

**DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING**  
**Master of Technology**  
**in**  
**Computer Network Engineering**

**VISION**

The Department will provide quality and value-based education to produce innovative world-class computing engineers and will enhance quality research for the betterment of society

**MISSION**

- To impart high quality training, education and competence in information science domain through best-in class faculty and facilities
- To produce globally acceptable information science graduates who can contribute professionally to the industry and research activities by offering courses on emerging technologies.
- To provide platforms to work effectively and innovatively in multi-disciplinary domain.

**PROGRAM EDUCATIONAL OBJECTIVES**

**PEO1:** Graduates will have an understanding of computer networks and related skills necessary for successful careers.

**PEO2:** Graduate will be able to engage in higher studies or conduct research.

**PROGRAM SPECIFIC OUTCOMES**

**PSO-1 Problem Solving Skills:** Design and implement solutions for solving problems in Computer networks.

**PSO-2 Professional Skills:** Ability to demonstrate professional competence in communication skills, projects and involve in life-long learning

**PROGRAM OUTCOMES**

Students should have:

**PO1:** An ability to independently carry out research / investigation and development work to solve practical problems in Computer networking.

**PO2:** An ability to write and present a substantial technical report / document.

**PO3:** An ability to demonstrate a degree of mastery over the area with respect to Computer networking.

**PO4:** An ability to use and apply software tools in networking, handling project management with social and economic factors into consideration.

**PO5:** An ability to demonstrate in life-long learning and assess outcome, based on knowledge and engineering skills in Computer networking.

**CORE – Theory**

AMT1C02	Discrete Mathematics and Probability Theory	(4-0-0) 4
MCN1C02	Wireless Adhoc Network	(4-2-0) 5
MCN1C03	Advances in Computer Networks	(4-0-0) 4
MCN1C04	Information and Network Security	(4-2-0) 5
MCN1CRM	Research Methodology	(2-0-0) 2
MCN2C01	Cyber Crime and Digital forensic	(4-2-0) 5
MCN2C02	Cloud Computing	(4-2-0) 5
MCN2C03	Protocol Engineering	(4-0-0) 4
MCN2C04	Network Management	(3-0-2) 4

**CORE – Lab**

MCN1L01	Advance Computer Networks lab	(0-0-2) 1
MCN2L01	Cryptography and Network security lab	(0-0-2) 1

**DEPT. ELECTIVE – I**

MCN1E101	Multi core Architecture and programming	(3-0-0) 3
MCN1E102	Multimedia Communications	(3-0-0) 3
MCN1E103	Intrusion Detection and Prevention Systems	(3-0-0) 3
MCN1E104	Client server Programming	(3-0-0) 3
MCN1E105	Information Storage	(3-0-0) 3

**DEPT. ELECTIVE – 2**

MCN1E201	System Modeling and Simulation	(3-0-0) 3
MCN1E202	Principles of Information Security	(3-0-0) 3
MCN1E203	Distributed systems	(3-0-0) 3
MCN1E204	Artificial Intelligence	(3-0-0) 3
MCN1E205	Wireless Sensor Networks	(3-0-0) 3

**DEPT. ELECTIVE – 3**

MCN2E301	Optical Network	(3-0-0) 3
MCN2E302	Computer System performance Analysis	(3-0-0) 3
MCN2E303	Web Engineering	(3-0-0) 3
MCN2E304	Advances in Storage Area Network	(3-0-0) 3
MCN2E305	Real Time Systems	(3-0-0) 3
MCN2E306	Social Networks	(3-0-0) 3

**DEPT. ELECTIVE – 4**

MCN2E401	Big Data Analytics	(3-0-0) 3
MCN2E402	Computer forensics	(3-0-0) 3
MCN2E403	Human Computer Interface	(3-0-0) 3
MCN2E404	Information retrieval systems	(3-0-0) 3
MCN2E405	Advanced Digital Communication	(3-0-0) 3

**INDUSTRY DRIVEN ELECTIVE**

MCN2I01	Internet of Things	(2-0-0) 2
MCN2I02	Introduction to Machine Learning	(2-0-0) 2

**MOOC ELECTIVE**

MCN3M01	From Engineering Management Dept. (12 Weeks) (MOOC)	(3-0-0) 3
MCN3MO01	From Other Dept. (8 Weeks) (MOOC)	(2-0-0) 2

