MIT ART, DESIGN AND TECHNOLOGY UNIVERSITY, PUNE

MIT SCHOOL OF ENGINEERING, PUNE

STRUCTURE

(First Year to Fourth Year)

FOR

B. Tech. Information Technology

UNDER FACULTY OF TECHNOLOGY

(2018 Regulation)

Department of Information Technology

Effective from July 2018

Publisher's Note

MIT Art, Design and Technology University (MITADT), Pune is established under the MIT Art, Design and Technology University Act, 2015 (Mah Act No. XXXIX of 2015). MIT ADT has a great pleasure in publishing the syllabus for **First Year Engineering** under the **Faculty of Engineering**.

On behalf of MIT ADT University, I thank all the experts of various departmental Board of Studies (BoS), who have contributed in designing of syllabus for all branches of Engineering. The syllabus content is designed to incorporate the industry requirement with great emphasis on project based and e-learning. Some of the content delivery and effective teaching methods suggested for student learning are flipped classroom, projects design, solving and implementing real time case studies through innovative practices to improve student learning.

I am thankful to Academic Council to approve the syllabus through debate and discussion on the suggestions giving by BoS. I am also grateful to Board of Management to give their necessary consent to the syllabus and its execution requirement. Finally, I appreciate all people involved in framing and approval of syllabus with their keen interest and whole-hearted co-operation in bringing out this publication.
I am confident that the approved syllabus is most appropriate to provide value based education along with career development skills like industry professionals, pursue higher education/research or to become an entrepreneur.

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B. Tech. (Information Technology)
(2018 Regulations)

(Minimum Credits to be earned: 164)

FIRST YEAR ENGINEERING SCHEME

SEMESTER-I

Sr. No.	Course Code	Subject	L	T	P	Credits	Marks
1	18BTMT101	Linear Algebra and Calculus	3	1	0	4	100
2	18BTPY002	Engineering Physics	3	0	0	3	100
3	18BTEC005	Basics of Electrical and Electronics Engineering	3	0	0	3	100
4	18BTME011	Engineering Graphics	1	0	4	3	100
5	18BTEG104	English Communication for Engineers	2	0	0	2	50
6	18BTPY012	Physics Laboratory	0	0	2	1	100
7	18BTEC015	Basics of Electrical and Electronics Engineering Lab	0	0	2	1	100
8	18BTEG114	English Communication Lab	0	0	2	1	50
		Total	**12**	**1**	**10**	**18**	**700**

SEMESTER-II

Sr. No.	Course code	Subject	L	T	P	Credits	Marks
1	18BTMT201	Differential Equations and Advanced Calculus	3	1	0	4	100
2	18BTCH003	Engineering Chemistry	3	0	0	3	100
3	18BTCS006	Programming for Problem Solving	2	0	0	2	100
4	18BTIT202	Digital Electronics and Microprocessors	3	0	0	3	100
5	18BTCH013	Chemistry Laboratory	0	0	2	1	100
6	18BTCS016	Programming Lab	0	0	4	2	100
7	18BTME017	Engineering Workshop	0	0	4	2	50
8	18BTIT212	Digital Electronics and Microprocessors Lab	0	0	2	1	100
		Total	**11**	**1**	**12**	**18**	**750**

CA = Continuous Assessment, FE= Final Examination,
****Final Lab exam will be conducted with viva-voce of the respective practical (50 exam +10 viva = 60)**
Coding for course/ subject: 18BTIT101, Where; **18** = Year of BOS, **BT**=Bachelor in Technology**, IT** = Branch Code, **1**= Semester No., **01 to N** = Sequence No of Subject.

SECOND YEAR ENGINEERING SCHEME

SEMESTER-III

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
18BTIT301	Data Structures	4	0	0	4	40	60	100
18BTIT302	Computer Organization & Architecture	3	0	0	3	40	60	100
18BTIT303	Fundamentals of Communication Systems	3	1	0	4	40	60	100
18BTIT304	Economics for Engineers	4	0	0	4	40	60	100
18BTMT305	Discrete Mathematics	3	1	0	4	40	60	100
18BTIT311	Programming Laboratory	0	0	4	2	40	60**	100
18BTIT312	Data Structures Laboratory	0	0	4	2	40	60**	100
18BTIT321	Mini-Project-I	0	0	2	1	100	--	100
Total		17	2	10	24	380	420	800

