1.3.2 Number of courses that include experiential learning through project work/field work/internship during the year					
Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Year of offering	Name of the student studied course on experiential learning through project work/field work/internship
FINAL YEAR					
Computer Science and Engineering	CSE	Web Technology and its applications	17CS71	2020-21	SPEECH EMOTION RECOGNITION SYSTEM
Computer Science and Engineering	CSE	Machine Learning	17CS73	2020-21	KRISHI SAHAYOGI
Computer Science and Engineering	CSE	Machine Learning Laboratory	17CSL76	2020-21	VISUAL SPEECH RECOGNITION
Computer Science and Engineering	CSE	Web Technology Laboratory with mini project	17CSL77	2020-21	AN EFFICIENT SECURE CLOUD STORAGE SCHEME USING HASH-SOLOMON ENCODING
Computer Science and Engineering	CSE	Project Work Phase–I + Project work Seminar	17CSP78	2020-21	INTRUSION DETECTION IN A NETWORK TRAFFIC USING UNSW NB 15 AND KDD CUP DATASET
Computer Science and Engineering	CSE	Internet of Things and Applications	17CS81	2020-21	STOCK MARKET TREND PREDICTION
Computer Science and Engineering	CSE	Big Data Analytics	17CS82	2020-21	COVID DETECTION USING IMAGE PROCESSING
Computer Science and Engineering	CSE	Internship/professional practice	17CS84	2020-21	PLANT LEAF DISEASES DETECTION AND CLASSIFICATION USING IMAGE PROCESSING AND DEEP LEARNING TECHNIQUES
Computer Science and Engineering	CSE	Project Work-II	17CSP85	2020-21	WASTE MANAGEMENT SYSTEM USING IOT
Computer Science and Engineering	CSE	Seminar	17CSS86	2020-21	TRAFFIC SIGN RECOGNITION SYSTEM
Computer Science and Engineering	CSE				FACE MASK DETECTION AND PUBLIC MONITORING
Computer Science and Engineering	CSE				CLASSIFICATION OF HYPERSPECTRAL IMAGES USING CONVOLUTION NEURAL NETWORKS
Computer Science and Engineering	CSE				IOT BASED OBSTACLE AVOIDING ROBOT USING ULTRASONIC SENSOR
Computer Science and Engineering	CSE				DISEASE PREDICTION USING SYMPTOMS
Computer Science and Engineering	CSE				ML AND DL TECHNIQUES FOR WATER RESOURCE MANAGEMENT
Computer Science and Engineering	CSE				AUTOMATED MOTORCYCLIST HELMET RULE VIOLATION DETECTION
Computer Science and Engineering	CSE				FACIAL RECOGNITION ATTENDENCE SYSTEM
Computer Science and Engineering	CSE				HUMAN ACTIVITY RECOGNITION USING CNN
Computer Science and Engineering	CSE				FAKE AND CLONED ACCOUNT DETECTION IN SOCIAL MEDIA USING ML
Computer Science and Engineering	CSE				A FACE RECOGNITION BASED VOICE ASSISTANT
Computer Science and Engineering	CSE				MULTIFUNCTIONAL IOT BASED ROBOT FOR MILITARY APPLICATIONS
Computer Science and Engineering	CSE				KRISHI MITHRA- AN IOT AND MACHINE LEARNING BASED MOBILE APPLICATION FOR FARMERS
Computer Science and Engineering	CSE				GESTURE CONTROLLED VIDEO PLAYER USING DEEP LEARNING
Computer Science and Engineering	CSE				PHISHING URL DETECTION USING ML

