SYMBIOSIS INSTITUTE OF TECHNOLOGY
MASTER OF TECHNOLOGY (COMPUTER AIDED DESIGN AND MANUFACTURE)
PROGRAM STRUCTURE 2013-15

1	**Objectives**	• To generate competent manpower in the emerging areas of Computer Aided Design and Manufacturing Technology. • To inculcate among the students an aptitude for engineering and research for the furthering of knowledge in the chosen field.
2	**Duration**	TwoYears - Full Time
3	**Intake**	18 Students
4	**Reservation**	I. With II. in the sanctioned intake: a) SC-15% b) ST-7.5% c) Differently abled-3% III. Over and above the sanctioned intake: a) Kashmiri Migrants - 2 Seats b) International Students – 15%
5	**Eligibility**	Atleast 55% marks in BTech/B.E in Mechanical, Production, Industrial, Automobile, Aeronautical or Metallurgical. (50% marks for SC/ST Candidates)
6	**Selection Procedure**	GATE score or entrance test for non-GATE candidates
7	**Medium of Instruction**	English

8	**Program Pattern**	Semester Pattern – 4 Semesters
9	**Courses& Specialization**	As per Annexure A
10	**Fee**	Rs. 1,40,000 p.a.+Rs.10,000 Institute Deposit
11	**Assessment**	All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 60% internal component and 40% component as external [University] examination.
12	**Standard of Passing**	The assessment of students for each examination is done, based on relative performance. Maximum Grade Point (GP) is 4.000 corresponding to A+. For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 2.000 corresponding to Grade D. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 2.000 out of maximum of 4.000 for the program.
13	**Award of Degree**	**Master of Technology (CAD & M)** will be awarded at the end of semester IV examination by taking into consideration the performance of all semester examinations after obtaining minimum 2.00 CGPA out of 4.000.

Annexure A

Semester I

Course Code	Title of the Course	Nature of Course	Teaching Scheme			Examination Scheme Marks				Total Credit	Total Marks
			L	T	Lab	Practical		CA	ESE		
						Int	Ext				
070142101	Computer Graphics &Data Structure	C	3	-	-	-	-	60	90	3	150
070142102	Mechatronics	C	4	-	-	-	-	80	120	4	200
070142103	Advanced Numerical Methods in Engineering	ES	3	-	-	-	-	60	90	3	150
070142104	Computer Aided Production Planning and Control	C	4	-	-	-	-	80	120	4	200
070142105	Computer Aided Design	C	4	-	-	-	-	80	120	4	200
070142106	Computer Graphics & Data Structure Lab	C	-	-	2	20	30	-	-	1	50
070142107	Mechatronics Lab	C	-	-	2	20	30	-	-	1	50
070142108	Advanced Numerical Method in Engineering Lab	C	-	-	2	20	30	-	-	1	50
070142109	Computer Aided Design Lab	C	-	-	2	20	30	-	-	1	50
070142110	Cyber Security	GP	2	-	-	-	-	100	-	2	100
		Total	**20**	**-**	**8**	**80**	**120**	**460**	**540**	**24**	**1200**

Semester II

Course Code	Title of the Course	Nature of Course	Teaching Scheme			Examination Scheme Marks				Total Credit	Total Marks
			L	T	Lab	Practical		CA	ESE		
						Int	Ext				
070142201	Computer Aided Manufacturing	C	4	-	-	-	-	80	120	4	200
070142202	Research Methodology	PD	3	-	-	-	-	60	90	3	150
070142203	Finite Element Method	C	4	-	-	-	-	80	120	4	200
070142204	Industrial Automation & Robotics	C	4	-	-	-	-	80	120	4	200
070142205	Computational Fluid Dynamics	C	4	-	-	-	-	80	120	4	200
070142206	Emerging Concepts & Techniques in Manufacturing Management	C	4	-	-	-	-	80	120	4	200
070142207	Computer Aided Manufacturing Lab	C	-	-	2	20	30	-	-	1	50
070142208	Finite Element Method Lab	C	-	-	2	20	30	-	-	1	50
070142209	Computational Fluid Dynamics Lab	C	-	-	2	20	30	-	-	1	50
		Total	**23**	**-**	**6**	**60**	**90**	**460**	**690**	**26**	**1300**
070142210	*Integrated Disaster Management		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**

Semester III

Course Code	Title of the Course	Nature of Course	Teaching Scheme			Examination Scheme Marks			Total Credit	Total Marks
			L	T	Lab	TW	CA	ESE		
070142301	Project-I	PD	-	-	-	-	270	180	9	450
070142302	Seminar-I	PD	-	-	-	-	240	160	8	400
070142303-5	Elective-I	C	4	-	-	-	80	120	4	200
070142306-8	Elective-II	C	4	-	-	-	80	120	4	200
		Total	**8**	-	-	-	**670**	**580**	**25**	**1250**

OR

Semester Exchange at Indiana University–Purdue University Indianapolis-US										
Course Code	**Title of the Course**	**Nature of Course**	**Teaching Scheme**			**Examination Scheme Marks**			**Total Credit**	**Total Marks**
			L	**T**	**Lab**	**TW**	**CA**	**ESE**		
070142301	Project-I	PD	-	-	-	-	270	180	9	450
070142302	Seminar-I	PD	-	-	-	-	240	160	8	400
070142309	Semester Exchange at Indiana University – Purdue University Indianapolis-US	C	0	0	0	0	0	400	8	400
		Total	**0**	**0**	**0**	**0**	**510**	**740**	**25**	**1250**

List of Elective	
Elective – I (Choose any one)	
070142303	Product Design and Development
070142304	Engineering Optimization Techniques
070142305	Mechanical System Design
Elective – II (Choose any one)	
070142306	Artificial Intelligence
070142307	Advanced Materials
070142308	Fracture and Failure Analysis

Semester IV

Course Code	Title of the Course	Nature of Course	Teaching Scheme			Examination Scheme Marks			Total Credit	Total Marks
			L	T	Lab	TW	CA	ESE		
070142401	Thesis	PD	-	-	-	-	750	500	25	1250

		Total	-	-	-	-	**750**	**500**	**25**	**1250**

Marks Distribution of Continuous Assessment: 60 marks for two unit test and 20 marks for assignment / quiz / presentations

Summary

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Semester I	02	22	24	1250
Semester II	-	26	26	1300
Semester III	-	25	25	1250
Semester IV	-	25	25	1250
Total	**02**	**98**	**100**	**5000**

C – Core Course

ES – Engineering Science Course

GP – General Proficiency Course

TW – Term Work (Practical)

ESE – End Semester Examination

ID – Inter Disciplinary Course

PD – Professional Development Course

L – Lecture T– Tutorial

HA – Home Assignment

CA – Continuous Assessment