

B.Tech 2022 & 2023 Batch Course Curriculum

Indian Institute of Information Technology, Allahabad
Department of Information Technology
B.Tech. IT curriculum
(2022 Batch)

Total Credit : 164

Semester 1 Total Credit: 20					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Physics	PHY	Core	4	2-1-1
2	Linear Algebra	LAL	Core	4	3-1-0
3	Introduction to Programming	ITP	Core	4	2-1-1
4	Fundamentals of Electrical & Electronics Engg.	FEE	Core	4	2-1-1
5	Professional Communication	PFC	Core	2	1-0-1
6	Principles of Management	POM	Core	2	1-1-0
					11-10-08
Total				20	29

Semester 2 Total Credit: 22					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Discrete Mathematical Structures	DMS	Core	4	3-1-0
2	Univariate and Multivariate Calculus	UMC	Core	4	3-1-0
3	Computer Organization and Architecture	COA	Core	4	2-1-1
5	Data Structures	DST	Core	4	2-1-1
6	Principles of Communication Engineering	PCE	Core	4	2-1-1
7	Principle of Economics	POE	Core	2	2-0-0
					14-10-06
Total				22	30

Semester 3 Total Credit: 20					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Probability and Statistics	PAS	Hard	4	3-1-0
2	Theory of Computation	TOC	Hard	4	2-1-1
3	Object Oriented Methodologies	OOM	Hard	4	2-1-1
4	Operating System	OPS	Hard	4	2-1-1
5	Introduction to Finance	IOF	Hard	2	2-0-0
6	Introduction to Marketing	IOM	Hard	2	1-0-1
					12-08-08
Total				20	28

B.Tech. IT 2022 Batch (Proposed Curriculum)

Semester 4 Total Credit: 21					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Design and Analysis of Algorithms	PC-IT-DAA-404	PCC	4	3-0-2-0
2	Principles of Programming Language	PC-IT-PPL-403	PCC	3	3-0-0-0
3	Computer Networks	PC-IT-CNE-404	PCC	4	3-0-2-0
4	Software Engineering	PC-IT-SOE-303	PCC	3	2-0-2-0
5	Database Management System	PC-IT-DBM-404	PCC	4	3-0-2-0
6	Multi-Disciplinary Minor-1		MDM	3	3-0-0-0
Total				21	17-00-08-00
					25

Semester 5 Total Credit: 25					
Sl. No.	Course Name	Code	Type	Credit	Hours L-T-P-S
1	Cyber Security	PC-IT-CSE301	PCC	4	3-0-2-0
2	Introduction to Machine Learning	PC-IT-IML302	PCC/VSEC	4	3-0-2-0
3	Image and Video Processing	PC-IT-IVP303	PCC/VSEC	4	3-0-2-0
4	Artificial Intelligence	PC-IT-AIN304	PCC	3	2-0-2-0
5	Project-I (Research Methodology)	PC-IT-PRO351	ELC	2	0-0-4-0
6	Computer Graphics and Visualization	PC-IT-CGV208	PCC	3	2-0-2-0
7	Design Thinking and Innovation	HM-MS-DTI306	HSMC	2	1-0-2-0
8	Multi-Disciplinary Minor-2		MDM	3	3-0-0-0
Total				25	17-0-16-0 33

Semester 6 Total Credit: 20					
Sl. No.	Course Name	Code	Type	Credit	Hours L-T-P-S
1	Data Analytics	PC-IT-DAN305	PCC	3	2-0-2-0
2	Project-II	PC-IT-PRJ352	ELC	4	0-0-8-0
3	Biology for Engineers	BS-AS-BFE301	BSC	2	2-0-0-0
4	Elective-1	PE-IT-XXX401	PEC	3	3-0-0-0
5	Elective-2	PE-IT-XXX402	PEC	3	3-0-0-0
6	Indian/Foreign language Regional Language, Sanskrit, German, Japanese, French	HM-xx-XXX304	HSMC (AEC)	2	1-0-2-0
7	Multi-Disciplinary Minor-3		MDM	3	3-0-0-0
Total				20	14-0-12-0 26

Exit: After successful completion of 6 semesters, a student any get an exit option as per ordinance after completion of the summer semester internship (3 credits) and additional 3 credit courses in summer.

Summer Semester Total Credit: 3					
Sl. No.	Course Name	Code	Type	Credit	
1	Internship	PC-IT-ITP353	ELC	3	Credit will be added in VII Sem.

Note: Internship will be evaluated in the beginning of seventh semester. Its credit and grades will be reflected in the 7th Semester Grade Sheet.

Semester 7 Total Credit: 21					
Sl. No.	Course Name	Code	Type	Credit	Hours L-T-P-S
1	Minor Project	PC-IT-PRJ451	ELC	4	0-0-8-0
2	Elective-3	PE-IT-XXX403	PEC	3	3-0-0-0
3	Elective-4	PE-IT-XXX404	PEC	3	3-0-0-0
4	Open Elective-1	OE-ZZ-XXX4SS	OEC	3	3-0-0-0
5	History of Indian Civilizations / Kautilya's Arthashastra / Vedic Mathematics / Vedic Corpus/Wisdom from the Ages/Panini's Grammar	HM-MS-XXX408	HSMC (IKS)	2	2-0-0-0
6	Internship (Summer Semester)	PC-IT-TO353	ELC	3	0-0-0-6
7	Multi-Disciplinary Minor-4		MDM	3	3-0-0-0
Total				21	14-0-8-6 28

Semester 8 Total Credit: 15					
Sl. No.	Course Name	Code	Type	Credit	Hours L-T-P-S
1	Major Project	PC-IT-PRJ452	ELC	6	0-0-12-0 0-0-0-6
2	Elective-5	PE-IT-XXX402	PEC	3	3-0-0-0 0-0-0-3*
3	Open Elective-2	OE-ZZ-XXX4SS	OEC	3	3-0-0-0 0-0-0-3*
4	Multi-Disciplinary Minor-5		MDM	3	3-0-0-0
Total				15	9-0-12-0 21

*8th Semester courses may be allowed to join via MOOC/NPTEL etc.

