M. TECH. (ICT) - 4 SEMESTERS

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SEMESTER I
(Software Engineering / Intelligent System)

S. No.	Code	Courses	L	T	P	Credits
1	ICT-6030	Object-Oriented Programming	3	0	0	3
2	ICT-6031	Advanced Computer Architecture	3	0	0	3
3	ICT-4001	Technical Communication	1	0	0	1
4	ICT-5033	Information Security	3	0	0	3
5	*ICT-5032*	*Data Base Management System*	*3*	*0*	*0*	*3*
6	ICT-6034	Advanced Computer Networks	3	0	0	3
7	ICT-5046	Artificial Intelligence	3	0	0	3
8	ICT-6530	Object-Oriented Programming Lab	0	0	4	2
9	ICT-6534	Advanced Computer Networks Lab	0	0	4	2
		Total	**19**	**0**	**8**	**23**

(Wireless Communication and Networks / VLSI Design)

S. No.	Code	Courses	L	T	P	Credits
1	ICT-6030	Object-Oriented Programming	3	0	0	3
2	ICT-6031	Advanced Computer Architecture	3	0	0	3
3	ICT-4001	Technical Communication	1	0	0	1
4	ICT-5033	Information Security	3	0	0	3
5	*ICT-5010*	*Digital Communication System*	*3*	*0*	*0*	*3*
6	ICT-6034	Advanced Computer Networks	3	0	0	3
7	ICT-5046	Artificial Intelligence	3	0	0	3
8	ICT-6530	Object-Oriented Programming Lab	0	0	4	2
9	ICT-6534	Advanced Computer Networks Lab	0	0	4	2
		Total	**19**	**0**	**8**	**23**

SEMESTER – II

S. No.	Code	Courses	L	T	P	Credits
1		Electives of Main Specialization (04 Courses)	12	0	0	12
2		Elective of Other #Specialization (01 Course)	3	0	0	3
3		Role and Realm of Values	2	0	0	2
4	ICT-6000	Seminar	0	0	4	2
5		Lab-I*	0	0	4	2
6		Lab-II*	0	0	4	2
		Total	**17**	**0**	**12**	**23**

It refers to any one of the remaining three specializations offered by the school of ICT.

* Details of lab-I and Lab-II for different specializations are given below.

SEMESTER – III

S. No.	Code	Courses	L	T	P	Credits
1		Electives of Main Specialization (04 Courses)	12	0	0	12
2		Elective of Other Specialization (01 Course)	3	0	0	3
3		Buddhist Ethics and Civilizational Harmony	2	0	0	2
4	ICT-6001	Research Methodologies	3	0	0	3
5	ICT-7000	Dissertation-Part I	1**	0	4	3
		Total	**21**	**0**	**4**	**23**

** *This will not be a usual lecture session, but this is one to one interaction of each individual student with the concerned faculty member.*

SEMESTER – IV

S. No.	Code	Courses	L	T	P	Credits
1	ICT-8000	Dissertation-Part II	0	0	38	19
		Total	**0**	**0**	**38**	**19**

Grand Total of Credits = 88

INTEGRATED M. TECH. (ICT) -7 SEMESTERS

SEMESTER – I

S. No.	Code	Courses	L	T	P	Credits
1	ICT-4002	Engineering Mathematics	3	0	0	3
2	ICT-3003	Basic Electronics	3	0	0	3
3	ICT-3010	Fundamentals of Electrical Engineering	3	0	0	3
4	ICT-4004	Discrete Structure	3	2	0	4
5	ICT-4037	Problem Solving using Java	3	2	0	4
6	ICT-4005	Technical Communication	2	0	0	2
7	ICT-5303	Basic Electronics Lab	0	0	4	2
8	ICT-5437	Problem Solving using Java Lab	0	0	4	2
		Total	**17**	**4**	**8**	**23**

SEMESTER – II

S. No.	Code	Courses	L	T	P	Credits
1	ICT-3038	Internet Technology	2	0	0	2
2	ICT-3039	Data Structures & Algorithms	3	2	0	4
3	ICT-4011	Analog and Digital Communication	3	2	0	4
4	ICT-4040	Computer Organization	3	0	0	3
5	ICT-4012	Digital Electronics	2	0	0	2
6	ICT-4013	Logic Design	2	0	0	2
7	ICT-4014	Linear Circuits	2	0	0	2
8	ICT-5339	Data Structures & Algorithms Lab	0	0	4	2
9	ICT-5413	Logic Design Lab	0	0	4	2
		Total	**17**	**4**	**8**	**23**

