GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
Department of Information Technology
M.Tech. (Computer Science and Information Technology)
(Scheme-2020)

SEMESTER-1st											
Sr. No.	**Category**	**Subject Code**	**Subject**	**Subject Type**	**Load per week**			**Marks Distribution**			**Credits**
					L	**T**	**P**	**Internal**	**External**	**Total**	
1.	Programme Core	MCIT-101	Digital Image Processing	Theory	3	0	0	50	100	150	3
2.	Programme Core	MCIT-102	Soft Computing	Theory	3	0	0	50	100	150	3
3.	Programme Elective	MCIT-XXX	Elective I	Theory	3	0	0	50	100	150	3
4.	Programme Elective	MCIT-XXX	Elective II	Theory	3	0	0	50	100	150	3
5.	Programme Core	MRM-101	Research Methodology and IPR	Theory	3	0	0	50	100	150	3
6.	Audit Course	MAC-XXX	Audit Course*	Theory	2	0	0	50	0	50	S/US
7.	Programme Core	LMCIT-101	Digital Image Processing Laboratory	Practical	0	0	4	50	50	100	2
8.	Programme Elective	LMCIT-XXX	Elective –I Laboratory	Practical	0	0	2	50	50	100	1

9.	Programme Elective	LMCIT-XXX	Elective –II Laboratory	Practical	0	0	2	50	50	100	1
			Total		**17**	**0**	**8**	**450**	**650**	**1100**	**19**
			TOTAL Contact Hours: 25								

*** Audit Course has internal evaluation only. S/US is satisfactory and unsatisfactory.**

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SEMESTER-2nd											
Sr. No.	**Category**	**Subject Code**	**Subject**	**Subject Type**	**Scheme of studies per week**			**Marks Distribution**			**Credits**
					L	**T**	**P**	**Internal**	**External**	**Total**	
1.	Programme Core	MCIT-109	Advanced Algorithms	Theory	3	0	0	50	100	150	3
2.	Programme Core	MCIT-110	Object Oriented Analysis and Design using UML	Theory	3	0	0	50	100	150	3
3.	Programme Elective	MCIT-XXX	Elective III	Theory	3	0	0	50	100	150	3
4.	Programme Elective	MCIT-XXX	Elective IV	Theory	3	0	0	50	100	150	3
5	Audit Course	MAC-XXX	Audit Course*	Theory	2	0	0	50	0	50	S/US
6.	Programme Core	LMCIT-109	Advanced Algorithms Laboratory	Practical	0	0	2	50	50	100	1
7.	Programme Core	LMCIT-110	Object Oriented Analysis and Design using UML Laboratory	Practical	0	0	2	50	50	100	1
8.	Programme Elective	LMCIT-XXX	Elective –III Laboratory	Practical	0	0	2	50	50	100	1
9.	Programme Elective	LMCIT-XXX	Elective –IV Laboratory	Practical	0	0	2	50	50	100	1
10.	Programme Core	LMPIT-101	Project	Practical	0	0	4	50	50	100	2

		Total	14	0	12	500	650	1150	18
		TOTAL Contact Hours: 26							

NOTE: Students will undergo internship of 4 weeks after 2nd semester in reputed institute /research organization.

***** Audit Course has internal evaluation only. S/US is satisfactory and unsatisfactory**.**

SEMESTER-3rd											
Sr. No.	**Category**	**Subject Code**	**Subject**	**Subject Type**	**Scheme of studies per week**			**Marks Distribution**			**Credits**
					L	**T**	**P**	**Internal**	**External**	**Total**	
1.	Programme Elective	MCIT-XXX	Elective V	Theory	3	0	0	50	100	150	3
2.	Open Elective	MOIT-XXX	Open Elective	Theory	3	0	0	50	100	150	3
3.	Programme Core	MPTIT-101	Pre Thesis	Practical	0	0	20 **(2#+18*)**	100	100	200	10
4.	Programme Elective	LMCIT-XXX	Elective V Laboratory	Practical	0	0	2	50	50	100	1
5.		RCIT-101	Research Internship$	Practical	0	0	0	50	0	50	S/US
			Total		6	0	4	300	350	650	17
			TOTAL Contact Hours: 12								

$ Evaluation of Research Internship will be done by Department Research Committee
# Max. Hours for Teacher

*Independent Study Hours

SEMESTER-4th											
Sr. No.	**Category**	**Subject Code**	**Subject**	**Subject Type**	**Scheme of studies per week**			**Marks Distribution**			**Credits**
					L	**T**	**P**	**Internal**	**External**	**Total**	
1.	Programme Core	MTCIT-101	Thesis	Practical	0	0	32 **(4#+28*)**	100	200	300	16
			Total		0	0	4	100	200	300	16
			TOTAL Contact Hours: 4								16

Max. Hours for Teacher
*Independent Study Hours

List of Electives:

Programme Elective-I

1. MCIT-103 Introduction to Bioinformatics
2. LMCIT-103 Introduction to Bioinformatics Laboratory
3. MCIT-104 Data warehousing and Data Mining
4. LMCIT-104 Data warehousing and Data Mining Laboratory
5. MCIT-105 Recommender System
6. LMCIT-105 Recommender System Laboratory

Programme Elective-II

1. MCIT-106 Machine Learning
2. LMCIT-106 Machine Learning Laboratory

3. MCIT-107Applied Data Science with Python
4. LMCIT-107Applied Data Science with Python Laboratory
5. MCIT -108 Introduction to Internet of Things
6. LMCIT -108 Introduction to Internet of Things Laboratory

Programme Elective-III

1. MCIT-112 Advanced Bioinformatics
2. LMCIT-112 Advanced Bioinformatics Laboratory
3. MCIT-113 Data Analytics
4. LMCIT-113 Data Analytics Laboratory
5. MCIT-114 Social Networking
6. LMCIT-114Social Networking Laboratory

Programme Elective-IV

1. MCIT-115 Deep Learning
2. LMCIT-115 Deep Learning Laboratory
3. MCIT-116 On-Chip Networks
4. LMCIT-116 On-Chip Networks Laboratory
5. MCIT -117 Augmented Reality and Virtual Reality
6. LMCIT -117 Augmented Reality and Virtual Reality Laboratory

Programme Elective-V

1. MCIT-118 Health Informatics
2. LMCIT-118 Health Informatics Laboratory
3. MCIT-119 Cloud Computing
4. LMCIT- 119 Cloud Computing Laboratory
5. MCIT-120 Applications of Data Science
6. LMCIT- 120 Applications of Data Science Laboratory

List of Audit Courses

1. MAC-101 English for Research Paper Writing
2. MAC-102 Disaster Management
3. MAC-103 Sanskrit for Technical Knowledge
4. MAC-104 Value Education

5. MAC-105 Constitution of India
6. MAC-106 Pedagogy Studies
7. MAC-107 Stress Management by Yoga
8. MAC-108Personality Development through Life Management Skills

Open Elective (to be offered to other departments)

1. MOIT- 301 Introduction to Python Programming
2. MOIT- 302 Data Structures
3. MOIT- 303 Database Management System