MMDM Baskets (for students admitted in July 2022):

Minor-I: Entrepreneurship & Innovation [1-Fundamentals of Entrepreneurship, 2-Social Entrepreneurship, 3-Entrepreneurial Finance, 4-Innovation Management, 5-Managing Corporate Entrepreneurship]

Minor-II: Economics & Finance for Engineers [1-Indian Economics, 2-Money and Banking, 3-Economics of Business Environment, 4-Start-up Economics, 5-Digital Economics]

Minor-III: Science of Happiness [1-Introduction to Science of Happiness, 2-Understanding Domains of Happiness, 3-Happiness Indices, 4-Assessment of happiness, 5-Independent Study of Science of Happiness]

Indian Institute of Information Technology, Allahabad
Department of Information Technology
B.Tech. ECE curriculum
(2022 Batch)

Total Credit : 161

Semester 1 Total Credit: 20					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Physics	PHY	Core	4	2-1-1
2	Linear Algebra	LAL	Core	4	3-1-0
3	Introduction to Programming	ITP	Core	4	2-1-1
4	Fundamentals of Electrical & Electronics Engg.	FEE	Core	4	2-1-1
5	Professional Communication	PFC	Core	2	1-0-1
6	Principles of Management	POM	Core	2	1-1-0
					11-10-08
Total				20	29

Semester 2 Total Credit: 22					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Univariate and Multivariate Calculus	UMC	Core	4	3-1-0
2	Digital System Design	DSD	Core	4	3-1-0
3	Data Structures	DST	Core	4	2-1-1
5	Electronic Devices and Circuits	EDC	Core	4	2-1-1
6	Electromagnetic Field and Waves	EFW	Core	4	2-1-1
7	Electronic Workshop	EWS	Core	2	2-0-0
					14-10-06
Total				22	30

Semester 3 Total Credit: 20					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Analog Communication	ANC	Hard	4	2-1-1
2	Analog Electronics	ANE	Hard	4	2-1-1
3	Electrical Engineering	ELE	Hard	4	3-0-1
4	Electronics Measurement and Instrumentation	EMI	Hard	3	2-0-1
5	Micro Processor Interface and Programming	MIP	Hard	4	2-1-1
6	Probability and Statistics	PAS	Hard	4	3-1-0
					13-08-10
Total				22	31

B.Tech. ECE 2022 Batch (Proposed Curriculum)

Semester 4 Total Credit: 21					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Discrete Time Signals and Systems	PC-EC-DTS-403	PCC	3	3-0-0-0
2	Control Systems	PC-EC-COS-404	PCC	4	3-0-2-0
3	Digital IC Design	PC-EC-DID-404	PCC	4	3-0-2-0
4	Integrated Circuit Technology	PC-EC-ICT-503	PCC	3	3-0-0-0
5	Antenna and Wave Propagation	PC-EC-AWP-404	PCC	4	3-0-2-0
6	Multi-Disciplinary Minor-1		MDM	3	3-0-0-0
Total				21	18-0-06-0
					24

Exit: After successful completion of 4 semesters, a student may get an exit option as per ordinance. They need to do **two courses** before exit.

Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Embedded System Design	PC-EC-ESD317	PCC	3	2-0-2-0
2	Mobile and Wireless Communication	PC-EC-MWC318	PCC	3	2-0-2-0

Semester 5 Total Credit: 21					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Embedded System Design	PC-EC-ESD317	PCC	3	2-0-2-0
2	Optical Communication	PC-EC-OPC319	PCC	3	2-0-2-0
3	Microwave Engineering	PC-EC-MWE315	PCC	3	2-0-2-0
4	Digital Communication	PC-EC-DCO316	PCC	3	3-0-0-0
5	Computer Networks		PCC	3	2-0-2-0
6	Multi-Disciplinary Minor-2	MD-xx-XXX303	MDM	3	3-0-0-0
7	Design Thinking and Innovation	HM-MS-DTI306	HSMC (AEC)	2	1-0-2-0
	SMT Workshop		VSEC	1	0-0-2-0
Total				21	17-0-12-0
					29

Semester 6 Total Credit: 20					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Digital Signal Processing	PC-EC-DSP313	PCC	4	3-0-2-0
2	Mobile and Wireless Communication	PC-EC-MWC318	PCC	4	3-0-2-0
3	Program Elective-I	PE-EC-xxx301	PEC	3	2-0-2-0
4	Project	PP-EC-PRJ301	VSEC	4	0-0-8-0
5	Multi-Disciplinary Minor-3	MD-xx-XXX304	MDM	3	3-0-0-0
6	Indian/Foreign Language Regional Language, Sanskrit, German, Japanese, French	HM-xx-XXX304	HSMC (AEC)	2	1-0-2-0
Total				20	12-0-16-0
					28

Exit: After successful completion of 6 semesters, a student any get an exit option as per ordinance. They need to do two courses before exit.

Sl. No.	Course Name	Code	Type	Credit	L-T-P-S
1	Skill based Elective – I		PCC	3	2-0-2-0
2	Skill based Elective - II		PCC	3	2-0-2-0

Summer Semester Total Credit: 3					
Sl. No.	Course Name	Code	Type	Credit	
1	Internship	PC-EC-ITP353	ELC	3	Credit will be added in VII Sem.

Note: Internship will be evaluated in the beginning of seventh semester. Its credit and grades will be reflected in the 7th Semester Grade Sheet.

Semester 7 Total Credit: 21					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Program Elective-II	PE-EC-xxx403	PEC	3	3-0-0-0
2	Program Elective-III	PE-EC-xxx404	PEC	3	3-0-0-0
3	Open Elective-I	OE-xx-xxx4xx	OEC	3	3-0-0-0
4	Multi-Disciplinary Minor-4	MD-xx-XXX405	MDM	3	3-0-0-0
5	a) History of Indian Civilizations, b) Kautilya's Arthashastra, c) Vedic Mathematics, d) Vedic Corpus, e) Wisdom from the Ages, f) Panini's Grammar	HM-MS-XXX08	HSMC (IKS)	2	2-0-0-0
6	Internship (Summer Semester)	PC-EC-ITP353	ELC	3	0-0-0-6
7	Mini Project		PEC	4	0-0-8-0
Total				21	14-0-8-6
					22+6

Semester 8 Total Credit: 14					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Major Project	PP-EC-PRJ403	ELC	8	0-0-16-0
2	*Program Elective-IV	PE-EC-xxx405	PEC	3	0-0-0-3
3	*Multi-Disciplinary Minor-5	MD-xx-XXX405	MDM	3	3-0-0-0
Total				14	3-0-16-6
					25

*8th Semester courses may be allowed to join via MOOC/NPTEL etc.

Honors:

- “Honors” is an additional credential, a student will earn if he/she opts for the extra 15 credits needed for this in his/her own discipline. The concerned department specifies the course requirements for earning the Honors.
- B.Tech.-ECE-Honor Course: Minimum 8 CGPI and No backlog.
- After 3rd Semester, students may choose extra credits for Honors.
- The 8th Semester project must be an academic project. At least one research publication in Tier I/II conferences or in SCI Journals communicated or one patent filed.

