

Central University of Rajasthan
School of Engineering & Technology
Department of Computer Science & Engineering
Scheme and Syllabus 2025 – 26 onwards

Master of Technology in Computer Science & Engineering with Specialization in Information Security
(M.Tech. (CSE))

Program Outcomes:

- PO1. An understanding of the theoretical foundations and the limits of computing.
- PO2. An ability to adapt existing models, techniques, algorithms, data structures, etc. for efficiently solving problems.
- PO3. An ability to design, develop and evaluate new computer based systems for novel applications which meet the desired needs of industry and society.
- PO4. Understanding and ability to use advanced computing techniques and tools.
- PO5. An ability to undertake original research at the cutting edge of computer science & its related areas.
- PO6. An ability to function effectively individually or as a part of a team to accomplish a stated goal.
- PO7. An understanding of professional and ethical responsibility.
- PO8. An ability to communicate effectively with a wide range of audience.
- PO9. An ability to learn independently and engage in life-long learning.
- PO10. An understanding of the impact of IT related solutions in an economic, social and environment context.

Program Specific Outcomes:

1. At the end of the program, graduates will be able to get insights into various fields of information security with a deep understanding of theoretical aspects of security and related analysis.
2. Graduates should also get a broader understanding of various security systems, protocols, complexities, standards, practical applicability, and their limitations.
3. During the course, students should enhance their inquisitiveness to ever-evolving domain of information security and apply their knowledge to solve problems.

Scheme

	Department Specific Course (DSC)	Department Specific Elective (DSE)	Skill enhancement Course	Ability enhance/value added courses (AEC)	Total
Sem1	8	8	4	-	20
Sem2	8	4	8	-	20
Sem 3	4	-	-	16	20
Sem 4		-	-	20	20
	20	12	12	36	160

First Year

			SEMESTER I				
Sr. No	Course Code	Nature of course	Course Name	L	T	P	Credits
				Hours/week			
1	6.5CSE01	DSC	Algorithm and Complexity	3	1	0	4
2	6.5CSE02	DSC	Topics in Computer Science	3	0	2	4
3	--	DSE	Program Elective -I	3	1	0	4
4	--	DSE	Program Elective -II	3	1	0	4
5		SEC	Open Elective -I	3	1	0	4
			Total Credits				
			20				

		SEMESTER II					
Sr. No	Course Code	Nature of course	Course Name	L	T	P	Credits
				Hours/week			
1	6.5CSE03	DSC	Cryptography and Network Security	3	0	2	4
2	6.5CSE04	DSC	Security Engineering	3	0	2	4
3	--	DSE	Program Elective –III	3	1	0	4
4		DSE	Program Elective – IV	3	1	0	4
5		SEC	Open Elective – II	3	1	0	4
		Total Credits					
		20					

Second Year

SEMESTER III							
Sr. No	Course Code	Nature of course	Course Name	L	T	P	Credits
				Hours/week			
1	7CSE01	DSE	SSR	0	0	8	4
2	7CSE02	AEC	Dissertation – I / Project - I	0	0	32	16
Total Credits							20

SEMESTER IV							
Sr. No	Course Code	Nature of course	Course Name	L	T	P	Credits
				Hours/week			
1	7CSE03	AEC	Dissertation – II / Project - II	0	0	40	20
Total Credits							20

Note: Course 7CSE01 shall be of Self-study, where a student is supposed to study a advanced topic in Computer Science/IT and needs to prepare technical report based on their study and the evaluation shall be done through seminar (CIA 1, CIA 2 and ESE).

List of Electives

Following list has to be used for offering Programme Elective/ Open Elective. Additional Elective can be added as and when required after taking departmental approval.

Course Code	Programme / Open Elective (s)
6.5CSE31	Quantum Cryptography
6.5CSE32	Information Security Audit and Assurance
6.5CSE33	Security Analysis of Protocols
6.5CSE34	Cyber Crime, Forensics and Information Warfare
6.5CSE35	Public Key Infrastructure and Trust Management
6.5CSE36	Digital Watermarking and Steganalysis
6.5CSE37	Data Mining and Machine Learning
6.5CSE38	Simulation and Modeling
6.5CSE39	Optimization Techniques
6.5CSE40	Topics in Operating Systems
6.5CSE41	Topics in Computer Architecture
6.5CSE42	Advanced Compiler Design
6.5CSE43	Advanced Topics in Databases
6.5CSE44	Mobile Computing
6.5CSE45	Advance Software Engineering
6.5CSE46	Multimedia System and Security
6.5CSE47	Secure Programming Techniques
6.5CSE48	Network Protocols
6.5CSE49	Cloud Computing
6.5CSE50	Parallel Processing
6.5CSE51	Digital Image Processing
6.5CSE52	Biometrics and Security
6.5CSE53	Number Theory
6.5CSE54	Machine Learning
6.5CSE55	System Design

6.5CSE56	Information Theory and Coding
6.5CSE57	Computer Vision

6.5CSE58	Natural Language processing
6.5CSE59	Large language models