

**M. Tech. (ICT) for Engineering Graduates  
(4 SEMESTERS PROGRAMME)**

**SEMESTER I**

**(For specialization in Software Engineering and Intelligent System)**

S. No.	Code	Courses	L	T	P	Credits
1	ICT-6030	Objected-Oriented Programming	3	0	0	3
2	ICT-6031	Advanced Computer Organization and Architecture	3	0	0	3
3	ICT-5032	Data Base Management System	3	0	0	3
4	ICT-4001	Technical Communication	1	0	0	1
5	ICT-5033	Information Security	3	0	0	3
6	ICT-6034	Advanced Computer Network	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 Network Lab	0	0	4	2
		<b>Total</b>	<b>19</b>	<b>0</b>	<b>8</b>	<b>23</b>

**(For specialization in Wireless Communication & Networks and VLSI Design)**

S. No.	Code	Courses	L	T	P	Credits
1	ICT-6030	Objected-Oriented Programming	3	0	0	3
2	ICT-6031	Advanced Computer Organization and 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
7	ICT-6034	Advanced Computer Network	3	0	0	3
6	ICT-5046	Artificial Intelligence	3	0	0	3
8	ICT-6530	Object-Oriented Programming Lab	0	0	4	2
9	ICT-6534	Advanced Computer Network Lab	0	0	4	2
		<b>Total</b>	<b>19</b>	<b>0</b>	<b>8</b>	<b>23</b>

**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
		<b>Total</b>	<b>17</b>	<b>0</b>	<b>12</b>	<b>23</b>

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

<b>LABS</b>		
<b>SOFTWARE ENGINEERING</b>		
Lab-I	ICT-7502	Open Source Software Systems
Lab-II	ICT-7522	Software Testing and Tools
<b>INTELLIGENT SYSTEM</b>		
Lab-I	ICT-6530	Logic and AI Programming Languages
Lab-II	ICT-6531	Natural Language Processing
<b>WIRELESS COMMUNICATION AND NETWORKS</b>		
Lab-I	ICT-6501	Networking Protocols
Lab-II	ICT-7502	QoS in Networks
<b>VLSI DESIGN</b>		
Lab-I	ICT-6511	Digital VLSI Design
Lab-II	ICT-6522	HDL and Digital Systems Design

**SEMESTER – III**

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

*\* 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
		<b>Total</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>19</b>

**Grand Total of Credits = 88**

### TENTATIVE LIST OF ELECTIVES

#### SOFTWARE ENGINEERING

S. No.	Code	Courses	L	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	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	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	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
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#### WIRELESS COMMUNICATION & 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
6	ICT-7312	Security in Wireless Networks	3	0	0	3
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	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