MMDM Baskets (for students admitted in July 2022):

Minor-I: Entrepreneurship & Innovation [1-Fundamentals of Entrepreneurship, 2-Social Entrepreneurship, 3-Entrepreneurial Finance, 4-Innovation Management, 5-Managing Corporate Entrepreneurship]

Minor-II: Economics & Finance for Engineers [1-Indian Economics, 2-Money and Banking, 3-Economics of Business Environment, 4-Start-up Economics, 5-Digital Economics]

Minor-III: Science of Happiness [1-Introduction to Science of Happiness, 2-Understanding Domains of Happiness, 3-Happiness Indices, 4-Assessment of happiness, 5-Independent Study of Science of Happiness]

Indian Institute of Information Technology, Allahabad
Department of Information Technology
B.Tech. IT-BIN curriculum
(2022 Batch)

Total Credit : 164

Semester 1 Total Credit: 20					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Physics	PHY	Core	4	2-1-1
2	Linear Algebra	LAL	Core	4	3-1-0
3	Introduction to Programming	ITP	Core	4	2-1-1
4	Fundamentals of Electrical & Electronics Engg.	FEE	Core	4	2-1-1
5	Professional Communication	PFC	Core	2	1-0-1
6	Principles of Management	POM	Core	2	1-1-0
					11-10-08
Total				20	29

Semester 2 Total Credit: 24					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Discrete Mathematical Structures	DMS	Core	4	3-1-0
2	Univariate and Multivariate Calculus	UMC	Core	4	3-1-0
3	Computer Organization and Architecture	COA	Core	4	2-1-1
4	Business Process Modeling	BPM		2	1-1-0
5	Data Structures	DST	Core	4	2-1-1
6	Principles of Communication Engineering	PCE	Core	4	2-1-1
7	Principle of Economics	POE	Core	2	2-0-0
					15-11-06
Total				24	32

Semester 3 Total Credit: 22					
Sl. No.	Course Name	Code	Type	Credit	L-T-P
1	Probability and Statistics	PAS	Hard	4	3-1-0
2	Theory of Computation	TOC	Hard	4	2-1-1
3	Object Oriented Methodologies	OOM	Hard	4	2-1-1
4	Operating System	OPS	Hard	4	2-1-1
5	Introduction to Finance	IOF	Hard	2	2-0-0
6	Introduction to Marketing	IOM	Hard	2	1-0-1
7	Foreign Language & Intercultural Studies*	FLIS		2	1-1-0
*can be floated in Semester 4 as will depending upon students enrolments					13-10-08
Total				22	31

B.Tech. IT-BIn 2022 Batch (Proposed Curriculum)

Semester 4 Total Credit: 23					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Design and Analysis of Algorithms		PCC	4	3-0-2-0
2	Principles of Programming Language		PCC	3	3-0-0-0
3	Computer Networks		PCC	4	3-0-2-0
4	Software Engineering		PCC	3	2-0-2-0
5	Database Management System		PCC	4	3-0-2-0
6	Foundations of FinTech		PCC	2	1-1-0-0
7	Multi-Disciplinary Minor-1		MDM	3	3-0-0-0
Total Credit				23	18-1-8-0
					27

Semester 5 Total Credit: 21					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Cyber Security	PC-IT-CSE301	PCC	4	3-0-2-0
2	Introduction to Machine Learning	PC-IT-IML302	PCC	4	3-0-2-0
3	Digital Marketing	PC-BI-DMK202	PCC	3	2-1-0-0
4	Artificial Intelligence	PC-IT-AIN304	PCC	3	3-0-0-0
5	Project – I (Research Methodology)	PC-IT-PRO351	PCC	2	0-0-4-0
6	Multi-Disciplinary Minor-2	MD-xx-XXX203	MDM	3	3-0-0-0
7	Design Thinking and innovation	HM-MS-DT306	HSMC (AEC)	2	1-0-2-0
					15-1-10-0
Total				21	26

Semester 6 TotalCredit:18					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Data Analytics	PC-IT-IML302	PCC	3	2-0-2-0
2	Project – II	PC-IT-PRJ352	PCC	4	0-0-8-0
3	Biology for Engineers	BS-AS-BFE301	BSC	2	2-0-0-0
4	Process Mining & Analytics	PC-BI-PM303	PCC	3	2-0-1-0
5	BI-Elective-1	PE-BI-XXX301	PEC	3	3-0-0-0
	BI-Elective-Basket: • Details appended				
6	Multi-Disciplinary Minor-3	MD-xx-XXX204	MDM	3	3-0-0-0
					12-0-11-0
Total				18	23

Exit: After successful completion of 6 semesters, a student may get an exit option as per ordinance after completion of the summer semester internship (3 credits) and additional 3 credit courses in summer.

Summer Semester TotalCredit:3					
Sl. No.	Course Name	Code	Type	Credit	
1	Internship	PC-IT-ITP353	ELC	3	Credit will be added in VII Sem.

Note: Internship will be evaluated in the beginning of seventh semester. Its credit and grades will be reflected in 7th semester Grade sheet.

Semester 7 Total Credit:24					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Minor Project	PCITPRJ451	PCC	4	0-0-8-0
2	Big Data Analytics	PEBIXX X403	PCC	3	2-0-2-0
3	Elective-3 BI-Elective II: IT Project Management + IT Electives	PEITXXX 404	PCC	3	3-0-0-0
4	Open Elective-1	OEZZXX X4SS	OEC	3	3-0-0-0
5	a) History of Indian Civilizations, b) Kautiliya's Arthashastra, c) Vedic Mathematics, d) Vedic Corpus, e) Wisdom from the Ages, f) Panini's Grammar	HM-MS-XXX408	HSMC (IKS)	2	2-0-0-0
6	Internship (Summer Semester)	PC-IT-TO353	ELEC	3	0-0-0-6-0
7	Multi-Disciplinary Minor-4	MD-xx-XXX204	MDM	3	3-0-0-0
					13-0-10-06
Total				21	29

Semester 8 Total Credit:15					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Major Project	PC-IT-PRJ452	ELC	6	0-0-12-0
2	*Elective-4	PE-IT-XXX402	PEC	3	3-0-0-0
3	*Open Elective-2	OE-ZZ-XXX4SS	OEC	3	3-0-0-0
4	*Multi-Disciplinary Minor-5	MD-xx-XXX204	MDM	3	3-0-0-0
					9-0-12-0
Total				15	21

8th Semester courses may be allowed to join via MOOC/ NPTEL.

