

An Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Belawadi, Srirangapatna Taluk, Mandya – 571 477

Approved by AICTE, New Delhi | Recognized by Govt. of Karnataka



Ref: MITM/ISE/2023-24/028

			Scheme of Teaching and Ex Effective fro	amination for om the Academ				ne-2023)					
			III-Semester- Infor				,						
					Teaching Hours/Week					Exam	ination		Τ
SI. No.	Course Area	Course Code	Course Title	TD/ PSB	The ory/ Lect ure	Tut oria l	Practic al/ Drawin g	SDA	Duration in hours	CIE Mark s	SEE Marks	Total Marks	Credits
1	BS	M23BBIOK301	Biology for Engineers	Basic Science	1	0	0	0	03	50	50	100	1
2	PC	M23BCS302	Logic Design and Computer Organization	TD:CS&IS PSB:CS	3	0	0	0	03	50	50	100	3
3	IPC	M23BCS303	Operating System	TD:CS&IS PSB:CS	3	0	2	0	03	50	50	100	4
4	PC	M23BCS304	Data Structures and Applications	TD:CS&IS PSB:CS	2	2	0	0	03	50	50	100	3
5	PC	M23BCS305	Software Engineering	TD:CS&IS PSB:CS	2	2	0	0	03	50	50	100	3
6	ES	M23BCS306X	Engineering Science Course	TD:CS&IS PSB:CS	3	0	0	0	03	50	50	100	3
7	PCL	M23BCSL307	Data Structures Lab	CS&IS	0	0	2	0	03	50	50	100	1
8	AE	M23BSCK308	Social Connect and Responsibility	Any Department	0	0	2	0	01	100	-	100	1
					It	1	urse is The	~	01				
9	AE-III	M23BCS309X	Ability Enhancement Course-III (Choices listed in the table below)	Respective Department	l If t	0	0 se is Labor	0		50	50	100	1
,			(Choices listed in the table below)	Department	0		2		02				
		M23BNSK310	National Service Scheme (NSS)	NSS coordinator									
10	NCM C	M23BPEK310	Physical Education (PE) (Sports and Athletics)	PE Director	0	0	2	0	-	100	-	100	0
		M23BYOK310	Yoga	Yoga Teacher									
11	BS	M23BDIPM311	Diploma Mathematics-I	Basic Science	2	0	0	0	00	50	00	50	0
		1		1					Total	600	400	1000	20/20





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Notes:	Notes:									
1. The total number of Credits for CSE, CV, ECE, and ME is 22 since they will be studying Mathematics III with 3 credits.										
	2. The total number of Credits for ISE, DS, BS, AI, AI&ML, IC, and CE is 20 since they will be studying Biology for Engineers with 1 credit.									
PC: Professional Core Co	ourse, PCL: Professional Core Course laboratory, NCMC	: Non-Credit Manda	tory Course, AE: Ability Enhancement Course, L: Lecture, T:							
Tutorial, <b>P</b> : Practical <b>S</b> = <b>S</b>	Tutorial, P: Practical S= SDA: Skill Development Activity, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation. ES: Engineering Science Course,									
ETC: Emerging Technolo	ETC: Emerging Technology Courses, PLC-Programming Language Course, K : This letter in the course code indicates common to all the stream of engineering									
Engineering S	cience Course (ESC/ETC/PLC)[L-T-P::3-0-0]		Ability Enhancement Course – III							
Code	Title	Code	Title							
M23BCS306A	UNIX with Shell Programming	M23BCS309A	Data Visualization with Python.							
M23BCS306B	OOPS with JAVA	M23BCS309B	PHP Programming							
M23BCS306C	OOPS with C++	M23BCS309C	Project Management with Report Writing							
M23BCS306D	M23BCS306D Data Analytics with R M23BCS309D Data Analytics with Excel									

**Professional Core Course (IPC):** Refers to Professional Core Course Theory Integrated with practical's of the same course. Credit for IPC 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 IPC 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 IPC shall be included in the SEE question paper.

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.



