VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
B.E. in CSE (Data Science)
Scheme of Teaching and Examinations 2022
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2023-24)

VI SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Theory Lecture L	Tutorial T	Practical / Drawing P	SDA S	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	IPCC	BAD601	Big Data Analytics	TD: CD PSB : CD	3	0	2		03	50	50	100	4
2	PCC	BDS602	Artificial Intelligence & Machine Learning	TD: CD PSB : CD	4	0	0		03	50	50	100	4
3	PEC	BXX613x	Professional Elective Course	TD: CD PSB : CD	3	0	0		03	50	50	100	3
4	OEC	BXX654x	Open Elective Course	TD: CD PSB : CD	3	0	0		03	50	50	100	3
5	PROJ	BCD685	Project Phase I	TD: CD PSB : CD	0	0	4		03	100	--	100	2
6	PCCL	BCSL606	Machine Learning lab	TD: CD PSB : CD	0	0	2		03	50	50	100	1
7	AEC/SDC	BXX657x	Ability Enhancement Course/Skill Development Course V	TD and PSB: Concerned department	If the course is offered as a Theory				01	50	50	100	1
					1	0	0						
					If course is offered as a practical								
					0	0	2						
8	MC	BNSK658	National Service Scheme (NSS)	NSS coordinator	0	0	2			100	---	100	0
		BPEK658	Physical Education (PE) (Sports and Athletics)	Physical Education Director									
		BYOK658	Yoga	Yoga Teacher									
9	MC	BIKS609	Indian Knowledge System		1	0	0		01	100	---	100	0
								Total		500	300	800	18

Professional Elective Course			
BAD613B	Natural Language Processing	BCS613A	Blockchain Technology
BDS613B	Exploratory Data Analysis	BAI613D	Time Series Analysis

Open Elective Course			
BCS654A	Introduction to Data Structures	BIS654C	Mobile Application Development
BCS654B	Fundamentals of Operating Systems	BAI654D	Introduction to Artificial Intelligence
Ability Enhancement Course / Skill Enhancement Course-V			
BCGL657A	Mobile Application Development with Flutter	BAIL657C	Generative AI
BADL657B	UI/UX	BCSL657D	Devops

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 :** The letter in the course code indicates common to al the stream of engineering. **PROJ**: Project /Mini Project. **PEC**: Professional Elective Course. **PROJ**: Project Phase -I, **OEC**: Open Elective Course

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

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.

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. The minimum numbers of students' strength for offering Open Elective Course is 10. However, this condition shall not be applicable to class where the admission to the program is less than 10.

Project Phase-I : Students have to discuss with the mentor /guide and with their helphe/she has to complete the literature survey and prepare the report and finally define the problem statement for the project work.