Computer Science and Engineering	CSE				COVID 19 REAL TIME FACE MASK DETECTION USING DEEP LEARNING
Computer Science and Engineering	CSE				DEEPFAKES USING CYCLEGAN
Computer Science and Engineering	CSE				IDENTIFICATION OF MEDICINAL PLANTS BY VISUAL CHARACTERISTICS OF LEAVES
Computer Science and Engineering	CSE				BONE CANCER DETECTION USING CNN
Computer Science and Engineering	CSE				MOVIE RECOMMENDATION SYSTEM USING TWITTER SENTIMENT ANALYSIS
Computer Science and Engineering	CSE				CREDIT CARD FRAUD DETECTION
Computer Science and Engineering	CSE				BIRD IMAGE RETRIEVAL AND RECOGNITION USING A DEEP LEARNING PLATFORM
THIRD YEAR					
Computer Science and Engineering	CSE	Computer Nwteorks and Security	18CS52	2020-21	CYBERCRIME MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Databas Management System	18CS53	2020-21	RAILWAY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Automata Theory and Computability	18CS54	2020-21	STORE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Application Development using Python	18CS55	2020-21	BANK DATABASE MANAGEMENT
Computer Science and Engineering	CSE	Unix Programming	18CS56	2020-21	PET SHOP MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Computer Network Laboratory	18CSL57	2020-21	AIRLINE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	DBMS Laboratory with mini project	18CSL58	2020-21	CAR RENTAL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	System Software and compilers	18CS61	2020-21	DAIRY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Computer Graphics and Visualization	18CS62	2020-21	BLOOD BANK MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Web Technology and its applications	18CS63	2020-21	PG DATABASE.
Computer Science and Engineering	CSE	Cloud Computing and its Application	18CS643	2020-21	ONLINE DJ MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				COURIER MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ATTENDANCE RECORD MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				INVENTORY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				TOURISM MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE VOTING SYSTEM DATABASE
Computer Science and Engineering	CSE				COVID-19 MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				CONTACT MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				LIBRARY MANAGEMENT SYSTEMS
Computer Science and Engineering	CSE				ONLINE SHOPPING SYSTEM
Computer Science and Engineering	CSE				AIRTEL NETWORK MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE MARRIAGE REGISTRATION SYSTEM
Computer Science and Engineering	CSE				FARM MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ANGANWADI MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				STUDENT RESULT DATABASE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				BUS MANAGEMENT SYSTEM

Computer Science and Engineering	CSE				CONCERT TICKET RESERVATION SYSTEM
Computer Science and Engineering	CSE				ELECTRONIC REPAIR MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				PERSONAL HEALTH CARE MANAGEMENT
Computer Science and Engineering	CSE				ART GALLERY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				EMPLOYEE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				HOSTEL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				FINANCIAL BANK MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				GYM MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				BLOOD BANK MANAGEMENT
Computer Science and Engineering	CSE				HOSPITAL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE QUIZ SYSTEM
Computer Science and Engineering	CSE				HOUSE RENTAL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				BUS BOOKING SYSTEM
Computer Science and Engineering	CSE				LOCAL SERVICES SEARCH ENGINE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				WHOLESALE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE BIKE RENTAL SYSTEM
Computer Science and Engineering	CSE				LIBRARY DATA MANAGEMENT
Computer Science and Engineering	CSE				SPORTS MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				VEHICLE PARKING SYSTEM
Computer Science and Engineering	CSE				E-COMMERCE PLATFORM
Computer Science and Engineering	CSE				HOSTEL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ARBORETUM MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				RECORD MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ZOO MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE MUSIC PLAYER MANAGEMENT
Computer Science and Engineering	CSE				HOTEL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ELECTRICITY BILLING SYSTEM
Computer Science and Engineering	CSE				TOURISM DATABASE
Computer Science and Engineering	CSE				ONLINE FOOD ORDERING
Computer Science and Engineering	CSE				RAILWAY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				PAYROLL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				PARK TICKETING MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				STUDENT MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				DECCAN AMUSEMENT PARK
Computer Science and Engineering	CSE				ELECTRONIC VOTING SYSTEM
Computer Science and Engineering	CSE				WARE HOUSE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				STUDENT COURSE MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE NEWS PORTAL