MMDM Baskets (for students admitted in July 2022):

Minor-I: Entrepreneurship & Innovation [1-Fundamentals of Entrepreneurship, 2-Social Entrepreneurship, 3-Entrepreneurial Finance, 4-Innovation Management, 5-Managing Corporate Entrepreneurship]

Minor-II: Economics & Finance for Engineers [1-Indian Economics, 2-Money and Banking, 3-Economics of Business Environment, 4-Start-up Economics, 5-Digital Economics]

Minor-III: Science of Happiness [1-Introduction to Science of Happiness, 2-Understanding Domains of Happiness, 3-Happiness Indices, 4-Assessment of happiness, 5-Independent Study of Science of Happiness]

Annexure-B: Identified MMDMs

	MMDM-I	MMDM-II	MMDM-III	MMDM-IV	MMDM-V
Title	Entrepreneurship & Innovation	Economics & Finance for Engineers	Science of Happiness	Biological Data Analytics	Medical Diagnostics and Therapeutic Technology
Courses	Fundamentals of Entrepreneurship	Indian Economics	Introduction to Science of Happiness	Proteomics and Genomics	Basics of Human Anatomy & Physiology
	Social Entrepreneurship	Money and Banking	Understanding Domains of Happiness	Next Generation Sequencing	Biomedical Instrumentation
	Entrepreneurial Finance	Economics of Business Environment	Happiness Indices	Cheminformatics for Engineers	Bio-MEMs and Nanotechnology
	Innovation Management	Start-up Economics	Assessment of happiness	Systems Biology and Modeling	Medical Imaging
	Managing Corporate Entrepreneurship	Digital Economics	Independent Study of Science of Happiness	Molecular Structure Prediction	Tissue engineering and Gene therapy

Course Curriculum

B.Tech. IT

“Applicable with effect from 2023 admitted batch and onwards”

Semester 1					Total Credit: 20	
Sl. No.	Course Name	Code	Type	Credit	Hours	
					L-T-P-S	
1	Engineering Physics	AS1001	BSC	4	3-0-2-0	
2	Linear Algebra	AS1002	BSC	4	3-1-0-0	
3	Problem Solving with Programming	IT1001	ESC/VSEC	5	3-0-4-0	
4	Fundamentals of Electrical & Electronics Engineering	EC1001	ESC	4	3-0-2-0	
5	Technical Communication Skills	MS1001	HSMC (AEC)	2	1-0-2-0	
6	Constitution of India	MS1002	HSMC (VEC)	1	1-0-0-0	
	Universal Human Values	MS1003				
	Professional Ethics	MS1004				
	Art of Living	MS1005				
Total				20	14-1-10-0	
					25	

Semester 2					Total Credit: 20
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Computer Organization and Architecture	IT1002	PCC	4	3-0-2-0
2	Data Structures and Algorithms	IT1003	PCC	4	3-0-2-0
3	Web Development	IT1004	VSEC	2	0-0-4-0
4	Discrete Mathematical Structures	IT1005	PCC	4	3-1-0-0
5	Principles of Data Communication	EC1006	ESC	3	3-0-0-0
6	Principles of Management	MS1006	HSMC (AEC)	2	1-0-2-0
7	Constitution of India	MS1002	HSMC (VEC)	1	1-0-0-0
	Environmental Studies	MS1007			
	Professional Ethics	MS1004			
	Physical Education (Sports)	MS1008			
Total				20	14-1-10-0
					25

Exit: After successful completion of one year (first two semesters), a student may get an exit option as per ordinance. They need to do Skill Based Courses of 6 credits additional, in summer, before exit. Department will provide a list of such courses.

“Applicable with effect from 2023 admitted batch and onwards”

Semester 3				Total Credit: 24	
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Probability and Statistics	AS2001	BSC	3	2-1-0-0
2	Object Oriented Methodologies	IT2001	PCC	4	3-0-2-0
3	Theory of Computation	IT2002	PCC	3	2-1-0-0
4	Operating System	IT2003	PCC	4	3-0-2-0
5	Software Engineering	IT2004	PCC	3	2-0-2-0
6	Multi-Disciplinary Minor-1	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
7	Principles of Economics or	MS2001	HSMC (AEC)	2	2-0-0-0
	Introduction to Finance	MS2002			
8	Community Services		HSMC (CEA)	2	0-0-0-4
	NCC	MS1010			
	NSS	MS1011			
	Yoga	MS1012			
	Unnat Bharat Abhiyaan	MS1013			
	Ek Bharat Shreshtha Bharat	MS1014			
	NGO	MS1015			
	Prayas	MS1016			
	Other courses	MS1017-MS1020			
Total				24	16-2-10-4
					32

Semester 4					Total Credit: 21
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Design and Analysis of Algorithms	IT2005	PCC	4	3-0-2-0
2	Principles of Programming Language	IT2006	PCC	3	3-0-0-0
3	Computer Networks	IT2007	PCC	4	3-0-2-0
4	Computer Graphics and Visualization	IT2008	PCC	3	2-0-2-0
5	Database Management System	IT2009	PCC	4	3-0-2-0
6	Multi-Disciplinary Minor-2	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
Total				21	17-0-08-0 25

Exit: After successful completion of 4 semesters, a student may get an exit option as per ordinance. They need to do ***Skill Based Courses of 6 credits***, additional, in summer, before exit. Department will provide a list of such courses.

“Applicable with effect from 2023 admitted batch and onwards”

Semester 5					Total Credit: 22
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Cyber Security	IT3001	PCC	4	3-0-2-0
2	Introduction to Machine Learning	IT3002	PCC/VSEC	4	3-0-2-0
3	Image and Video Processing	IT3003	PCC/VSEC	4	3-0-2-0
4	Artificial Intelligence	IT3004	PCC	3	2-0-2-0
5	Project-I (Research Methodology)	IT2501	ELC	2	0-0-4-0
6	Multi-Disciplinary Minor-3	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
7	Design Thinking and Innovation	IT3501	HSMC	2	1-0-2-0
Total				22	15-0-14-0 29

Semester 6					Total Credit: 20	
Sl. No.	Course Name	Code	Type	Credit	Hours	
					L-T-P-S	
1	Data Analytics	IT3006	PCC	3	2-0-2-0	
2	Project-II	IT3559	ELC	4	0-0-8-0	
3	Biology for Engineers	AS1010	BSC	2	2-0-0-0	
4	Elective-1 (X1 to X100)	IT5501-IT5599	PEC	3	3-0-0-0	
5	Elective-2 (Y1 to Y100)	IT5501-IT5599	PEC	3	3-0-0-0	
6	Multi-Disciplinary Minor-4	MS2501-MS2599	MDM	3	3-0-0-0	
		AS2501-AS2599				
		CS2501- CS2599				
7	Indian language(I1-I10)		HSMC (AEC)	2	1-0-2-0	
	Sanskrit	MS1401				
	(I2-I10)	MS1402 – MS1410				
	Foreign language(F1-F10)					
	German	MS1500				
	Japanese	MS1501				
	French	MS1502				
	(F4-F10)	MS1503-MS1510				
	Regional Language(R1-R10)					
	(R1-R10)	MS1600- MS1610				
Total				20	14-0-12-0 26	

Exit: After successful completion of 6 semesters, a student any get an exit option after completion of the summer semester internship (3 credits) and additional 3 credit courses in summer.

