B Tech in Information Technology
(2022 Batch)

Year		THIRD SEMESTER						FOURTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
II	MAT ****	Engineering Mathematics – III	2	1	0	3	MAT ****	Engineering mathematics – IV	2	1	0	3
	*** ****	Data Structures	3	1	0	4	ICT ****	Database Systems	3	1	0	4
	ICT ****	Object Oriented Programming	3	1	0	4	*******	Design and Analysis of Algorithms	3	1	0	4
	ICT ****	Digital Systems and Computer Organization	4	0	0	4	*** ****	Embedded Systems	4	0	0	4
	ICT ****	Principles of Data Communication	3	0	0	3	*** ****	Computer Networks	4	0	0	4
	*** ****	Data Structures Lab	0	0	3	1	*******	Database Systems Lab	0	0	3	1
	ICT ****	Object Oriented Programming Lab	0	0	3	1	ICT ****	Embedded Systems Lab	0	0	3	1
	*** ****	Digital Systems Lab	0	0	3	1	ICT ****	Network Programming and Simulation Lab	0	0	3	1
			15	3	9	21			16	5	9	22
	Total Contact Hours (L + T + P)						Total Contact Hours (L + T + P)					

*The departments may interchange the credits of Third and Fourth semesters based on need

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Year	FIFTH SEMESTER						SIXTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
III		HUM - 1	3	0	0	3		HUM – 2	3	0	0	3
	ICT ****	Information Security	3	0	0	3	ICT ****	Flexible Core – 2 (A/B/C)*	3	0	0	3
	ICT ****	Principles of Operating Systems	4	0	0	4	ICT ****	Data Mining	4	0	0	4
	ICT ****	Software Engineering	3	0	0	3	ICT****	PE – 1 / Minor Specialization	3	0	0	3
	ICT ****	Flexible Core – 1 (A/B/C)*	3	0	0	3	ICT****	PE – 2 / Minor Specialization	3	0	0	3
		OE – Creativity, Problem Solving and Innovation** (MLC) - mandatory	3	0	0	3		OE – 1** (MLC)	3	0	0	3
	ICT ****	Information Security Lab	0	0	3	1	ICT ****	Advanced Technology Lab	0	0	3	1
	ICT ****	Principles of Operating Systems lab	0	0	3	1	ICT ****	Data Mining Lab	0	0	3	1
			19	0	6	21			19	0	6	21
	Total Contact Hours (L + T + P)						Total Contact Hours (L + T + P)					

*Courses of three independent tracks A, B, C to be identified by the department
** Performance of students to be recorded in Eighth semester grade sheet?

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Year	SEVENTH SEMESTER						EIGHTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
IV	******	PE – 3 / Minor Specialization	3	0	0	3		Industrial Training (MLC)				1
	******	PE – 4 / Minor Specialization	3	0	0	3	******	Project Work				12
	******	PE – 5	3	0	0	3	******	Project Work (B Tech – honours)* (V - VIII sem)				20
	******	PE – 6	3	0	0	3	******	B Tech – honours Theory – 1* (V semester)				4
	******	PE - 7	3	0	0	3	******	B Tech – honours Theory – 2* (VI semester)				4

		L	T	P	C						C
	OE – 2** (MLC)	3	0	0	3	*******	B Tech – honours Theory – 3* (VII semester)				4
*******	Mini Project (Minor specialization)***				8						
		18	0	0	18/26***						13/33*
Total Contact Hours (L + T + P)						**Total Contact Hours (L + T + P)**					

*Applicable to eligible students who opted for and successfully completed the B Tech – honours requirements
** Performance of students to be recorded in Eighth semester grade sheet?
***Applicable to students who opted for minor specialization

V SEMESTER Flexible CORE
       1) Data Structures for Databases/Software Project Management/Theoretical Foundations of Computer Science
VI Semester Flexible CORE
       2) DDBMS(NOSQL)/Software verification and validation/Compiler Constructions
Core A: Database Systems: Data Structures for Databases, DDBMS(NOSQL)
Core B: Software Management: Software Project Management, Software verification and validation
Core C: System software: Theoretical Foundations of Computer Science, Compiler Constructions

Minor Specializations	Other Program Electives	
I. Computational Intelligence	ICT ****: Fundamentals of Cloud Computing	**Coursera Programme Electives Offered**
ICT ****: Artificial Intelligence	ICT ****: Deep Learning	**Offered in 6th semester:**
ICT ****:Theoretical Foundations of Machine Learning	ICT ****: Game Theory and Applications	CRA **** Data Scientists Toolbox And R Programming CRA **** Introduction To Data Science
ICT ****: Pattern recognition	ICT ****: High Performance Computing	
ICT ****: Neural Computation and Applications	ICT ****: Human Computer Interaction	**Offered in 7th semester:**
II. Computer Graphics and Visualization	ICT ****: Fundamentals of Internet of Things	CRA **** Data Science - Part II-Fundamental Techniques Of Data Science CRA **** Advanced Data Science - Part III
ICT *****: Computer Graphics	ICT ****: Software Reliability	
ICT *****: Digital Image Processing	ICT ****: Evolutionary Computing and Swarm Intelligence	
ICT *****: Augmented and Virtual Reality	ICT ****: Fundamentals of 5G networks	
ICT *****: Computer Vision	ICT ****: Explainable AI	
III. Data Analytics		
ICT *****: Fundamentals of Information Retrieval		
ICT *****: Big Data Analytics		
ICT ***** :Social Network Analysis		
ICT *****: Semantic Web	**Open Electives**	

IV. Software System Design ICT **** : Advanced Software Engineering ICT **** : Software Architecture ICT ****: Software Quality Management ICT **** : Software Construction **V. Cyber Security** ICT ****: Cyber Forensics and Cyber laws ICT ****: Ethical hacking ICT ****: Blockchain Technology ICT ****: Artificial Intelligence in Cyber security	ICT ****: Computer Graphics and Animation ICT ****: Design and Development of Web Applications ICT ****: Fundamentals of Data Structures and Algorithms ICT ****: Machine Learning Tools and Technologies ICT ****: Networking with TCP/IP ICT **** : Fundamentals of Cyber Security ICT **** : Game Theory and Engineering Applications	**Financial Technology** HUM **** Financial Management HUM **** Fintech Services HUM****:Financial Econometrics HUM ****Technologies For Finance **Entrepreneurship Development** HUM 4051: Financial Management HUM ****: Entrepreneurship HUM ****: Design Thinking HUM ****: Intellectual Property Management **Business Management** HUM 4051: Financial Management HUM ****:Human Resource Management HUM 4053:Marketing Management HUM 4054:Operations Management
People Management HUM****:Organizational Behaviour HUM****:Human Resource Management	**Professional Communication** HUM****: Public Speaking I (VI Sem.) HUM****:Intercultural Communication II (VI Sem.) HUM****: Corporate Communication III (VII Sem.) HUM ****: Technical and Business Writing	

HUM****: Professionalism & Ethics HUM****:Leadership & Decision Making **Finance and Investments** HUM 4051: Financial Management HUM ****:Financial System HUM****:Security Analysis & Portfolio Management HUM ****: Project Finance **Modern Literature** HUM****:Understanding Literature HUM****:Twentieth Century Literature HUM****:Comparative Literature HUM****:Modern Indian Literature		

BTech Honors additional Subjects
1. Advanced Data Structures and Algorithms (5th semester)
2. Advanced Communication Network Technologies(6th semester)
3. Full stack machine learning (6th semester)
4. Advanced Operating Systems(7th semester)