**PROJECT & SEMINAR**

MCN3C01	Seminar	(0-0-2) 1
MCN3C03	Internship	(0-0-10)5
MCN3C05	Project Phase-I	(0-0-14)8
MCN4C01	Project Phase – 2	(0-0-30)15

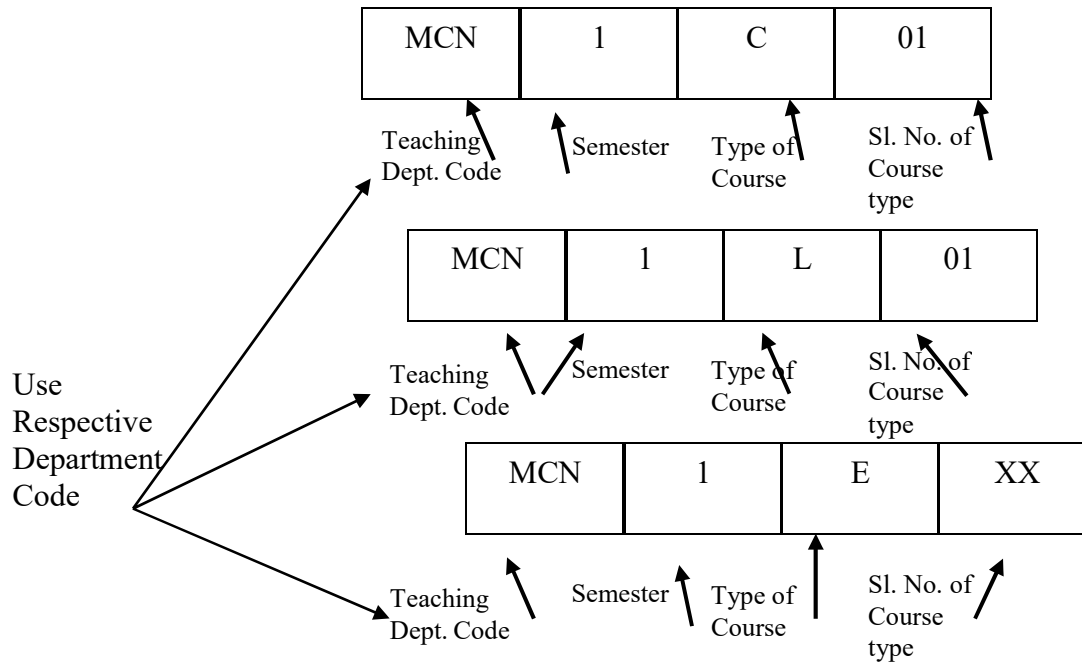
**SUGGESTED PLAN OF STUDY FOR REGULAR STUDENTS  
(88 Credits)**

<b>Semester Sl. No.</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
1	AMT1C01	MCN2C01	MCN3M01	MCN4C01
2	MCN1C02	MCN2C02	MCN3MO01	
3	MCN1C03	MCN2C03	MCN3C01	
4	MCN1C04	MCN2C04	MCN3C03	
5	MCN1E1XX	MCN2E3XX	MCN3C05	
6	MCN1E2XX	MCN2E4XX		
7	MCN1CRM	MCN2IXX		
8	MCN1L01	MCN2L01		
Total Cr.	27	27	19	15

**DEGREE REQUIREMENT**

<b>Department Core</b>	46
<b>Department Elective</b>	12
<b>Industry Driven Elective</b>	02
<b>MOOC &amp; Open Elective</b>	05
<b>Project Phase 1 &amp; 2</b>	23
<b>Total</b>	<b>88</b>

### Course Numbering Scheme



**SCHEME OF TEACHING AND EXAMINATION  
M. TECH COMPUTER NETWORK ENGINEERING**

**DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING**

<b>SCHEME OF TEACHING AND EXAMINATION I SEMESTER M. Tech.</b>							
Sl.No.	Code	Subject	Dept./Board	Hrs/week			Credits
				L	T	P	
1	AMT1C02	Discrete Mathematics and Probability Theory	Mathematics	4	0	0	4
2	MCN1C02	Wireless Adhoc Network	ISE	4	2	0	5
3	MCN1C03	Advances in Computer Networks	ISE	4	0	0	4
4	MCN1C04	Information and Network Security	ISE	4	2	0	5
5	MCN1E1XX	Department Elective-1	ISE	3	0	0	3
6	MCN1E2XX	Department Elective-2	ISE	3	0	0	3
7	MCN1CRM	Research Methodology	ISE	2	0	0	2
8	MCN1L01	Advance Computer Networks lab	ISE	0	0	2	1
<b>Total</b>				<b>31</b>			<b>27</b>