X1 to X99, Y1 to Y99, I1 to I10, F1 to F10 and R1 to R10 will be decided by concerned department.

Summer Semester					Total Credit: 3
Sl. No.	Course Name	Code	Type	Credit	
1	Internship	IT4600	ELC	3	Credit will be added in VII Sem.

“Applicable with effect from 2023 admitted batch and onwards”

Note: Internship will be evaluated in the beginning of seventh semester. Its credit and grades will be reflected in the 7th Semester Grade Sheet.

Semester 7					Total Credit: 21
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Minor Project	IT4501	ELC	4	0-0-8-0
2	Elective-3 (X1 to X100)	IT5501-IT5599	PEC	3	3-0-0-0
3	Elective-4 (Y1 to Y100)	IT5501-IT5599	PEC	3	3-0-0-0
4	Open Elective-1		OEC	3	3-0-0-0
5	Multi-Disciplinary Minor-5	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
6	History of Indian Civilizations	MS1800	HSMC (IKS)	2	2-0-0-0
	Kautilya's Arthashastra	MS1801			
	Vedic Mathematics	MS1802			
	Vedic Corpus	MS1803			
	Wisdom from the Ages	MS1804			
	Panini's Grammar	MS1805			
	(X1 to X9)	MS1806 – MS1815			
7	Internship(Summer Semester)	IT4600	ELC	3	0-0-0-6
Total				21	14-0-8-6
					6+22

Semester 8					Total Credit: 12
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Major Project	IT5601	ELC	6	0-0-12-0 0-0-0-6
2	Elective-5(X1 to X100)	IT5501-IT5599	PEC	3	3-0-0-0 0-0-0-3*
3	Open Elective-2		OEC	3	3-0-0-0 0-0-0-3*
Total				12	6-0-12-0
					18

*8th Semester courses may be allowed to join via MOOC/NPTEL etc. Major projects may be completed as Internship cum projects. MOOC/NPTEL courses start with level 4.

“Applicable with effect from 2023 admitted batch and onwards”

B.Tech. BIN

“Applicable with effect from 2023 admitted batch and onwards”

Semester 1					Total Credit: 20	
Sl. No.	Course Name	Code	Type	Credit	Hours	
					L-T-P-S	
1	Engineering Physics	AS1001	BSC	4	3-0-2-0	
2	Linear Algebra	AS1002	BSC	4	3-1-0-0	
3	Problem Solving with Programming	IT1001	ESC/VSEC	5	3-0-4-0	
4	Fundamentals of Electrical & Electronics Engineering	EC1001	ESC	4	3-0-2-0	
5	Technical Communication Skills	MS1001	HSMC (AEC)	2	1-0-2-0	
6	Constitution of India	MS1002	HSMC (VEC)	1	1-0-0-0	
	Universal Human Values	MS1003				
	Professional Ethics	MS1004				
	Art of Living	MS1005				
Total				20	14-1-10-0	
					25	

Semester 2					Total Credit: 20
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Computer Organization and Architecture	IT1002	PCC	4	3-0-2-0
2	Data Structures and Algorithms	IT1003	PCC	4	3-0-2-0
3	Web Development	IT1004	VSEC	2	0-0-4-0
4	Discrete Mathematical Structures	IT1005	PCC	4	3-1-0-0
5	Essentials of Business Informatics	IT 1600	PCC	3	3-0-0-0
6	Principles of Management	MS1006	HSMC (AEC)	2	1-0-2-0
7	Constitution of India	MS1002	HSMC (VEC)	1	1-0-0-0
	Environmental Studies	MS1007			
	Professional Ethics	MS1004			
	Physical Education (Sports)	MS1008			
Total				20	14-1-10-0
					25

Exit: After successful completion of one year (first two semesters), a student may get an exit option as per ordinance. They need to do Skill Based Courses of 6 credits additional, in summer, before exit. Department will provide a list of such courses.

“Applicable with effect from 2023 admitted batch and onwards”

Semester 3				Total Credit: 24	
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Probability and Statistics	AS2001	BSC	3	2-1-0-0
2	Object Oriented Methodologies	IT2001	PCC	4	3-0-2-0
3	Foundation of FinTech	IT2600	PCC	3	2-1-0-0
4	Operating System	IT2003	PCC	4	3-0-2-0
5	Software Engineering	IT2004	PCC	3	2-0-2-0
6	Multi-Disciplinary Minor-1	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
7	Introduction to Finance	MS2002	HSMC (AEC)	2	2-0-0-0
8	Community Services		HSMC (CEA)	2	0-0-0-4
	NCC	MS1010			
	NSS	MS1011			
	Yoga	MS1012			
	Unnat Bharat Abhiyaan	MS1013			
	Ek Bharat Shreshtha Bharat	MS1014			
	NGO	MS1015			
	Prayas	MS1016			
	Other courses	MS1017-MS1020			
Total				24	16-2-10-4 32

Semester 4					Total Credit: 21
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Design and Analysis of Algorithms	IT2005	PCC	4	3-0-2-0
2	Operation Research	MS2601	PCC	3	3-0-0-0
3	Computer Networks	IT2007	PCC	4	3-0-2-0
4	Digital Marketing	MS2602	PCC	3	2-0-2-0
5	Database Management System	IT2009	PCC	4	3-0-2-0
6	Multi-Disciplinary Minor-2	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
Total				21	17-0-08-0
					25

Exit: After successful completion of 4 semesters, a student may get an exit option as per ordinance. They need to do ***Skill Based Courses of 6 credits***, additional, in summer, before exit. Department will provide a list of such courses.