Computer Science and Engineering	CSE				LOAN MANAGEMENT SYSTEM
SECOND YEAR					
Computer Science and Engineering	CSE	Data Structure and applications	18CS32	2019-20	ATM MACHINE
Computer Science and Engineering	CSE	Computer Organizations	18CS34	2019-20	VEHICLE IDENTIFICATION SYSTEM
Computer Science and Engineering	CSE	Software engineering	18CS35	2019-20	PAY ROLL SYSTEM
Computer Science and Engineering	CSE	Data Structure Laboratory	18CSL38	2019-20	LIBRARY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Design and Analysis of Algorithm	18CS42	2019-20	SNAKE AND LADDER GAME
Computer Science and Engineering	CSE	Operating Systems	18CS43	2019-20	CURRENCY CONVERTER
Computer Science and Engineering	CSE	Microcontroller and Embeddded System	18CS44	2019-20	STATIONARY BILLING SYSTEM
Computer Science and Engineering	CSE	Object Oriented Concepts	18CS45	2019-20	QUIZ APPLICATION
Computer Science and Engineering	CSE	Data Communication	18CS46	2019-20	LIBRARY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE	Design and Analysis of Algorithm Laboratory	18CSL47	2019-20	EMAIL ADMINISTRATION
Computer Science and Engineering	CSE	Microcontroller and Embeddded System	18CSL48	2019-20	ONLINE BANKING SYSTEM MANAGEMENT
Computer Science and Engineering	CSE				FLIGHT RESERVATION SYSTEM
Computer Science and Engineering	CSE				BANK MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				BUS TICKET CALCULATOR
Computer Science and Engineering	CSE				NUMBER GUESSING GAME
Computer Science and Engineering	CSE				MUSIC PLAYER IN JAVA
Computer Science and Engineering	CSE				ONLINE COURIER SERVICE
Computer Science and Engineering	CSE				CURRENCY CONVERTOR
Computer Science and Engineering	CSE				ATM MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE VOTING SYSTEM
Computer Science and Engineering	CSE				CAR SALES SYSTEM
Computer Science and Engineering	CSE				AI CHAT BOT
Computer Science and Engineering	CSE				SIMPLE CALCULATOR
Computer Science and Engineering	CSE				LIBRARY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				SNAKE GAME USING JAVA
Computer Science and Engineering	CSE				ONLINE EXAMINATION SYSTEM
Computer Science and Engineering	CSE				SCIENTIFIC CALCULATOR
Computer Science and Engineering	CSE				VIRTUAL CLASSROOM USING JAVA
Computer Science and Engineering	CSE				LOAN MANAGEMENT SYSTEM IN AN ATM INTERFACE IN JAVA
Computer Science and Engineering	CSE				SIMPLE SHOPPING SYSTEM
Computer Science and Engineering	CSE				NOTE PAD
Computer Science and Engineering	CSE				BROADCASTING CHAT SERVER PROJECT
Computer Science and Engineering	CSE				THE SNAKE GAME
Computer Science and Engineering	CSE				BRICK BARKER GAME
Computer Science and Engineering	CSE				CRYPTO SYSTEM
Computer Science and Engineering	CSE				TIC TAC TOE GAME

Computer Science and Engineering	CSE				TEXT EDITOR IN JAVA
Computer Science and Engineering	CSE				MP3 PLAYER
Computer Science and Engineering	CSE				CALCULATOR
Computer Science and Engineering	CSE				ONLINE SHOPPING SYSTEM
Computer Science and Engineering	CSE				CONTACT MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				HOTEL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE QUIZ
Computer Science and Engineering	CSE				ONLINE EXAMINATION SYSTEM
Computer Science and Engineering	CSE				SNAKE GAME
Computer Science and Engineering	CSE				NUMBER GUESSING GAME
Computer Science and Engineering	CSE				BOOK BARTER APP
Computer Science and Engineering	CSE				BOOK MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				POINT OF SALES MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE TEST APP
Computer Science and Engineering	CSE				TIC TAC TOE GAME
Computer Science and Engineering	CSE				BMI CALCULATOR
Computer Science and Engineering	CSE				SNAKE GAME IN JAVA
Computer Science and Engineering	CSE				SIMPLE CALCULATOR
Computer Science and Engineering	CSE				AIRLINES TICKET BOOKING SYSTEM
Computer Science and Engineering	CSE				SIMPLE CALCULATOR
Computer Science and Engineering	CSE				QUIZ APPLICATION
Computer Science and Engineering	CSE				BRICK BREAKER GAME
Computer Science and Engineering	CSE				ONLINE TEST APP
Computer Science and Engineering	CSE				DIGITAL CALCULATOR
Computer Science and Engineering	CSE				VACCINE LOCATOR AND ADMINISTRATOR
Computer Science and Engineering	CSE				SGPA CALCULATOR
Computer Science and Engineering	CSE				SCHOOL MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				MUSIC PLAYER
Computer Science and Engineering	CSE				CRICKET SCORE CARD SYSTEM
Computer Science and Engineering	CSE				TEXT EDITOR
Computer Science and Engineering	CSE				PLANT NURSERY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				HOSPITAL MANAGEMENT
Computer Science and Engineering	CSE				PHARMACY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				ONLINE EXAMINATION
Computer Science and Engineering	CSE				STUDENT MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				WEDDING EVENT MANAGER
Computer Science and Engineering	CSE				CRICKET PLAYER STATS MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				QUIZ APPLICATION
Computer Science and Engineering	CSE				CONTACT MANAGEMENT SYSTEM

