Paper setting Board: Civil Engineering]								
TOTAL					18	10	04	26	360	540	900	25

Note: PCC: Professional Core, HSMC: Humanity and Social Science.

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.


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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
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). Selection of an open elective shall not be allowed if, • 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. Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.	
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. 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. (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. 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. 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.	


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- (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).


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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

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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:

(b) These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

Courses prescribed to lateral entry B. Sc degree holders admitted to III semester of Engineering programs

Lateral entrant students from B.Sc. Stream, shall clear the non-credit courses Engineering Graphics and Elements of Civil Engineering and Mechanics of the First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

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.



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grade. In such a case, the students have to fulfill the requirements during subsequent semester/s to appear for SEE.

(b) These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

Courses prescribed to lateral entry B. Sc degree holders admitted to III semester of Engineering programs

Lateral entrant students from B.Sc. Stream, shall clear the non-credit courses Engineering Graphics and Elements of Civil Engineering and Mechanics of the First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

AICTE Activity Points to be earned by students admitted to BE/B. Tech/B. Plan day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to 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, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours' requirement should be fulfilled. Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

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.


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