Dual Degree Integrated M.Tech 5-Year Program in Computer Science and Engineering

The program exposes various areas of computer science engineering such as algorithms, computer systems, software engineering, machine learning, distributed systems, performance modelling, multimedia computing, etc., leading to Integrated Master of Technology in Computer Science and Engineering. The program lays emphasis on student projects and research.

	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech I semester (B1)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07B11PD301	10B11PD111	Presentation and Communication Skills	3
2	07B11MA101	10B11MA111	Mathematics-I	4
3	07B11PH101	10B11PH111	Physics-I	4
4	07B11EC101	10B11EC111	Electrical Circuit Analysis	4
5	07B11CI101	10B11CI111	Introduction to Computers and Programming	4
6	07B11PH701	10B17PH171	Physics Lab-I	1
7	07B11EC701	10B17EC171	Electrical Circuits Lab	1
8	07B11CI701	10B17CI171	Computer Programming Lab	2
9	07B11GE951	10B19GE199	Institutional Orientation	0
			Total	**23**
	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech II semester (B2)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07B21PD102	10B11PD211	Group and Cooperative Processes	3
2	07B21MA103	10B11MA211	Discrete Mathematics	4
3	07B21PH102	10B11PH211	Physics-II	4
4	07B21EC102	10B11EC211	Basic Electronic Devices and Circuits	4
5	07B21CI102	10B11CI211	Data Structures	4
6	07B21PH702	10B17PH271	Physics Lab-II	1
7	07B21EC702	10B17EC271	Basic Electronics Lab	1
8	07B21CI702	10B17CI271	Data Structures and Computer Programming Lab	2
9	07B21CI952	10B19CI299	Departmental Orientation	0
			Total	**23**
	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech III semester (B3)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07B31PD303	10B11PD311	Managerial Economics	3

2	07B21MA102	10B11MA201	Mathematics-II	4
3	07B41EC107	10B11EC412	Digital Electronics	4
4	07B31CI103	10B11CI311	Object Oriented Programming	4
5	07B31CI104	10B11CI312	Database Systems	4
6	07B41EC707	10B17EC472	Digital Electronics Lab	1
7	07B31CI703	10B17CI371	Object Oriented Programming Lab	1
8	07B31CI704	10B17CI372	Database Systems Lab	1
9	07B31CI705	10B17CI307	Unix Programming Lab	1
			Total	**23**
	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech IV semester (B4)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07B41PD104	10B11PD411	Financial Management	3
2	07B41MA106	10B11MA411	Probability Theory and Random Processes	4
3	07B31EC104	10B11EC301	Signals and Systems	4
4	07B41CI105	10B11CI401	Microprocessors and Controllers	4
5	07B41CI106	10B11CI412	Fundamentals of Algorithms	4
6	07B41GE101	10B11GE411	Environmental Studies	3
7	07B31EC704	10B17EC307	Signals and Systems Lab	1
8	07B41CI706	10B17CI407	Microprocessors and Controllers Lab	1
9	07B41CI707	10B17CI472	Algorithms Lab	1
10	07B42CI702	10B28CI408	Multimedia Development Lab I	1
			Total	**26**
	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech V semester (B5)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07B51PD305	10B11PD511	Social and Legal Issues	3
2	07B51EC241		Communication Systems	4
3	07B51CI107	10B11CI511	Operating Systems	4
4	07B51CI108	10B11CI512	Software Engineering	4
5	07B51CI109	10B11CI513	Theory of Computation	4
6	07B51EC801		Communication Systems Lab	1
7	07B51CI708	10B17CI571	Operating Systems Lab	1
8	07B51CI709	10B17CI572	Software Engineering Lab	1
9	07B52CI703	10B28CI581	Web Technology Lab	1
10	08B51CI903	10B19CI591	Minor Project I	5
			Total	**28**
	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech VI semester (B6)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07B61PD106	10B11PD611	Project Management	3
2	07B61CI110	10B11CI611	Computer Networks	4

3	07B61CI111	10B11CI612	Compiler Design	4
4	07B61CI112	10B11CI613	Computer Organisation and Architecture	4
5	07B61PH105	10B11PH611	Material Science	4
6	07B61CI710	10B17CI671	Computer Networks Lab	1
7	07B61CI711	10B17CI672	Compiler Design Lab	1
9	07B61CI712	10B17CI673	System and Network Programming Lab	2
10	07B61GE961	10B19GE698	Industrial Training	0
11	08B61CI904	10B19CI691	Minor Project II	5
			Total	**28**
	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech VII semester (I1)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1			PD Elective-I	3
2			DE-I	3
3			DE-II	3
4			DE-III	3
4	07M11CI104	10M11CI114	High performance Computer Architecture	3
5	08B71CI905	10BC1CI791	Project Part I	10
			Total	**25**