Computer Science and Engineering	CSE				TEACHERS FEEDBACK
Computer Science and Engineering	CSE				ONLINE JOB PORTAL
Computer Science and Engineering	CSE				TEACHERS FEEDBACK FORM
Computer Science and Engineering	CSE				NUMBERGUESSING GAME
Computer Science and Engineering	CSE				LIBRARY MANAGEMENT SYSTEM
Computer Science and Engineering	CSE				SIMPLE LOGIN SYSTEM

HOD

B.E: Computer Science and Engineering

VII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17CS71	Web Technology and its applications	CS/IS	04		03	60	40	100	4
2	17CS72	Advanced Computer Architectures	CS/IS	04		03	60	40	100	4
3	17CS73	Machine Learning	CS/IS	04		03	60	40	100	4
4	17CS74x	Professional Elective 3	CS/IS	03		03	60	40	100	3
5	17CS75x	Professional Elective 4	CS/IS	03		03	60	40	100	3
6	17CSL76	Machine Learning Laboratory	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17CSL77	Web Technology Laboratory with mini project	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CSP78	Project Work Phase–I + Project work Seminar	CS/IS		03	--	--	100	100	2
		TOTAL		**Theory:18 hours Practical and Project: 09 hours**		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17CS741	Natural Language Processing	17CS751	Soft and Evolutionary Computing
17CS742	Cloud Computing and its Applications	17CS752	Computer Vision and Robotics
17CS743	Information and Network Security	17CS753	Digital Image Processing
17CS744	Unix System Programming	17CS754	Storage Area Networks

1. **Project Phase – I and Project Seminar:** Comprises of Literature Survey, Problem identification, Objectives and Methodology. CIE marks shall be based on the report covering Literature Survey, Problem identification, Objectives and Methodology and Seminar presentation skill.

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B.E: Computer Science and Engineering

VIII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CS81	Internet of Things and Applications	CS/IS	4	-	3	60	40	100	4
2	17CS82	Big Data Analytics	CS/IS	4	-	3	60	40	100	4
3	17CS83X	Professional Elective-5	CS/IS	3	-	3	60	40	100	3
4	17CS84	Internship/ Professional Practice	CS/IS	Industry Oriented		3	50	50	100	2
5	17CSP85	Project Work-II	CS/IS	-	6	3	100	100	200	6
6	17CSS86	Seminar	CS/IS	-	4	-	-	100	100	1
		TOTAL		**Theory: 11 hours Project and Seminar: 10 hours**		15	330	370	700	20

Professional Elective -5	
17CS831	High Performance Computing
17CS832	User Interface Design
17CS833	Network management
17CS834	System Modeling and Simulation

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period.

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V 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	HSMC	18CS51	Management, Entrepreneurship for IT idustry	HSMC	2	2	..	03	40	60	100	3
2	PCC	18CS52	Computer Networks and Security	CS / IS	3	2	..	03	40	60	100	4
3	PCC	18CS53	Database Management System	CS / IS	3	2	..	03	40	60	100	4
4	PCC	18CS54	Automata theory and Computability	CS / IS	3	..	..	03	40	60	100	3
5	PCC	18CS55	Application Development using Python	CS / IS	3	..	..	03	40	60	100	3
6	PCC	18CS56	Unix Programming	CS / IS	3	..	..	03	40	60	100	3
7	PCC	18CSL57	Computer Network Laboratory	CS / IS	--	2	2	03	40	60	100	2
8	PCC	18CSL58	DBMS Laboratory with mini project	CS / IS	--	2	2	03	40	60	100	2
9	HSMC	18CIV59	Environmental Studies	Civil/ Environmental [Paper setting: Civil Engineering Board]	1	--	--	02	40	60	100	1
				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.