Sl.No	Subject Code	Subject	Teaching Hours/Week			Credits
			L	T	P	
<b>Department Elective-1</b>						
1	MCN1E101	Multi Core Architecture and Programming	3	0	0	3
2	MCN1E102	Multimedia Communications	3	0	0	3
3	MCN1E103	Intrusion Detection and Prevention Systems	3	0	0	3
4	MCN1E104	Client Server Programming	3	0	0	3
5	MCN1E105	Information Storage	3	0	0	3

Sl.No	Subject Code	Subject	Teaching Hours/ Week			Credits
			L	T	P	
<b>Department Elective – 2</b>						
1	MCN1E201	System Modeling and Simulation	3	0	0	3
2	MCN1E202	Principles of Information Security	3	0	0	3
3	MCN1E203	Distributed systems	3	0	0	3
4	MCN1E204	Artificial Intelligence	3	0	0	3
5	MCN1E205	Wireless Sensor Networks	3	0	0	3

**SCHEME OF TEACHING AND EXAMINATION  
II SEMESTER M.Tech**

Sl. No.	Code	Subject	Dept./Board	Hrs/week			Credits
				L	T	P	
1	MCN2C01	Cyber Crime and Digital Forensic	ISE	4	2	0	5
2	MCN2C02	Cloud Computing	ISE	4	2	0	5
3	MCN2C03	Protocol Engineering	ISE	4	0	0	4
4	MCN2C04	Network Management	ISE	3	2	0	4
5	MCN2E3XX	Department Elective-3	ISE	3	0	0	3
6	MCN2E4XX	Department Elective-4	ISE	3	0	0	3
7	MCN2IXX	Industry Driven Elective	ISE	2	0	0	2
8	MCN2L01	Cryptography and Network Security lab	ISE	0	0	2	1
<b>Total</b>				<b>31</b>			<b>27</b>

Sl. No	Subject Code	Subject	Teaching Hours/ Week			Credits
			L	T	P	
<b>Department Elective –3</b>						
1	MCN2E301	Optical Network	3	0	0	3
2	MCN2E302	Computer System Performance Analysis	3	0	0	3
3	MCN2E303	Web Engineering	3	0	0	3
4	MCN2E304	Advances in Storage Area Network	3	0	0	3
5	MCN2E305	Real Time Systems	3	0	0	3
6	MCN2E306	Social Networks	3	0	0	3

Sl. No	Subject Code	Subject	Teaching Hours/ Week			Credits
			L	T	P	
<b>Department Elective – 4</b>						
1	MCN2E401	Big Data Analytics	3	0	0	3
2	MCN2E402	Computer Forensics	3	0	0	3
3	MCN2E403	Human Computer Interface	3	0	0	3
4	MCN2E404	Information Retrieval Systems	3	0	0	3
5	MCN2E405	Advanced Digital Communication	3	0	0	3

Sl. No	Subject Code	Subject	Teaching Hours/ Week			Credits
			L	T	P	
<b>Industry Driven Electives</b>						
1	MCN2IXX	Course will be offered by Industry	2	0	0	2



<b>SCHEME OF TEACHING AND EXAMINATION III SEMESTER M.Tech.</b>						
<b>Sl. No.</b>	<b>Subject Code</b>	<b>Subject</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>
1	MCN3M01	Management Department (12 Weeks) (MOOC)	3	0	0	3
2	MCN3MO01	Open Elective (Other Department) (8 Weeks) (MOOC)	2	0	0	2
3	MCN3C01	Seminar	0	0	0	1
4	MCN3C03	Internship	0	0	0	5
5	MCN3C05	Project Phase-I	0	0	0	8
<b>Total Credits</b>						<b>19</b>

<b>SCHEME OF TEACHING AND EXAMINATION IV SEMESTER M.Tech</b>						
<b>Sl. No.</b>	<b>Subject Code</b>	<b>Subject</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>
1	MCN4C01	Project- Phase-2	0	0	0	15
<b>Total Credits</b>						<b>15</b>