National Institute of Technology Meghalaya

Post Graduate Programme
Master of Computer Applications (M.C.A)

Curriculum

Abbreviation

PCC	:	Programme Core Course
PEC	:	Programme Elective Course
VAC	:	Value Added Course
AECC	:	Ability Enhancement Compulsory Course
SECC	:	Skill Enhancement Compulsory Course
L	:	Laboratory Course

Components Credit Summary - MCA Curriculum								
	Course Type with Abbreviation	I	II	III	IV	V	VI	Total
PCC	Programme Core Course	12	12	12	12	6		**54**
PEC	Programme Elective Course				2	6		**8**
AECC	Ability Enhancement Compulsory Course			2		2		**4**
SECC	Skill Enhancement Compulsory Course	2	2					**4**
VAC	Value Added Course						20	**20**
L	Laboratory Course	4	4	4	4	4		**20**
	Total Credits	**18**	**18**	**18**	**18**	**18**	**20**	**110**

Semester Wise Model Plan – First Semester							
Course Code	Course Title	Course Type	Contact Hours/ week			Credit	Pre-requisites
			L	T	P	C	
Programme Core Course							
CA401	Programming Concepts (with C)	PCC	2	1	0	3	
CA403	Computer Organization	PCC	3	0	0	3	
CA405	Mathematical Foundation of Computer Applications	PCC	3	0	0	3	
CA407	Digital Logic Design	PCC	3	0	0	3	
Skill Enhancement Compulsory Course							
HS451	Communication Skills	SECC	0	1	2	2	
Laboratory							
CA451	Programming Lab	L	0	1	2	2	
CA453	Computer Organization Lab	L	0	1	2	2	
Total			11	2	6	18	

Semester Wise Model Plan – Second Semester								
Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites	
			L	T	P	C		
Programme Core Course								
CA402	Data Structures and Algorithms	PCC	3	0	0	3		
CA404	Object Oriented Programming and Design	PCC	3	0	0	3		
CA406	Data Communication	PCC	3	0	0	3		
CA408	Automata and Formal Languages	PCC	3	0	0	3		
Skill Enhancement Compulsory Course								
HS402	Innovation and Entrepreneurship	SECC	2	0	0	2		
Laboratory								
CA454	Python Programming	L	0	1	2	2		
CA452	Data Structures and Algorithms Lab	L	0	1	2	2		
Total Contact Hours			14	2	4	18	-	

Semester Wise Model Plan – Third Semester							
Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Programme Core Course							
CA501	Software Engineering	PCC	3	0	0	3	
CA503	Database Management Systems	PCC	3	0	0	3	
CA505	Operating Systems	PCC	3	0	0	3	
CA507	Computer Networks	PCC	3	0	0	3	
Ability Enhancement Compulsory Course (any one)							
CA571	Web Design Using JavaScript	AECC	2	0	0	2	
CA573	Advanced Python Programming	AECC	2	0	0	2	
Laboratory							
CA551	Operating Systems Lab	L	0	1	2	2	
CA553	Database Management Systems Lab	L	0	1	2	2	
Total			16	2	4	18	-

Semester Wise Model Plan – Fourth Semester							
Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Programme Core Course							
CA502	Design and Analysis of Algorithm	PCC	3	0	0	3	
CA504	Compiler Design	PCC	3	0	0	3	
CA506	Cloud Computing	PCC	3	0	0	3	
CA508	Artificial Intelligence	PCC	3	0	0	3	
Programme Elective Course - 1 (any one)							
CA572	Data Analytics using Python	PEC	2	0	0	2	
CA574	App Development	PEC	2	0	0	2	
CA578	Cyber Security and Privacy	PEC	2	0	0	2	
CA576	Natural Language Processing	PEC	2	0	0	2	
Laboratory							
CA552	Design and Analysis of Algorithm Lab	L	0	1	2	2	
CA554	Compiler Design Lab	L	0	1	2	2	
Total			14	2	4	18	-
							-

Semester Wise Model Plan – Fifth Semester							
Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Programme Core Course							
CA605	Image Processing	PCC	3	0	0	3	
CA603	Deep Learning	PCC	3	0	0	3	
Programme Elective Course – 2 (any one)							
CA671	Blockchain and its applications	PEC	3	0	0	3	
CA677	Cryptography And Network Security	PEC	3	0	0	3	
CA673	Internet of Things	PEC	3	0	0	3	
Programme Elective Course- 3 (any one)							
CA679	Pattern Recognition and applications	PEC	3	0	0	3	
CA675	Distributed Computing System	PEC	3	0	0	3	
CA681	High performance computing	PEC	3	0	0	3	
Ability Enhancement Compulsory Course							
CA601	Minor Project	AECC	0	0	6	3	
Laboratory							
CA655	Image Processing Lab	L	0	0	2	1	
CA653	Deep Learning Lab	L	0	1	2	2	
Total			12	1	10	18	-

Semester Wise Model Plan – Sixth Semester							
Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Value Added course/ Dissertation							
CA602	Industry-oriented Internship/Training/Major Project	VAC	0	0	40	20	
Total			0	0	20	20	-