“Applicable with effect from 2023 admitted batch and onwards”

Semester 5					Total Credit: 22
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Cyber Security	IT3001	PCC	4	3-0-2-0
2	Introduction to Machine Learning	IT3002	PCC/VSEC	4	3-0-2-0
3	Business Process Management	MS3601	PCC/VSEC	4	3-0-2-0
4	Artificial Intelligence	IT3004	PCC	3	2-0-2-0
5	Project-I (Research Methodology)	IT2501	ELC	2	0-0-4-0
6	Multi-Disciplinary Minor-3	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
7	Design Thinking and Innovation	IT3501	HSMC	2	1-0-2-0
Total				22	15-0-14-0
					29

Semester 6				Total Credit: 20	
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Data Analytics	IT3006	PCC	3	2-0-2-0
2	Project-II	IT3559	ELC	4	0-0-8-0
3	Biology for Engineers	AS1010	BSC	2	2-0-0-0
4	Process Mining & Analytics	IT3007	PEC	3	3-0-0-0
5	Elective-1 (X1 to X9,Y1 to Y9)	IT5501-IT5599	PEC	3	3-0-0-0
6	Multi-Disciplinary Minor-4	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
7	Indian language(I1-I10)		HSMC (AEC)	2	1-0-2-0
	Sanskrit	MS1401			
	(I2-I10)	MS1402 – MS1410			
	Foreign language(F1-F10)				
	German	MS1500			
	Japanese	MS1501			
	French	MS1502			
	(F4-F10)	MS1503-MS1510			
	Regional Language(R1-R10)				
	(R1-R10)	MS1600- MS1610			
Total				20	14-0-12-0
					26

Exit: After successful completion of 6 semesters, a student any get an exit option after completion of the summer semester internship (3 credits) and additional 3 credit courses in summer.

X1 to X9, Y1 to Y9, I1 to I10, F1 to F10 and R1 to R10 will be decided by concerned department.

Summer Semester					Total Credit: 3
Sl. No.	Course Name	Code	Type	Credit	
1	Internship	IT4600	ELC	3	Credit will be added in VII Sem.

“Applicable with effect from 2023 admitted batch and onwards”

Note: Internship will be evaluated in the beginning of seventh semester. Its credit and grades will be reflected in the 7th Semester Grade Sheet.

Semester 7					Total Credit: 21
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Minor Project	IT4501	ELC	4	0-0-8-0
2	Big Data Analytics	IT4050	PCC	3	3-0-0-0
3	Elective-3(X1 to X9) (Y1 to Y9)	IT5501-IT5599	PEC	3	3-0-0-0
4	Open Elective-1		OEC	3	3-0-0-0
5	Multi-Disciplinary Minor-5	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
6	History of Indian Civilizations	MS1800	HSMC (IKS)	2	2-0-0-0
	Kautilya's Arthashastra	MS1801			
	Vedic Mathematics	MS1802			
	Vedic Corpus	MS1803			
	Wisdom from the Ages	MS1804			
	Panini's Grammar	MS1805			
	(X1 to X9)	MS1806 – MS1815			
7	Internship(Summer Semester)	IT4600	ELC	3	0-0-0-6
Total				21	14-0-8-6
					6+22

Semester 8					Total Credit: 12
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Major Project	IT5601	ELC	6	0-0-12-0 0-0-0-6
2	Elective-4(X1 to X99)	IT5501-IT5599	PEC	3	3-0-0-0 0-0-0-3*
3	Open Elective-2		OEC	3	3-0-0-0 0-0-0-3*
Total				12	6-0-12-0
					18

*8th Semester courses may be allowed to join via MOOC/NPTEL etc. Major projects may be completed as Internship cum projects. MOOC/NPTEL courses start with level 4.

“Applicable with effect from 2023 admitted batch and onwards”

B.Tech. ECE

“Applicable with effect from 2023 admitted batch and onwards”

Semester 1					Total Credit: 20
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Engineering Physics	AS1001	BSC	4	3-0-2-0
2	Linear Algebra	AS1002	BSC	4	3-1-0-0
3	Problem Solving with Programming	IT1001	ESC/VSEC	5	3-0-4-0
4	Fundamentals of Electrical & Electronics Engineering	EC1001	ESC	4	3-0-2-0
5	Technical Communication Skills	MS1001	HSMC (AEC)	2	1-0-2-0
6	Constitution of India	MS1002	HSMC (VEC)	1	1-0-0-0
	Universal Human Values	MS1003			
	Professional Ethics	MS1004			
	Art of Living	MS1005			
Total				20	14-1-10-0
					25

Semester 2					Total Credit: 20
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Electronic Workshop	EC1002	VSEC	1	0-0-2-0
2	Digital Logic Design with HDL	EC1008	PCC	3	2-0-2-0
3	Electronic Devices and Circuits	EC1004	ESC	3	2-0-2-0
4	Electronics Measurements and Instrumentations	EC1005	PCC	3	2-0-2-0
5	Data Structures and Algorithms	IT1003	ESC	4	3-0-2-0
6	Network Synthesis & Analog Filters	EC1007	PCC	3	2-1-0-0
7	Principles of Management	MS1006	HSMC(AEC)	2	1-0-2-0
8	Constitution of India	MS1002	HSMC(VEC)	1	1-0-0-0
	Environmental Studies	MS1007			
	Professional Ethics	MS1004			
	Physical Education(Sports)	MS1008			
Total				20	13-1-12-0
					26

Exit: After successful completion of one year (first two semesters), a student may get an exit option as per ordinance. They need to do Skill Based Courses of 6 credits additional, in summer, before exit. Department will provide a list of such courses.

“Applicable with effect from 2023 admitted batch and onwards”

Semester 3					Total Credit: 23	
Sl. No.	Course Name	Code	Type	Credit	Hours	
					L-T-P-S	
1	Electromagnetic Field and Waves	EC2001	PCC	3	3-0-0-0	
2	Signal and Systems	EC2002	PCC	4	3-1-0-0	
3	Analog Electronics & Linear ICs	EC2003	PCC	4	3-0-2-0	
4	Microprocessor Interface and Programming	EC2004	PCC	3	2-0-2-0	
5	Biology for Engineers	AS1010	BSC	2	2-0-0-0	
6	Multi-Disciplinary Minor-1	MS2501-MS2599	MDM	3	3-0-0-0	
		AS2501-AS2599				
		CS2501-CS2599				
7	Principles of Economics	MS2001	HSMC (AEC)	2	2-0-0-0	
	Introduction to Finance	MS2002				
8	Community Services		HSMC (CEA)	2	0-0-0-4	
	NCC	MS1010				
	NSS	MS1011				
	Yoga	MS1012				
	Unnat Bharat Abhiyaan	MS1013				
	Ek Bharat Shreshtha Bharat	MS1014				
	NGO	MS1015				
	Prayas	MS1016				
	Other Courses	MS1017-MS1020				
Total				23	18-01-04-04	
					28	

Semester 4					Total Credit: 22
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Control Systems	EC2005	PCC	4	3-0-2-0
2	Analog Communication	EC2006	PCC	3	2-0-2-0
3	CMOS VLSI Design	EC2007	PCC	3	2-0-2-0
4	Probability and Statistics	AS2001	BSC	3	2-1-0-0
5	Antenna and Wave Propagation	EC2009	PCC	3	2-0-2-0
6	Integrated Circuit Technologies	EC2010	PCC	3	3-0-0-0
7	Multi-Disciplinary Minor-2	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
Total				22	17-1-08-0
					26

Exit: After successful completion of 4 semesters, a student may get an exit option as per ordinance. They need to do ***Skill Based Courses of 6 credits***, additional, in summer, before exit. Department will provide a list of such courses.