List of courses for PD Elective-I To be updated from time to time

SN	**Old Sub Code**	**New Sub Code**		
1	07B71PD601		Entrepreneurial Development	
2	07B71PD602		Managing & Marketing Technology	
3	07B71PD401		Engineering Statistics	

List of Departmental Electives for DE-I, DE-II and DE-III tTo be updated from time to time

SN	**Sub Code**		**Subject**	
1			Cryptography & Network Security	
2			Distributed Artificial Intelligence	
3			Design of Database Systems	
4			Formal Methods in Software Engineering	
5			Image Processing	
6			Natural Language Processing	
7			Parallel Processing	
8			Principles of Programming Languages	
9			Systems Programming	
10			Computer Vision	
11			Information Integration and Data Analytics	
12			IT Entrepreneurship	
13			Large Scale Graph Algorithms	
14			Nature Inspired Computing	
15			Performance Evaluation of C16omputer	

			Networks	
16			Problem Solving and Research Methodology	
17			Randomized and Approximation Algorithms	
18			Security Protocols	
19			Theory of Cryptography	
20			Wireless Sensor and Actuator Networks	
	5 year Dual Degree Curricula for Computer Science and Engineering			
		BTech VIII semester (I2)		
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1			PD Elective-II	3
2			DE-IV	3
3			DE-V	3
4			DE-VI	3
4	07M21CI108	10M11CI214	Multimedia Systems	3
5	08B81CI906	10BC1CI891	Project Part II	10
			Total	**25**
List of courses for PD Elective-IITo be updated from time to time				
SN	**Old Sub Code**	**New Sub Code**	**Subject**	
1	07B81PD108	10B13PD831	Knowledge Management	
2	07B81PD404	10B13PD832	Quality Issues in Engineering	
List of Departmental Electives for DE-IV, DE-V and DE-VI To be updated from time to time				
SN	**Old Sub Code**	**New Sub Code**	**Subject**	
1	07B81CI417	10B13CI831	Image Processing	
2	08B81CI429	10B13CI832	Software Design	
3	09B81CIxxx	10B13CI833	Formal Methods in Software Engineering	
4	07B81CI414	10B13CI834	Parallel Processing	
5	07B81CI415	10B13CI835	Systems Programming	
6	08B81CIxxx	10B13CI836	Performance Evaluation of Computing Systems	
7	09B81CIxxx	10B13CI837	Natural Language Processing	
8	08B82CI410	10B25CI851	Software Arteology	
9		10B13MA831	Applied Numerical Methods	
10	07B81PH605	10B13PH831	Photonics and Applications	
	5 year Dual Degree Curricula for Computer Science and Engineering			
MTech Dual Degree Summer term Between VIII & IX semester (I3)				
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07D31CI901	10I19CI391	MTech Project Part-I	9
2	07D31CI911		Seminar	2

			Total	**11**
	5 year Dual Degree Curricula for Computer Science and Engineering			
	MTech Dual Degree IX semester (I4)			
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07M11CI101	10M11CI111	Advanced Data Structures	3
2	07M11CI102	10M11CI112	Advanced Computer Networks	3
3	07M11CI103	10M11CI113	Advanced Database Systems	3
5			DE-I	3
6			DE-II	3
7	07D41CI902	10I19CI491	MTech Project Part-II	8
			Total	**23**
List of Departmental Elective Subjects for DE-I and DE-II To be updated from time to time				
SN	**Sub Code**		**Subject**	
1			3D Graphics and Animation	
2			Advanced Mobile and Cloud Computing	
3			Complexity Theory and Models of Computation	
4			Computer Forensics	
5			Computer Supported Collaborative Work	
6			Human Centered System Design	
7			Algorithmic Graph Theory	
8			Intelligent Systems	
9			Learning Technologies	
10			Mobile and Pervasive Computing	
11			Multimedia and Wireless Computer Networks	
12			Software Requirement Engineering	
13			Web Algorithms	
14			Wireless Sensor and Actuator Networks	
15			Large Scale Graph Algorithms	
	5 year Dual Degree Curricula for Computer Science and Engineering			
	MTech Dual Degree X semester (I5)			
SN	**Old Sub Code**	**New Sub Code**	**Subject**	**Credits**
1	07M21CI105	10M11CI211	Advanced Algorithms	3
2	07M21CI106	10M11CI212	Advanced Operating Systems	3
3	07M21CI107	10M11CI213	Advanced Software Engineering	3
4			DE-III	3
5			DE-IV	3
6	07D51CI903		MTech Project Part-III	8
			Total	**23**

List of Departmental Electives for DE-III and DE-IV To be updated from time to time				
SN			**Subject**	
1			Cryptography & Network Security	
2			Design of Algorithms	
3			Distributed Computing	
4			Image Processing	
5			Industrial Automation	
6			Mobile Application Development	
7			Natural Language Processing	
8			Performance Analysis of Computing Systems	
9			Soft Computing	
10			System Programming	
11			Design of Database Systems	
12			Multidimentional Data Structure	