

B Tech in Computer Science & Engineering (Cyber Security) (Academic Year 2022)

Year	THIRD SEMESTER						FOURTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
II		Engineering Mathematics - III	2	1	0	3		Engineering mathematics - IV	2	1	0	3
		Computer Organization & Architecture	3	1	0	4		Formal Languages and Automata Theory	2	1	0	3
		Data Structures	3	1	0	4		Design and Analysis of Algorithms	3	1	0	4
		Digital System Design	3	1	0	4		Embedded Systems	3	1	0	4
		Object Oriented Programming	3	1	0	4		Database Systems	3	1	0	4
		Data Structures Lab	0	0	3	1		Database Systems Lab	0	0	3	1
		Digital System Design Lab	0	0	3	1		Algorithms Lab	0	0	3	1
		Object Oriented Programming Lab	0	0	3	1		Embedded Systems Lab	0	0	3	1
		14	5	9	22			13	5	9	21	
	Total Contact Hours (L + T + P)		28			Total Contact Hours (L + T + P)		27				
Year	FIFTH SEMESTER						SIXTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
III		Essentials of Management	3	0	0	3		Engineering Economics and Financial Management	3	0	0	3
		Number Theory and Cryptography	2	1	0	3		Applied Cryptography	2	1	0	3
		Computer Networks	2	1	0	3		Cyber Security	2	1	0	3
		Operating Systems	2	1	0	3		PE – 1 / Minor Specialization	3	0	0	3
		Digital Forensics	2	1	0	3		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
		Number Theory and Cryptography Lab	0	0	3	1		Applied Cryptography-Lab	0	0	3	1
		Operating Systems Lab	0	0	3	1		Cyber Security and Forensics Lab	0	0	3	1
		Computer Networks Lab	0	0	3	1		Web Programming Lab	0	0	3	1
		14	4	9	21			16	2	9	21	
	Total Contact Hours (L + T + P)		27			Total Contact Hours (L + T + P)		27				

** Performance of students to be recorded in Eighth semester grade sheet.

B Tech in Computer Science & Engineering (Cyber Security) (Academic Year 2022)

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
		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)		18			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

B Tech in Computer Science & Engineering (Cyber Security) (Academic Year 2022)

<p>Minor Specializations</p> <p>I. Advanced Security Systems</p> <ol style="list-style-type: none">1. Cryptography & Network Security2. Distributed Cloud Security3. Cyber Law and Ethics4. AI in Cyber Security <p>II. Internet of Things</p> <ol style="list-style-type: none">1. Introduction to IoT2. IoT in Agriculture3. IoT for Healthcare4. Smart Cities <p>III. Entrepreneurship</p> <ol style="list-style-type: none">1. Financial Management2. Entrepreneurship3. Design Thinking4. Intellectual Property Management <p>IV Fintech</p> <ol style="list-style-type: none">1. Financial Economics2. Financial Management3. Fintech Services4. Technologies for Services <p>Coursera Courses</p> <ol style="list-style-type: none">1. Big Data Modelling and Management Systems2. Big Data Integration and Processing3. Machine Learning with Big Data4. Graph Analytics for Big Data	<p>Other Programme Electives</p> <ol style="list-style-type: none">1. Cryptanalysis2. Block chain technology3. Mobile security and privacy4. Ethical hacking and cyber security5. Information retrieval6. Wireless networks7. Software defined networks8. Hardware security9. Quantum computing10. AI in cybersecurity11. Network security12. Cyber forensics13. Artificial intelligence in cyber security14. Database and application security15. Software engineering16. Distributed systems17. Advanced computer networks18. Android application development19. Data warehousing and advanced data mining20. Deep learning21. Cognitive systems22. Robotics and intelligent systems23. Parallel computer architecture and programming24. Object-oriented system design	<p>Open Electives</p> <ol style="list-style-type: none">1. Essentials of Industrial Computing2. Essentials of IT3. Linux Programming4. Principles of Database Systems5. Principles of Software Engineering6. Python Programming7. Web Programming8. Fundamentals Of Quantum Computing (PHY)9. Scientific Thinking and Creativity (PHY) <p>Note: B. Tech Honors Students must take 3 additional theory courses of 12 credits and an additional research project of 8 credits so as to accumulate 20 credits.</p> <p>The additional theory courses:</p> <ol style="list-style-type: none">1. Advanced Machine Learning2. Pattern Recognition3. Advanced Cryptography
--	---	---