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			Scheme of Teaching and Exa (Effective fro	mination for BI m the Academic			e-2023)						
			IV-Semester- Informa			<i>,</i>	2)						
SI.	Course			TD/	Teaching Hours/Week					Examin	ation		
No.	Area	Course Code	Course Title	PSB	Theory/ Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BS	M23BMAT401	Mathematics – III	Basic Science	2	2	0	0	03	50	50	100	3
2	PC	M23BCS402	Analysis & Design of Algorithms	TD:CS&IS PSB:CS	2	2	0	0	03	50	50	100	3
3	PC	M23BCS403	Microcontroller and Introduction to ARM Processor	TD:CS&IS PSB:CS&BS	2	2	0	0	03	50	50	100	3
4	IPC	M23BCS404	Database Management Systems	TD:CS&IS PSB:CS	3	0	2	0	03	50	50	100	4
5	PC	M23BCS405	Introduction to Artificial Intelligence	TD:CS&IS PSB:CS	2	2	0	0	03	50	50	100	3
6	PCL	M23BCSL406	Analysis & Design of Algorithms Lab	CS&IS	0	0	2	0	03	50	50	100	1
7	ES	M23BCS407X	Engineering Science Course	CS	3	0	0	0	03	50	50	100	3
					I	f the course	2		01				
8	AE-IV	M23BCS408x	Ability Enhancement Course-IV	Respective Department	1 If f		0 s Laboratory	0	01	50	50	100	1
				Department	0	0	2	0	02				
9	AE	M23BUHK409	Universal human values course	Any Department	0	0	2	0	01	50	50	100	1
		M23BNSK410	National Service Scheme (NSS)	NSS coordinator									
10	NCMC	M23BPEK410	Physical Education (PE) (Sports and Athletics)	PE Director	0	0	2	0	-	100	-	100	0
		M23BYOK410	Yoga	Yoga Teacher									
11	BS	M23BDIPM411	Diploma Mathematics-II	Basic Science	2	0	0	0	00	50	00	50	0
				-					Total	550	450	1000	22/22





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#### Notes:

1. The total number of Credits for ISE, DS, BS, AI, AI&ML, IC, and CE is 22 since they will be studying Mathematics III with 3 credits.

2. The total number of Credits for CSE, CV, ECE, and ME is 20 since they will be studying Biology for Engineers with 1 credit.

PC: Professional Core Course, PCL: Professional Core Course laboratory, NCMC: Non-Credit Mandatory Course, AE: Ability Enhancement Course, L: Lecture, T: Tutorial, P: Practical S= SDA: Skill Development Activity, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation. ES: Engineering Science Course, ETC: Emerging Technology Courses, PLC-Programming Language Course, K :This letter in the course code indicates common to all the stream of engineering

Enginee	ring Science Course (ESC/ETC/PLC)[L-T-P::3-0-0]		Ability Enhancement Course – IV
Code	Title	Code	Title
M23BCS407A	Graph Theory	M23BCS408A	Scala.
M23BCS407B	Linear Algebra	M23BCS408B	MongoDB
M23BCS407C	Statistical and Numerical Methods	M23BCS408C	UI/UX
M23BCS407D	Vector Space & Metric Space	M23BCS408D	Hands on IoT

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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.



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				hing and Examin ffective from the		·		2023)					
			V-5	Semester- Inform	nation Scier	ice and Engi	ineering (ISE	5)					
SI.	Course	0.00000		TD/	Г	Teaching Hours/Week			Examination				
SI. No.	Course Area	Course Code	Course Title	PSB	Theory/ Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credit
1	PC	M23BCS501	Theory of Computation	CS:CS&IS	3	0	0	0	03	50	50	100	3
2	IPC	M23BCS502	Computer Networks and Security	CS:CS&IS	2	2	2	0	03	50	50	100	4
3	PC	M23BIS503	Software Testing	CS&IS	4	0	0	0	03	50	50	100	4
4	PCL	M23BISL504	Software Testing Lab	CS&IS	0	0	2	0	03	50	50	100	1
5	PE	M23BXX505x	Professional Elective -I	TD:CS&IS PSB:CS&IS	3	0	0	0	03	50	50	100	3
6	PW	M23BIS506	Mini Project Work		0	0	4	0	03	100	-	100	2
7	AE	M23BRMK507	Research Methodology and IPR	Respective Department	2	2	0	0	02	50	50	100	3
8	BS	M23BESK508	Environmental Studies	CV/ENV/CHE	2	0	0	0	02	50	50	100	2
		M23BNSK509	National Service Scheme (NSS)	NSS coordinator									
9	NCMC	M23BPEK509	Physical Education (PE) (Sports and Athletics)	Physical Education Director	0	0	2	0	-	100	-	100	0
		M23BYOK509	Yoga	Yoga Teacher									
									Total	550	350	900	22
				Pr	ofessional								
	Code Title				Code	Title							
	23BIS505A Computer Graphics				123BIS505C								
M23B0	123BCS505B Cloud Computing					123BCS505D	D Advanced Java						



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**Mini-project work:** Mini Project is a laboratory-oriented/hands on course that will provide a platform to students to enhance their practical knowledge and skills by the development of small systems/applications etc. 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 faculty members of the Department, one of them being the Guide. The CIE marks awarded for the Mini-project work shall be based on the evaluation of the project report, project presentation skill, and question and answer session in the ratio of 50:25:25. The marks awarded for the project report shall be the same for all the batches mates.