SEMESTER – III

S. No.	Code	Courses	L	T	P	Credits
1	ICT-4041	Operating System	3	0	0	3
2	ICT-5032	Data Base Management System	3	2	0	4
3	ICT-4043	Computer Network	3	0	0	3
4	ICT-4044	Software Engineering	3	0	0	3
5	ICT-5033	Information Security	3	0	0	3
6	ICT-5046	Artificial Intelligence	3	0	0	3
7	ICT-5532	Data Base Management System Lab	0	0	4	2
8	ICT-4543	Computer Network Lab	0	0	4	2
		Total	**18**	**2**	**8**	**23**

SEMESTER – IV

(For specialization in Software Engineering / Intelligent System)

S. No.	Code	Courses	L	T	P	Credits
1	ICT-5047	Advanced Java Programming	3	2	0	4
2	ICT-5048	Data Mining and Warehousing	3	0	0	3
3	ICT-5049	Design and Analysis of Algorithms	3	0	0	3
4	ICT-5050	Object-Oriented Analysis and Design	3	2	0	4
5	ICT-5051	Compiler Design	3	0	0	3
6		Role and Realm of Values	2	0	0	2
7	ICT-5547	Advanced Java Programming Lab	0	0	4	2
8	ICT-5551	Compiler Design Lab	0	0	4	2
		Total	**17**	**4**	**8**	**23**

(For specialization in Wireless Communication and Networks / VLSI Design)

S. No.	Code	Courses	L	T	P	Credits
1	ICT-5015	Electromagnetic Theory	3	0	0	3
2	ICT-6052	Information Theory	3	2	0	4
3	ICT-5016	Digital Signal Processing	3	2	0	4
4	ICT-5017	Automatic Control System	3	0	0	3
5	ICT-5018	Introduction to VLSI Systems	3	0	0	3
6		Role and Realm of Values	2	0	0	2
7	ICT-5516	Digital Signal Processing Lab	0	0	4	2
8	ICT-5518	Introduction to VLSI Systems Lab	0	0	4	2
		Total	**17**	**4**	**8**	**23**

SEMESTER – V

S. No.	Code	Courses	L	T	P	Credits
1		Electives of Main Specialization (04 Courses)	12	0	0	12
2		Electives of Other [#] Specialization (01 Course)	3	0	0	3
3		Buddhist Ethics and Civilizational Harmony	2	0	0	2
4	ICT-6000	Seminar	0	0	4	2
5		Lab-I*	0	0	4	2
6		Lab-II*	0	0	4	2
		Total	**17**	**0**	**12**	**23**

It refers to any one of the remaining three specializations offered by school of ICT.
* Details of lab-I and Lab-II for different specializations are given below.

SEMESTER – VI

S. No.	Code	Courses	L	T	P	Credits
1		Electives of Main Specialization (04 Courses)	12	0	0	12
2		Elective of Other Specialization (01 Course)	3	0	0	3
3	ICT-6001	Research Methodologies	3	0	0	3
4	ICT-7000	Dissertation-Part I	1**	0	4	3
		Total	**19**	**0**	**4**	**21**

** *This will not be a usual lecture session, but this is one to one interaction of each individual student with the concerned faculty member.*

SEMESTER – VII

S. No.	Code	Courses	L	T	P	Credits
1	ICT-8000	Dissertation-Part II	0	0	38	19
		Total	**0**	**0**	**38**	**19**

Grand Total of Credits = 155

LABS

SOFTWARE ENGINEERING

Lab-I

ICT-7502
Open Source Software Systems

Lab-II

ICT-7522
Software Testing and Tools

INTELLIGENT SYSTEM

Lab-I

ICT-6530
Logic and AI Programming Languages

Lab-II

ICT-7544
Robotics

WIRELESS COMMUNICATION AND NETWORKS

Lab-I

ICT-6501
Networking Protocols

Lab-II

ICT-7502
QoS in Networks

VLSI DESIGN

Lab-I

ICT-6511
Digital VLSI Design

Lab-II

ICT-6522
HDL and Design of Digital Systems

TENTATIVE LIST OF ELECTIVES

SOFTWARE ENGINEERING

S. No.
Code

Courses
L

Sl	Course	T	P	Credits
1	ICT-6101 Software Project Management	3	0	0 3
2	ICT-7131 Object-Oriented Software Engineering	3	0	0 3
3	ICT-7102 Open Source Software Systems	3	0	0 3
4	ICT-7132 Component-Based Software Engineering	3	0	0 3
5	ICT-7121 Software Quality Assurance and Engineering	3	0	0 3
6	ICT-7122 Software Testing and Tools	3	0	0