“Applicable with effect from 2023 admitted batch and onwards”

Semester 5					Total Credit: 22
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Digital Signal Processing	EC3001	PCC	4	3-0-2-0
2	Embedded System Design	EC3002	PCC	3	2-0-2-0
3	Microwave Engineering	EC3003	PCC	3	2-0-2-0
4	Digital Communication	EC3004	PCC	4	3-0-2-0
5	Program Elective-I A) Electrical Machines B) Advanced Computer Architectures C) AI & ML Techniques D) Solid State Devices E) Any Other	EC5501-EC5599	PEC	3	3-0-0-0
6	Multi-Disciplinary Minor-3	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
7	Design Thinking and Innovation	EC3501	HSMC (AEC)	2	1-0-2-0
Total				22	17-0-10-0=27
					27

“Applicable with effect from 2023 admitted batch and onwards”

Semester 6				Total Credit: 18	
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Data Communication & Networking	EC3005	PCC	3	2-0-2-0
2	Mobile and Wireless Communication	EC3006	PCC	3	2–0–2-0
3	Program Elective-II A) Power Electronics B) Testing & Verification C) Optical Communication D) Detection & Estimation Theory E) Physics of Nanoscale Devices F) Any Other	EC5501-EC5599	PEC	3	3–0–0-0
4	Project	EC3559	VSEC	4	0-0-8-0
5	Multi-Disciplinary Minor-4	MS2501-MS2599	MDM	3	3–0–0-0
		AS2501-AS2599			
		CS2501- CS2599			
6	Indian language(I1-I10)		HSMC (AEC)	2	1-0-2-0
	Sanskrit	MS1401			
	(I2-I10)	MS1402 – MS1410			
	Foreign language(F1-F10)				
	German	MS1500			
	Japanese	MS1501			
	French	MS1502			
	(F4-F10)	MS1503-MS1510			
	Regional Language(R1-R10)				
	(R1-R10)	MS1600- MS1610			
Total				18	11-0-14-0 24

Exit: After successful completion of 6 semesters, a student any get an exit option after completion of the summer semester internship (3 credits) and additional 3 credit courses in summer.

I1 to I10, F1 to F10 and R1 to R10 will be decided by concerned department.

Summer Semester					Total Credit: 3
Sl. No.	Course Name	Code	Type	Credit	
1	Internship	EC4600	ELC	3	Credit will be added in VII Sem.

Note: Internship will be evaluated in the beginning of seventh semester. Its credit and grades will be reflected in the 7th Semester Grade Sheet.

“Applicable with effect from 2023 admitted batch and onwards”

Semester 7				Total Credit: 21	
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Program Elective-III A) Electrical Vehicles B) FPGA Architectures C) Image Processing & Image Vision D) Multiple Input-Multiple Output (MIMO) E) Low Power System Design F) Any Other	EC5501-EC5599	PEC	3	3-0-0-0
2	Program Elective-IV A) Radar & Satellite Communication B) MEMS C) Speech Processing D) Emerging Nanoscale Devices E) 6G & THz Communication F) Any Other	EC5501-EC5599	PEC	3	3-0-0-0
3	Open Elective-I		OEC	3	3-0-0-0
4	Multi-Disciplinary Minor-5	MS2501-MS2599	MDM	3	3-0-0-0
		AS2501-AS2599			
		CS2501- CS2599			
5	History of Indian Civilizations	MS1800	HSMC (IKS)	2	2-0-0-0
	Kautilya’s Arthashastra	MS1801			
	Vedic Mathematics	MS1802			
	Vedic Corpus	MS1803			
	Wisdom from the Ages	MS1804			
	Panini’s Grammar	MS1805			
	X1 – X9	MS1806 – MS1815			
6	Internship (Summer Semester)	EC4600	ELC	3	0-0-0-6
7	Project	EC4501	ELC	4	0-0-8-0
Total				21	14-0-8-6
					28
Semester 8				Total Credit: 14	
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Major Project	EC5601	ELC	8	0-0-16-0
2	Program Elective-V(X1-X199) A) IOT B) System on Chip C) Any Other	EC5501-EC5599	PEC	3	0-0-0-3
3	Open Elective-II		OEC	3	0-0-0-3
Total				14	0-0-16-6
					22

*8th Semester courses may be allowed to join via MOOC/NPTEL etc.

“Applicable with effect from 2023 admitted batch and onwards”

LIST OF ELECTIVES

Total Credit: 21					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Image and Video Processing	IT5504	PEC	3	3
2	Deep Learning	IT5505	PEC	3	3
3	Probabilistic Machine Learning and Graphical Model	IT5506	PEC	3	3
4	Optimization	IT5507	PEC	3	3
5	Deep Learning	IT5508	PEC	3	3
6	Robot Motion Control	IT5509	PEC	3	3
7	Foundations of Robotics	IT5510	PEC	3	3
8	Advanced Graphics & Animation	IT5511	PEC	3	3
9	Virtual Reality	IT5512	PEC	3	3
10	Software Design & Architecture	IT5513	PEC	3	3
11	Software Requirements and Estimation	IT5514	PEC	3	3
12	Software Testing and Quality Management	IT5515	PEC	3	3
13	Data Visualization	IT5516	PEC	3	3
14	Big Data Analytics	IT5517	PEC	3	3
15	Parallel and Distributed Computing	IT5518	PEC	3	3
16	Principles of Wireless Communications	IT5519	PEC	3	3
17	Cloud and Edge Computing	IT5520	PEC	3	3
18	Embedded Systems and IoT	IT5521	PEC	3	3
19	Information Security Laws and Regulations	IT5522	PEC	3	3
20	Network Security	IT5523	PEC	3	3
21	Cyber Physical System Security	IT5524	PEC	3	3
22	Visual Recognition	IT5525	PEC	3	3
23	Computer vision	IT5526	PEC	3	3

