

VARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
**B.E. in Artificial Intelligence and Machine Learning**  
**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													
Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					The ory Lect ure	T u t o r i a l	Prac tical / Dra win g	Self - Study	Dur atio n in hou rs	CIE Mar ks	SEE Mark s	Total Mar ks	
1	PCC/BS C	BCS401	Analysis & Design of Algorithms	TD : AI PSB : CS	3	0	0		03	50	50	100	3
2	IPCC	BAD402	Artificial Intelligence	TD : AI PSB : CS	3	0	2		03	50	50	100	4
3	IPCC	BCS403	Database Management Systems	TD : AI PSB : CS	3	0	2		03	50	50	100	4
4	PCCL	BCSL404	Analysis & Design of Algorithms Lab	TD : AI PSB : CS	0	0	2		03	50	50	100	1
5	ESC	BXX405x	ESC/ETC/PLC	TD: AI/Maths PSB : CS/Maths	2	2	0		03	50	50	100	3
6	AEC/ SEC	BDS456x	Ability Enhancement Course/Skill Enhancement Course- IV	TD : AI 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										500	400	900	19

**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

BDSL456A	Scala (0:0:2)	BDSL456C	MERN (0:0:2)
BDSL456B	MangoDB (0:0:2)	BDSL456D	Julia (0:0:2)

#### Engineering Science Course (ESC/ETC/PLC)

BCS405A	Discrete Mathematical Structures	BCS405C	Optimization Technique
BAI405B	Metric Spaces	BAI405D	Algorithmic Game Theory

**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

**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.