SEMESTER-IV

Course Code	**Course Name**	**Hours/week**				**Maximum Marks**		
		Lecture	**Tutorial**	**Practical**	**Credits**	**CA**	**FE**	**Total**
18BTMT401	Integral Calculus and Transform Techniques	3	1	0	4	40	60	100
18BTIT402	Operating Systems	4	0	0	4	40	60	100
18BTIT403	Computer Networks	3	0	0	3	40	60	100
18BTIT404	Advanced Data Structures	3	0	0	3	40	60	100
18BTIT405	Software Engineering and Project Management	4	0	0	4	40	60	100
18BTIT411	Operating Systems and Computer Network Laboratory	0	0	4	2	40	60**	100
18BTIT412	Advanced Data Structures Laboratory	0	0	4	2	40	60**	100
18BTIT421	Mini Project-II	0	0	2	1	100	--	100
Total		**17**	**1**	**10**	**23**	**380**	**420**	**800**

CA = Continuous Assessment, FE= Final Examination, #Mini project using Object Oriented Programming,##Mini project using Data Base management concepts

****Final Lab exam will be conducted with viva-voce of the respective practical (50 exam +10 viva = 60)**

Coding for course/ subject: 18BTIT101, Where; **18** = Year of BOS, BT=Bachelor in Technology, **IT** = Branch Code, **1**= Semester No., **01 to N** = Sequence No of Subject. **For,** SE to BE& also PG follow the above scheme of regulation.

THIRD YEAR ENGINEERING SCHEME

SEMESTER-V

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
18BTIT501	Advanced Software Engineering	3	0	0	3	40	60	100
18BTIT502	Theory of Computation	3	1	0	4	40	60	100
18BTIT503	Design and Analysis of Algorithms	3	1	0	4	40	60	100
18BTIT504	Database Management Systems	3	0	0	3	40	60	100
18BTIT505	Mobile Computing	4	0	0	4	40	60	100
18BTIT511	Design and Analysis of Algorithms Laboratory	0	0	2	1	40	60**	100
18BTIT512	Database Systems Laboratory	0	0	4	2	40	60**	100
18BTIT521	Mini Project –III	0	0	2	1	100	--	100
Total		**16**	**2**	**8**	**22**	**380**	**420**	**800**

SEMESTER-VI

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
18BTIT601	Web Technology	3	1	0	4	40	60	100
18BTIT602	Software Modeling and Design	3	0	0	3	40	60	100
18BTIT603	Information Security	3	1	0	4	40	60	100
18BTIT604	Artificial Intelligence	4	0	0	4	40	60	100
18BTIT6__	Elective I (Professional)	4	0	0	4	40	60	100
18BTIT611	Information Security Lab	0	0	2	1	40	60**	100
18BTIT612	Advanced Programming Lab (WT,AI, Elective I)	0	0	4	2	40	60**	100
18BTIT621	Mini Project-IV	0	0	2	1	100	--	100
Total		**18**	**1**	**8**	**23**	**380**	**420**	**800**

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Coding for course/ subject: 18BTIT101, Where; **18** = Year of BOS, **BT**=Bachelor in Technology, **IT** = Branch Code, **1**= Semester No., **01 to N** = Sequence No of Subject. **For,** SE to BE& also PG follow the above scheme of regulation.

FINAL YEAR ENGINEERING SCHEME

SEMESTER-VII

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
18BTIT701	Principles of Compiler Design	4	0	0	4	40	60	100
18BTIT702	Data Mining and Data Warehousing	3	0	0	3	40	60	100
18BTIT7__	Elective-II (Professional)	4	0	0	4	40	60	100
18BTIT7__	Elective-III (Professional)	4	0	0	4	40	60	100
18BTIT7__	Open Elective-I	4	0	0	4	40	60	100
18BTIT711	Principles of Compiler Design Laboratory	0	0	4	2	40	60**	100
18BTIT712	Data Mining and DW Laboratory	0	0	2	1	40	60**	100
18BTIT721	Project Phase-I	0	0	4	2	100	--	100
Total		**19**	**0**	**10**	**24**	**380**	**420**	**800**

SEMESTER-VIII

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
18BTIT821	Project Phase – II	0	0	24	12	100	200	300
Total		**0**	**0**	**24**	**12**	**100**	**200**	**300**

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List of Electives (Professional)

Elective	Course Name	
Elective-I	18BTIT631	Computer Vision
	18BTIT632	Pattern Recognition Techniques
	18BTIT633	Soft Computing
	18BTIT634	Usability Engineering
Elective-II	18BTIT731	Information Storage & Management
	18BTIT732	Block Chain Technology
	18BTIT733	Machine Learning
	18BTIT734	Distribution System
Elective-III	18BTIT735	Big Data Analytics
	18BTIT736	Cloud Computing
	18BTIT737	Full Stack Development
	18BTIT738	Wireless Sensor Networks
Open Elective- I	18BTIT739	Image Processing
	18BTIT740	Internet of Things
	18BTIT741	Functional Programming
	18BTIT742	Virtual Reality