

B. Tech in Information Technology (Academic Year 2021)

Year	Subject code	THIRD SEMESTER				Subject code	FOURTH SEMESTER					
		Subject Name	L	T	P		C	Subject Name	L	T	P	C
2	MAT_2155	Engineering Mathematics - III	2	1	0	3	MAT_2256	Engineering Mathematics - IV	2	1	0	3
	IT_2153	Data Structures	3	1	0	4	IT_2255	Computer Network Protocols	4	0	0	4
	IT_2154	Digital Systems	3	1	0	4	IT_2256	Computer Organization and Microprocessor Systems	3	0	0	3
	IT_2155	Object Oriented Programming	3	1	0	4	IT_2257	Design and Analysis of Algorithms	3	1	0	4
	IT_2156	Principles of Data Communication	3	1	0	4	IT_2258	Operating Systems	3	1	0	4
	IT_2162	Data Structures Lab	0	1	2	2	*** **	Open Elective - I				3
	IT_2163	Digital Systems Lab	0	1	2	2	IT_2263	Algorithms Lab	0	0	3	1
	IT_2164	Object Oriented Programming Lab	0	0	3	1	IT_2264	Microprocessor Systems Lab	0	0	3	1
							IT_2265	Operating Systems Lab	0	0	3	1
	TOTAL		14	7	7	24		TOTAL	15	3	9	24
	Total Contact Hours (L + T + P)		28					Total Contact Hours (L + T + P) + OE	27 + 3 = 30			
	FIFTH SEMESTER					SIXTH SEMESTER						
3	HUM_3052	Essentials of Management	2	1	0	3	HUM_3051	Engg. Economics and Financial Management	2	1	0	3
	IT_3156	Cyber Security	3	0	0	3	IT_3253	Data Warehousing and Data Mining	3	0	0	3
	IT_3157	Database Systems	3	0	0	3	IT_3254	Distributed Systems	3	0	0	3
	IT_3158	Embedded Systems	3	1	0	4	IT ****	Program Elective - I	3	0	0	3
	IT_3159	Software Engineering	3	1	0	4	IT ****	Program Elective –II	3	0	0	3
	*** **	Open Elective - II				3	*** **	Open Elective - III				3
	IT_3163	Database Systems Lab	0	1	2	2	IT_3264	Advanced Technology Lab	0	0	3	1
	IT_3164	Embedded Systems Lab	0	0	3	1	IT_3265	Data Warehousing and Data Mining Lab	0	1	2	2
	IT_3165	Network Programming and Simulation Lab	0	0	3	1	IT_3266	Internet Tools and Technology Lab	0	1	2	2
	TOTAL		14	4	8	24		TOTAL	14	3	7	23
	Total Contact Hours (L + T + P) + OE		26 + 3 =29					Total Contact Hours (L + T + P) + OE	24+3 = 27			
	SEVENTH SEMESTER					EIGHTH SEMESTER						
4	IT ****	Program Elective - III	3	0	0	3	IT_4298	Industrial Training	0	0	0	1
	IT ****	Program Elective - IV	3	0	0	3	IT_4299	Project Work / Practice School	0	0	0	12
	IT ****	Program Elective- V	3	0	0	3	IT_4296	Project work(Only for B.Tech. Honour Students)				20
	IT ****	Program Elective- VI	3	0	0	3						
	IT ****	Program Elective- VII	3	0	0	3						
	*** **	Open Elective - IV				3						
	TOTAL		15	0	0	18		TOTAL	0	0	0	13
	Total Contact Hours (L + T + P) + OE		15 + 3 = 18									

<p>Minor Specializations</p> <p>I. Computational Intelligence CSE_4053: Artificial Intelligence IT_4031: Computer Vision IT_4032: Machine Learning CSE_4054: Soft Computing Paradigms</p> <p>II. Computer Graphics and Visualization CSE_4051: Augmented and Virtual Reality IT_4033: Computer Graphics IT_4031: Computer Vision CSE_4052: Digital Image Processing</p> <p>III. Data Analytics IT_4034 : Big Data Analytics IT_4035 : Information Retrieval IT_4056 : Machine Learning for Data Analytics IT_4036 : Semantic Web</p> <p>IV. Software System Design IT_4037 : Advanced Software Engineering IT_4038 : Software Architecture IT_4039: Software Project and Quality Management IT_4040 : Software Construction</p>	<p>V. Material Science PHY_4051 : Physics of Low Dimensional Materials PHY_4052: Physics of Photonic & Energy storage devices CHM_4051: Chemical Bonding CHM_4052: Chemistry of Carbon compound</p> <p>VI. Business Management HUM_4051: Financial Management HUM_4052: Human Resource Management HUM_4053: Marketing Management HUM_4054: Operation Management</p> <p>VII. Computational Mathematics MAT_4051: Applied Statistics and Time Series Analysis MA_4052: Computational Linear Algebra MAT_4053: Computational Probability and Design of Experiments MAT_4054: Graphs and Matrices</p> <p>Note: B Tech Honours students must take 3 additional theory courses of 12 credits and an additional research project of 8 credits to accumulate 20 credits.</p> <p>The additional theory for BTech Honours courses: CSE_5020 Information Security Management. CSE_5021 Internet of Things Security CSE_5022 Advanced Machine Learning</p>	<p>Other Program Electives IT_4045: Cloud Computing IT_4046: Deep Learning IT-4047: Game Theory with Computer Applications IT_4048: High Performance Computing IT_4049: Human Computer Interaction IT_4050: Internet of Things IT_4051: Natural Computing IT_4052: Neural Networks and Fuzzy Logic IT_4053: Pattern Recognition IT_4054: Social Network Analysis IT_4055: Software Reliability</p> <p>Open Electives IT_4301: Computer Graphics and Animation IT_4302: Design and Development of Web Applications IT_4303: Fundamentals of Data Structures and Algorithms IT-4304: Machine Learning Tools and Technologies IT_4305: Networking with TCP/IP IT_4306 : Cyber Security IT_4307 : Game Theory & Applications</p>
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