“Applicable with effect from 2023 admitted batch and onwards”

24	Natural Language Processing	IT5527	PEC	3	3
25	Database Security	IT5528	PEC	3	3
26	Blockchain Technology	IT5529	PEC	3	3
27	Remote Sensing and GIS	IT5530	PEC	3	3
28	Social Network Analysis	IT5531	PEC	3	3
29	Generative AI and LLMs	IT5532	PEC	3	3
30	Large Language Model Conditioned Human-Robot Interactions	IT5533	PEC	3	3
31	Distributed Systems	IT5534	PEC	3	3
32	Optimization	IT5535	PEC	3	3
33	Probabilistic Graphical Models	IT5536	PEC	3	3
34	Cyber Security and Digital Forensics	IT5537	PEC	3	3
35	OMICS	AS5501	PEC	3	3
36	Data Analytics Fundamentals for Biology	AS5502	PEC	3	3
37	Scripting and Computer Environments	AS5503	PEC	3	3
38	Next-Generation Sequencing Tools and Algorithms	AS5504	PEC	3	3
39	Data Engineering for Molecular Structure Prediction	AS5505	PEC	3	3
40	Circuits and Instrumentation for Biomedical Engineering	AS5506	PEC	3	3
41	Biomechanics	AS5507	PEC	3	3
42	Biosignal Processing	AS5508	PEC	3	3
43	Mathematics and Statistics for Biology	AS5509	PEC	3	3
44	Molecular Biology	AS5510	PEC	3	3
45	Anatomy & Physiology	AS5511	PEC	3	3
46	Advanced Medical Instrumentation	AS5512	PEC	3	3
47	Biomedical Imaging	AS5513	PEC	3	3
48	Solid State Devices	EC5503	PEC	3	3

“Applicable with effect from 2023 admitted batch and onwards”

49	Testing and Verification	EC5505	PEC	3	3
50	Analog Integrated Circuit Design	EC5506	PEC	3	3
51	Advanced Digital Communication	EC5507	PEC	3	3
52	Statistical Signal Analysis	EC5508	PEC	3	3
53	Radiating Systems	EC5509	PEC	3	3
54	Introduction to Machine Learning	EC5510	PEC	3	3
55	Principles of Wireless Communications	EC5511	PEC	3	3
56	Recent Advances in Machine Learning	EC5512	PEC	3	3
57	Hardware Design Methodology	EC5513	PEC	3	3
58	Physics of Nanoscale Devices	EC5514	PEC	3	3
59	Radar & Satellite Communication	EC5515	PEC	3	3
60	Micro-electromechanical Systems	EC5516	PEC	3	3
61	Speech Processing	EC5517	PEC	3	3
62	Emerging Nanoscale Devices	EC5518	PEC	3	3
63	6G & THz Communication	EC5519	PEC	3	3
64	RF Integrated Circuit Design	EC5520	PEC	3	3

Multidisciplinary Minor

Entrepreneurship & Innovation				
Semester	Course Code	Course Title	Credits	Hours
				L-T-P-S
III	MS2501	Fundamentals of Entrepreneurship	3	2-0-2-0
IV	MS2502	Social Entrepreneurship	3	2-0-2-0
V	MS2503	Entrepreneurial Finance	3	2-1-0-0
VI	MS2504	Innovation Management	3	2-0-2-0
VII	MS2505	Managing Corporate Entrepreneurship	3	2-0-2-0
		Total	15	

Economics & Finance for Engineers				
Semester	Course Code	Course Title	Credits	Hours
				L-T-P-S
III	MS2506	Indian Economics	3	2-0-2-0
IV	MS2507	Money and Banking	3	2-0-2-0
V	MS2508	Economics of Business Environment	3	2-1-0-0
VI	MS2509	Start-up Economics	3	2-0-2-0
VII	MS2510	Digital Economics	3	2-0-2-0
		Total	15	

“Applicable with effect from 2023 admitted batch and onwards”

Science of Happiness				
Semester	Course Code	Course Title	Credits	Hours
				L-T-P-S
III	CS2501	Introduction to Science of Happiness	3	2-0-2-0
IV	CS2502	Understanding Domains of Happiness	3	2-0-2-0
V	CS2503	Happiness Indices	3	2-1-0-0
VI	CS2504	Assessment of happiness	3	2-0-2-0
VII	CS2505	Independent Study of Science of Happiness	3	2-0-2-0
		Total	15	

Biological Data Analytics				
Semester	Course Code	Course Title	Credits	Hours
				L-T-P-S
III	AS2501	Proteomics and Genomics	3	2-0-2-0
IV	AS2502	Next Generation Sequencing	3	2-0-2-0
V	AS2503	Cheminformatics for Engineers	3	2-1-0-0
VI	AS2504	Systems Biology and Modeling	3	2-0-2-0
VII	AS2505	Molecular Structure Prediction	3	2-0-2-0
		Total	15	

“Applicable with effect from 2023 admitted batch and onwards”

Medical Diagnostics and Therapeutic Technology				
Semester	Course Code	Course Title	Credits	Hours
				L-T-P-S
III	AS2506	Basics of Human Anatomy & Physiology	3	2-0-2-0
IV	AS2507	Biomedical Instrumentation	3	2-0-2-0
V	AS2508	Bio-MEMs and Nanotechnology	3	2-1-0-0
VI	AS2509	Medical Imaging	3	2-0-2-0
VII	AS2510	Tissue engineering and Gene therapy	3	2-0-2-0
		Total	15	

Mathematical Analysis				
Semester	Course Code	Course Title	Credits	Hours
				L-T-P-S
III	AS2511	Real Analysis	3	3-0-0-0
IV	AS2512	Introduction to Topology	3	3-0-0-0
V	AS2513	Differential Geometry of Curves and Surfaces	3	3-0-0-0
VI	AS2514	Measure Theory	3	3-0-0-0
VII	AS2515	Functional Analysis	3	3-0-0-0
		Total	15	

“Applicable with effect from 2023 admitted batch and onwards”

Frontiers in Physics				
Semester	Course Code	Course Title	Credits	Hours
				L-T-P-S
III	AS2516	Light Matter Interaction	3	2-1-0-0
IV	AS2517	Physics of Space and Time	3	2-1-0-0
V	AS2518	Magnetic Materials and Applications	3	2-1-0-0
VI	AS2519	Quantum Materials & Devices	3	2-1-0-0
VII	AS2520	Green Energy Physics	3	2-1-0-0
		Total	15	

“Applicable with effect from 2023 admitted batch and onwards”