Sl	Course Code	Course Title	L	T	P	C
					3	
7	ICT-7133	Aspect-Oriented Software Engineering	3	0	0	3
8	ICT-7103	Software Reusability	3	0	0	3
9	ICT-7104	Software Re-Engineering	3	0	0	3
10	ICT-6105	Software Architecture and Design	3	0	0	3
11	ICT-7123	Software Measurement and Estimation	3	0	0	3
12	ICT-7124	Software Reliability and Fault Tolerant Systems	3	0	0	3
13						

S. No. Code	Courses	L	T	P	Credits
ICT-6125	Software Maintenance	3	0	0	3
14					
ICT-6134	Software Agents	3	0	0	3

INTELLIGENT SYSTEM

S. No. Code	Courses	L	T	P	Credits
1					
ICT-6230	Logic and AI Programming Languages	3	0	0	3
2					
ICT-6231	Natural Language Processing	3	0		

Course Code	Course Title				
		0	3	3	
ICT-6223	Soft Computing	3	0	0	3
					4
ICT-6234	Machine Translation and Learning	3	0	0	3
					5
ICT-7235	Speech Processing	3	0	0	3
					6
ICT-7244	Robotics	3	0	0	3
					7
ICT-7227	Neural Network	3	0	0	3
					8
ICT-7233	Pattern Matching	3	0	0	3

9

ICT-7242
Expert System

3
0
0
3

10

ICT-7231
Discourse Analysis and Natural Language Generation

3
0
0
3

11

ICT-7221
Intelligent Information Retrieval

3
0
0
3

12

ICT-7224
Data Mining in AI

3
0
0
3

13

ICT-7241
Knowledge Engineering

3
0
0
3

WIRELESS COMMUNICATION AND NETWORKS

S. No.	Code	Courses	L	T	P	Credits
1	ICT-6301	Networking Protocols	3	0	0	3
2	ICT-7302	Wireless Telecom Networks	3	0	0	3
3	ICT-6303	QoS in Networks	3	0	0	3
4	ICT-6304	Ad-Hoc Wireless Networks	3	0	0	3
5	ICT-6311	Broadband Wireless Networks	3	0	0	3

	Course Code	Course Title				
6	ICT-7312	Security in Wireless Networks				
7	ICT-7313	Microwave Techniques	3	0	0	3
8	ICT-7314	Advanced RF Engineering	3	0	0	3
9	ICT-7315	Smart Antenna System	3	0	0	3
10	ICT-7316	Sensor Network	3	0	0	3
11	ICT-7317	Mobile Computing	3	0	0	3
12	ICT-7321		3	0	0	3

S. No. Code	Courses	L	T	P	Credits
	Distributed systems	3	0	0	3
13 ICT-7322	Network Programming	3	0	0	3
14 ICT-7323	Discrete Simulation and Modeling	3	0	0	3

VLSI DESIGN

S. No. Code	Courses	L	T	P	Credits
1 ICT-6401	VLSI Technology	3	0	0	3

2

ICT-6411
Digital VLSI Design

3
0
0
3

3

ICT-6412
Analog Integrated Circuits

3
0
0
3

4

ICT-6422
HDL and Design of Digital Systems

3
0
0
3

5

ICT-7431
VLSI Physical Design Tools

3
0
0
3

6

ICT-6441
Embedded System Design

3
0
0
3

7

ICT-7423
Test and Verification of VLSI circuits

3
0
0
3

8

ICT-7442

ASIC/SOC CAD Tools

3
0
0
3

9

ICT-7424
Advanced HDL (prototyping with FPGA)

3
0
0
3

10

ICT-7414
Advanced Digital VLSI Design

3
0
0
3

11

ICT-7415
Advanced Analog VLSI Design

3
0
0
3

12

ICT-7416
RF Design

3
0
0
3

13

ICT-7443
Design of Semiconductor Memories

3
0
0
3

14

ICT-7444
VLSI Algorithms

3

0
0
3