Professor & Head of the Department
Computer Science Engineering
Sapthagiri College of Engineering
Bangalore-57

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VI 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	PCC	18CS61	System Software and Compilers	CS / IS	3	2	--	03	40	60	100	4
2	PCC	18CS62	Computer Graphics and Visualization	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS63	Web Technology and its applications	CS / IS	3	2	--	03	40	60	100	4
4	PEC	18CS64X	Professional Elective -1	CS / IS	3	--	--	03	40	60	100	3
5	OEC	18CS65X	Open Elective –A	CS / IS	3	--	--	03	40	60	100	3
6	PCC	18CSL66	System Software Laboratory	CS / IS	--	2	2	03	40	60	100	2
7	PCC	18CSL67	Computer Graphics Laboratory with mini project	CS / IS	--	2	2	03	40	60	100	2
8	MP	18CSMP68	Mobile Application Development	CS / IS	--	--	2	03	40	60	100	2
9	INT	--	Internship	(To be carried out during the intervening vacations of VI and VII semesters)				--	--	--	--	--
				TOTAL	15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project, INT: Internship.

Professional Elective -1	
Course code under18XX64X	Course Title
18CS641	Data Mining and Data Warehousing
18CS642	Object Oriented Modelling and Design
18CS643	Cloud Computing and its Applications
18CS644	Advanced JAVA and J2EE
18CS645	System Modelling and Simulation
Open Elective –A (Not for CSE / ISE Programs)	
18CS651	Mobile Application Development
18CS652	Introduction to Data Structures and Algorithms
18CS653	Programming in JAVA
18CS654	Introduction to Operating System

Students can select any one of the open electives offered by any Department (Please refer to the list of open electives under 18CS65X).
Selection of an open elective is not allowed provided,
- 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 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/ Adviser/Mentor.

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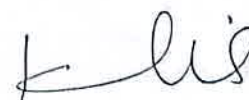(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college. The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session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

SEE for Mini-project:
(I) Single discipline: Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.
(II) Interdisciplinary: Contribution to the Mini-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: 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 takeup/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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III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BSC	18MAT31	Transform Calculus, Fourier Series And Numerical Techniques	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CS32	Data Structures and Applications	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS33	Analog and Digital Electronics	CS / IS	3	0	--	03	40	60	100	3
4	PCC	18CS34	Computer Organization	CS / IS	3	0	--	03	40	60	100	3
5	PCC	18CS35	Software Engineering	CS / IS	3	0	--	03	40	60	100	3
6	PCC	18CS36	Discrete Mathematical Structures	CS / IS	3	0	--	03	40	60	100	3
7	PCC	18CSL37	Analog and Digital Electronics Laboratory	CS / IS	--	2	2	03	40	60	100	2
8	PCC	18CSL38	Data Structures Laboratory	CS / IS	--	2	2	03	40	60	100	2
9	HSMC	18KVK39	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39	Aadalitha Kannada (Kannada for Administration)									
		OR	OR									
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
				Examination is by objective type questions								
			TOTAL		17 OR 18	08 OR 10	04	24 OR 26	420 OR 360	480 OR 540	900	24

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course
18KVK39 Vyavaharika 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 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 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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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

IV SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				
					Theory Lecture L	Tutorial T	Practical/ Drawing P	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BSC	18MAT41	Complex Analysis, Probability and Statistical Methods	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CS42	Design and Analysis of Algorithms	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS43	Operating Systems	CS / IS	3	0	--	03	40	60	100	3
4	PCC	18SC44	Microcontroller and Embedded Systems	CS / IS	3	0	--	03	40	60	100	3
5	PCC	18CS45	Object Oriented Concepts	CS / IS	3	0	--	03	40	60	100	3
6	PCC	18CS46	Data Communication	CS / IS	3	0	--	03	40	60	100	3
7	PCC	18CSL47	Design and Analysis of Algorithm Laboratory	CS / IS	--	2	2	03	40	60	100	2
8	PCC	18CSL48	Microcontroller and Embedded Systems Laboratory	CS / IS	--	2	2	03	40	60	100	2
9	HSMC	18KVK49	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK49	Aadalitha Kannada (Kannada for Administration)									
		OR	OR									
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	17 OR 18	08 OR 10	04	24 OR 26	420 OR 360	480 OR 540	900	24

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

18KVK49 Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK49 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	18MATDIP41	Additional Mathematics - II	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 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: 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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