(ii) Interdisciplinary: Continuous Internal Evaluation shall be group-wise at the college level with the participation of all the guides of the project.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of the 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. No SEE component for Mini-Project.

**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 a professional elective is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.



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			Scheme of Teachin (Effecti	ve from the Ac										
			VI-Se	emester- Inform	nation Scie	nce and Eng	gineering (IS	E)						
SI.	Course			TD/	Т	eaching Ho	urs/Week			Examination				
No.	Area	Course Code	Course Title	PSB	Theory/ Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits	
1	IPC	M23BIS601	Full Stack Development	CS&IS	2	2	2	0	03	50	50	100	4	
2	PC	M23BCS602	Machine Learning	CS&IS	3	2	0	0	03	50	50	100	4	
3	PE	M23BXX603x	Professional Elective -II	CS&IS	3	0	0	0	03	50	50	100	3	
4	OE	M23BXX604x	Open Elective –I	Respective Department	3	0	0	0	03	50	50	100	3	
5	PW	M23BIS605	Major Project Phase - I	CS&IS	0	0	4	0	03	100	-	100	2	
6	PCL	M23BCSL606	Machine Learning Laboratory	CS&IS	0	0	2	0	03	50	50	100	1	
			-		It	the course is	Theory							
7		MAADVV(07-		CS&IS	1	0	0	0	01	50	50	100	1	
,	AE-V	M23BXX607x			If th	ne course is L	-			20	20	100	-	
-					0	0	2	0				-	<b></b>	
8		M23BNSK608	National Service Scheme (NSS)	NSS coordinator										
	NCMC	M23BPEK608	Physical Education (PE) (Sports and Athletics)	Physical Education Director	0	0	2	0	-	100	-	100	0	
		M23BYOK608	Yoga	Yoga Teacher										
									Total	500	300	800	18	

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Professi	onal Elective –II		Ability Enhancement - V
Code	Title	Code	Title
M23BCS604A	Block Chain Technology	M23BIS607A	Generative AI
M23BIS604B	File Structure	M23BCS607B	Devops
M23BIS604C	Advanced web Programming	M23BIS607C	Kotlin
M23BCS604D	Social Network Analysis	M23BCS607D	Go Language Programming
	Open El	ective I	
Code	Title	Code	Title
M23BCS604A	Programming in Java	M23BCS604C	Introduction to DBMS
M23BCS604B	Introduction to Data Structures	M23BCS604D	Introduction to Operating System

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**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 a professional elective is 10. However, this conditional shall not be applicable to cases where the admission to the program is less than 10.

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

**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.



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			Scheme of Teaching	and Examina				.023)					
				ive from the A nester- Inforn			/	E)					
SI.	Course			TD/		Teaching Hours/Week				Examination			
51. No.	Course Area	Course Code	Course Title	PSB	Theory/ Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	MS	M23BCS701	Management and Entrepreneurship	TD:CS&IS PSB:CS&IS	3	0	0	0	03	50	50	100	3
2	IPC	M23BCS702	Natural Language Processing	TD:CS&IS PSB:CS&IS	3	0	2	0	03	50	50	100	4
3	PC	M23BIS703	Neural Network and Deep Learning	TD:CS&BS PSB:CS&IS	4	0	0	0	03	50	50	100	4
4	PE	WIZ3DAA/04X		TD:CS&BS PSB:CS&IS	3	0	0	0	03	50	50	100	3
5	OE		Professional Elective - IV	Respective Department	3	0	0	0	03	50	50	100	3
6	PCL	M23BISL706	Neural Network and Deep Learning Laboratory	CS&BS	0	0	2	0	03	50	50	100	1
7	PW	M23BIS707	Major Project Phase - II	CS&BS	0	0	10	0	03	100	100	200	5
PC · Pro	fessional (	Core Course PCI	: Professional Core Course laborat	ory NCMC.	Non-Credit	Mandatory C	ourse AF·A	vility Enk	Total	<b>400</b>	400	800 Tutorial	23
P: Pract	tical S= SE	<b>DA</b> : Skill Develop	oment Activity, CIE: Continuous	•		•	-	2		·			
Techno	logy Cours		nming Language Course essional Elective - III					Profes	sional Elect	ive - IV			
C	ode	1101	Title			Code		110105	Sionai Elect	Title			
M23BI		Internet of Thin			M2	3BCS705A	Quantum C	omputir	ng				
M23B0	CS704B	Ethical Hacking	, ,		M2	3BIS705B	Cryptograp		×				
M23BI	[S704C	Digital Image P	rocessing		M2	3BCS705C	Business In	telligen	ce and Anal	ytics			
M23B0	M23BCS704D User Interface Design M23BIS705D Augmented Reality and Virtual Reality												



