

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI



Scheme of Teaching and Examination and Syllabus

B.E. in ELECTRONICS AND INSTRUMENTATION ENGINEERING

III - VIII SEMESTER

Effective from Academic year of 2022-2023

Visvesvaraya Technological University, Belagavi
B.E in Electronics and Instrumentation Engineering
Scheme of Teaching and Examinations - 2022

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) (Effective from the academic year 2022-2023)

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	Self-Study	Duration in hours	CIE Marks	SEE Marks		Total Marks
					L	T	P	S					
1	PCC	BMATEI301	Mathematics – III for EI Engineering	TD : Maths PSB - Maths	3	0	0		03	50	50	100	3
2	IPCC	BEI302	Analog Electronic Circuits	TD: EI PSB EI/BM/ML	3	0	2		03	50	50	100	4
3	IPCC	BEI303	Digital Design and HDL	TD: EI PSB EI/BM/ML	3	0	2		03	50	50	100	4
4	PCC	BEI304	Measurement and Transducers	TD: EI PSB EI/BM/ML	3	0	0		03	50	50	100	3
5	PCCL	BEIL305	Measurement and Transducers Lab	TD: EI PSB EI/BM/ML	0	0	2		03	50	50	100	1
6	ESC	BXX306x	ESC/ETC/PLC	TD: EI PSB EI/BM/ML	3	0	0		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: EI PSB EI/BM/ML	If the course is a Theory				01	50	50	100	1
					1	0	0						
					If a course is a laboratory				02				
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	20

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)			
BEI306A	Micro Electro Mechanical Systems [MEMS]	BEI306C	Nano Science & Nano Technology
BEI306B	Operating Systems	BEI306D	Power Electronics
Ability Enhancement Course – III			
BEI358A	Static & Dynamic Characteristics and Error Analysis in Instrumentation Systems	BEI358C	Digital Design Lab using Pspice / MultiSIM
BEI358B	Network Analysis	BEI358D	AEC Lab Using Pspice /Multisim / Comsol
<p>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.</p> <p>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.</p>			

<p style="text-align: center;">Visvesvaraya Technological University, Belagavi B.E in Electronics and Instrumentation Engineering Scheme of Teaching and Examinations - 2022 Outcome Based Education (OBE) and Choice Based Credit System (CBCS) (Effective from the academic year 2022-2023)</p>													
IV 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	Self -Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	PCC	BEI401	Signal Conditioning and Data Acquisition Circuits	TD- EI PSB - EI/BM/ML	3	0	0		03	50	50	100	3
2	IPCC	BEI402	Embedded Controllers	TD: EI PSB EI/BM/ML	3	0	2		03	50	50	100	4
3	IPCC	BEI403	Control Systems	TD: EI PSB EI/BM/ML	3	0	2		03	50	50	100	4
4	PCCL	BEIL404	Signal Conditioning and Data Acquisition Circuits Lab	TD: EI PSB EI/BM/ML	0	0	2		03	50	50	100	1
5	ESC	BEI405x	ESC/ETC/PLC	TD: EI PSB EI/BM/ML	3	0	0		03	50	50	100	3
6	AEC/ SEC	BEI456x	Ability Enhancement Course/Skill Enhancement Course- IV	TD: EI PSB EI/BM/ML	If the course is Theory				01	50	50	100	1
					1	0	0						
					If the course is a Lab				02				
0	0	2											
7	BSC	BBOK407	Biology For Engineers	TD / PSB: BT, CHE,	3	0	0		03	50	50	100	3
8	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	20

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.

Engineering Science Course (ESC/ETC/PLC)			
BEI405A	Biomedical Instrumentation	BEI405C	Embedded C
BEI405B	Computer Organization and Architecture	BEI405D	Mathematics for Electronics & Instrumentation [LT,ZT, FT to be included]
Ability Enhancement Course / Skill Enhancement Course - IV			
BEI456A	Programming in MATLAB / SCILAB Lab	BEI456C	Python Programming for Instrumentation
BEI456B	Virtual Instrumentation using LabView Lab	BEI456D	Arduino Uno Programming Lab
<p>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</p> <p>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.</p>			