

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

B.E. in Computer Science and Design

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													
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	
					L	T	P	S					
1	PCC/BS C	BCS301	Mathematics for Computer Science	TD:- Maths PSB: Maths	3	2	0		03	50	50	100	4
2	IPCC	BCS302	Digital Design & Computer Organization	TD: CG PSB: CS	3	0	2		03	50	50	100	4
3	IPCC	BCS303	Operating Systems	TD: CG PSB: CS	3	0	2		03	50	50	100	4
4	PCC	BCS304	Data Structures and Applications	TD: CG PSB: CS	3	0	0		03	50	50	100	3
5	PCCL	BCSL305	Data Structures Lab	TD: CG PSB: CS	0	0	2		03	50	50	100	1
6	ESC	BCS306x	ESC/ETC/PLC	TD: CG PSB: CS	2	0	2		03	50	50	100	3
7	UHV	BSCK307	Social Connect and Responsibility	Any Department	0	0	2		01	100	---	100	1
8	AEC/ SEC	BXX358x	Ability Enhancement Course/Skill Enhancement Course - III	TD: CD PSB: CS	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	21

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) (Note- Student should opt for the course which should not be similar to the course opted in 1st Year)

BCS306A	Object Oriented Programming with Java		
BCS306B	Object Oriented Programming with C++		

Ability Enhancement Course – III

BCG358A	Web Application Design with HTML and PHP	BCS358C	Project Management with Git
BCS358B	R programming	BCS358D	Data Visualization with Python

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.

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.



H.O.D

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IV 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	
1	PCC/BSC	BCS401	Analysis & Design of Algorithms	TD:CG PSB:CS	3	0	0		03	50	50	100	3
2	IPCC	BCG402	Computer Graphics and Visualization	TD:CG PSB:CS	3	0	2		03	50	50	100	4
3	IPCC	BCS403	Database Management Systems	TD:CG PSB:CS	3	0	2		03	50	50	100	4
4	PCCL	BCSL404	Analysis & Design of Algorithms Lab	TD:CG PSB:CS	0	0	2		03	50	50	100	1
5	ESC	BCS405x	ESC/ETC/PLC	TD:CG PSB:CS	2	2	0		03	50	50	100	3
6	AEC/ SEC	BXX456x	Ability Enhancement Course/Skill Enhancement Course- IV	TD: CD PSB: CS	If the course is Theory				01	50	50	100	1
					1	0	0						
					If the course is a lab				02				
					0	0	2						
4	BSC	BBOC407	Biology For Computer Engineers	TD / PSB: BT, CHE,	2	0	0		03	50	50	100	2
7	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											

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Ability Enhancement Course / Skill Enhancement Course – IV

BCGL456A	JavaScript and jQuery: Interactive Front-End Web Development (0:0:1)	BCGL456C	Mobile First Web design with W3.CSS (0:0:1)
BCGL456B	Responsive Web design with Bootstrap 5.0 (0:0:1)	BCSL456D	Technical writing using LATEX (Lab) (0:0:1)
Engineering Science Course (ESC/ETC/PLC)			
BCS405A	Discrete Mathematical Structures	BCS405C	Optimization Technique
BCS405B	Graph Theory	BCS405D	Linear Algebra

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