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			Scheme of Teach (Effe	ing and Exam ctive from the				-2023)					
			VIII-	Semester- Inf	ormation S	cience and E	igineering (IS	SE)					
SI.	Course			TD/	ſ	<b>Teaching Hou</b>	rs/Week			Examir	ation		
No.	Area	Course Code	Course Title	PSB	Theory/ Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	PE	M23BIS801x	Open Elective -II	TD:CS&IS PSB:CS&IS	3	0	0	0	03	50	50	100	3
2	OE	M23BXX802x	Open Elective -III	Respective Department	3	0	0	0	03	50	50	100	3
3	SR	M23BIS803	Technical Seminar	CS&ISS	0	0	2	0	03	100	-	100	1
4	INT	M23BIS804	Internship		0	0	16	0	03	100	-	100	08
				•		•	•		Total	300	100	400	15
PC: Pr	ofessional	Core Course, PC	L: Professional Core Course la	ooratory, NCM	C: Non-Cre	dit Mandatory	Course, AE: A	Ability E	nhancement (	Course, L:	Lecture, T	: Tutorial,	
P: Prac	: Practical S= SDA: Skill Development Activity, CIE: Continuous Internal Evaluation, SEE: Semester End Evaluation. ES: Engineering Science Course, ETC: Emerging												
Techno	ology Cou	urses, PLC-Progra	aming Language Course, <b>SR</b> : 7	Technical Semi	nar								
		<b>Open Elective</b>	– II (Online Courses)				OI	en Elec	tive – III (On	nline Cour	·ses)		
С	Code Title					Code Title							

Code	1 itie	Code	I itle
M23BXX801A	Introduction AI	M23BXX802A	Machine Learning
M23BXX801B	Introduction to Big Data	M23BXX802B	Introduction to Algorithms
M23BXX801C	Introduction to IoT	M23BXX802C	Mobile Application Development
M23BXX801D	Software Engineering	M23BXX802D	Software Engineering

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#### **Elucidation:**

At the beginning of IV years of the program i.e., after VI semester, VII semester classwork and VIII semester **Research Internship** /**Industrial Internship** / **Rural Internship** shall be permitted to be operated simultaneously by the University so that students have ample opportunity for an internship. In other words, a good percentage of the class shall attend VII semester classwork and a similar percentage of others shall attend to Research Internship or Industrial Internship or Rural



An Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi Belawadi, Srirangapatna Taluk, Mandya – 571 477 Approved by AICTE, New Delhi | Recognized by Govt. of Karnataka



#### Ref: MITM/ISE/2023-24/028

Internship. Research/Industrial/Rural Internship shall be carried out at an Industry, NGO, MSME, Innovation centre, Incubation centre, Start-up, centre of Excellence (CoE), Study Centre established in the parent institute and /or at reputed research organizations/institutes.

The mandatory Research internship /Industry internship / Rural Internship is for 14 to 20 weeks. The internship shall be considered as a head of passing and shall be considered for the award of a degree. Those, who do not take up/complete the internship shall be declared to fail and shall have to complete it during the subsequent University examination after satisfying the internship requirements.

**Research internship:** A research internship is intended to offer the flavour of current research going on in the research field. It helps students get familiarized with the field and imparts the skill required for carrying out research.

**Industry internship:** Is an extended period of work experience undertaken by students to supplement their degree for professional development. It also helps them learn to overcome unexpected obstacles and successfully navigate organizations, perspectives, and cultures. Dealing with contingencies helps students recognize, appreciate, and adapt to organizational realities by tempering their knowledge with practical constraints.

**Rural Internship:** Rural development internship is an initiative of Unnat Bharat Abhiyan Cell, RGIT in association with AICTE to involve students of all departments studying in different academic years for exploring various opportunities in techno-social fields, to connect and work with Rural India for their upliftment.

The faculty coordinator or mentor has to monitor the student's internship progress and interact with them to guide for the successful completion of the internship. The students are permitted to carry out the internship anywhere in India or abroad. University shall not bear any expenses incurred in respect of the internship.

With the consent of the internal guide and Principal of the Institution, students shall be allowed to carry out the internship at their hometown (within or outside the state or abroad), provided favorable facilities are available for the internship and the student remains regularly in contact with the internal guide. University shall not bear any cost involved in carrying out the internship by students. However, students can receive any financial assistance extended by the organization.

Professional Elective /Open Elective Course: These are ONLINE courses suggested by the respective Board of Studies