



**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**

**(2017 Regulation)**

**Department of Information Technology**

*Effective from July 2017*

**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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**Registrar,**  
**MIT ADT University,**  
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**B. Tech. (Information Technology)**  
**(2017 Regulations)**

**(Minimum Credits to be earned: 191)**

**FIRST YEAR ENGINEERING SCHEME**

**SEMESTER-I**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTMT101	Linear Algebra and Calculus	3	2	0	4	40	60	100
17BTPY102	Engineering Physics	3	0	0	3	40	60	100
17BTEC106	Basics of Electrical and Electronics Engineering	3	1	0	4	40	60	100
17BTCS105	Fundamentals of Computer Programming	3	0	0	3	40	60	100
17BTME107	Engineering Graphics	3	0	2	4	40	60	100
17BTEG104	English Communication	2	1	0	3	50	--	50
17BTPY111	Physics Laboratory	0	0	2	1	40	60**	100
17BTCS112	C Programming Laboratory	0	0	4	2	40	60**	100
17BTME113	Engineering Practices	0	0	2	1	50	--	50
<b>Total</b>		<b>17</b>	<b>4</b>	<b>10</b>	<b>25</b>	<b>380</b>	<b>420</b>	<b>800</b>

**SEMESTER-II**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTMT201	Differential Equations and Advanced Calculus	3	2	0	4	40	60	100
17BTCH202	Engineering Chemistry	3	0	0	3	40	60	100
17BTME203	Fundamentals of Materials and Mechanical Engineering	3	1	0	4	40	60	100
17BTCS205	Object Oriented Programming in C++	3	0	0	3	40	60	100
17BTIT204	Digital Electronics and Microprocessors	3	1	0	4	40	60	100
17BTEG206	Professional Communication	3	0	2	4	100	--	100
17BTCH211	Chemistry Laboratory	0	0	2	1	40	60**	100
17BTCS212	C++ Programming Laboratory	0	0	4	2	40	60**	100
<b>Total</b>		<b>18</b>	<b>4</b>	<b>8</b>	<b>25</b>	<b>380</b>	<b>420</b>	<b>800</b>

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: 17BTIT101, Where; 17 = Year of BOS, BT=Bachelor's in technology, IT =Information Technology (Branch Code), 1= Semester No.,

01 to N = Sequence No of Subject. For, SE to BE& also PG follow the above scheme of regulation.

**SECOND YEAR ENGINEERING SCHEME****SEMESTER-III**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTIT302	Data Structures	4	0	0	4	40	60	100
17BTIT303	Computer Organization and Architecture	3	1	0	4	40	60	100
17BTIT304	Fundamentals of Communication Systems	3	1	0	4	40	60	100
17BTMT305	Discrete Mathematics	3	1	0	4	40	60	100
17BTIT3__	Humanities Elective-I	4	0	0	4	40	60	100
17BTIT311	Programming Laboratory	0	0	2	1	40	60**	100
17BTIT312	Data Structures Laboratory	0	0	4	2	40	60**	100
17BTIT321	Mini Project –I <sup>#</sup>	0	0	4	2	100	--	100
<b>Total</b>		<b>17</b>	<b>3</b>	<b>10</b>	<b>25</b>	<b>380</b>	<b>420</b>	<b>800</b>

**SEMESTER-IV**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTMT401	Integral Calculus and Transform Techniques	3	1	0	4	40	60	100
17BTIT402	Operating Systems	3	1	0	4	40	60	100
17BTIT403	Computer Networks	4	0	0	4	40	60	100
17BTIT404	Advanced Data Structures	4	0	0	4	40	60	100
17BTIT405	Database Management Systems	3	1	0	4	40	60	100
17BTIT411	Operating Systems Laboratory	0	0	2	1	40	60**	100
17BTIT412	Advanced Data Structures Laboratory	0	0	4	2	40	60**	100
17BTIT421	Mini Project-II <sup>##</sup>	0	0	4	2	100	--	100
<b>Total</b>		<b>17</b>	<b>3</b>	<b>10</b>	<b>25</b>	<b>380</b>	<b>420</b>	<b>800</b>

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

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**THIRD YEAR ENGINEERING SCHEME****SEMESTER-V**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTIT501	Software Engineering and Project Management	3	1	0	4	40	60	100
17BTIT502	Theory of Computation	3	1	0	4	40	60	100
17BTIT503	Design and Analysis of Algorithms	3	1	0	4	40	60	100
17BTIT504	Advanced Database Systems	4	0	0	4	40	60	100
17BTIT505	Economics for Engineers	4	0	0	4	40	60	100
17BTIT511	Design and Analysis of Algorithms Laboratory	0	0	2	1	40	60**	100
17BTIT512	Advanced Database Systems Laboratory	0	0	4	2	40	60**	100
17BTIT521	Mini Project –III	0	0	4	2	100	--	100
<b>Total</b>		<b>17</b>	<b>3</b>	<b>10</b>	<b>25</b>	<b>380</b>	<b>420</b>	<b>800</b>

**SEMESTER-VI**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTIT601	Web Technology	3	1	0	4	40	60	100
17BTIT602	Software Modeling and Design	3	1	0	4	40	60	100
17BTIT603	Information Security	4	0	0	4	40	60	100
17BTIT604	Artificial Intelligence	4	0	0	4	40	60	100
17BTIT6__	Elective I (Professional)	3	1	0	4	40	60	100
17BTIT611	Information Security Lab	0	0	2	1	40	60**	100
17BTIT612	Advanced Programming Lab (WT, AI and Elective-I)	0	0	4	2	40	60**	100
17BTIT621	Mini Project-IV (SDM assignments to be implemented in addition)	0	0	4	2	100	--	100
<b>Total</b>		<b>17</b>	<b>3</b>	<b>10</b>	<b>25</b>	<b>380</b>	<b>420</b>	<b>800</b>

CA = Continuous Assessment, FE= Final Examination, Mini project using Open Source technology, Mini Project using concepts of Digital Image processing / Professional Elective I

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**FINAL YEAR ENGINEERING SCHEME****SEMESTER-VII**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTIT701	Distributed Systems	3	1	0	4	40	60	100
17BTIT702	Principles of Compiler Design	4	0	0	4	40	60	100
17BTIT703	Machine Learning	4	0	0	4	40	60	100
17BTIT7__	Elective-II (Professional)	3	1	0	4	40	60	100
17BTIT7__	Elective-III (Professional)	3	1	0	4	40	60	100
17BTIT711	Machine Learning Laboratory	0	0	4	2	40	60**	100
17BTIT712	Distributed Systems Laboratory	0	0	2	1	40	60**	100
17BTIT721	Project Phase-I	0	0	4	2	100	--	100
<b>Total</b>		<b>17</b>	<b>3</b>	<b>10</b>	<b>25</b>	<b>380</b>	<b>420</b>	<b>800</b>

**SEMESTER-VIII**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
17BTIT8__	Elective-IV (Professional)	3	0	0	3	40	60	100
17BTIT8__	Elective-V (Professional)	3	0	0	3	40	60	100
17BTIT821	Project Phase-II	0	0	20	10	100	200	300
<b>Total</b>		<b>6</b>	<b>0</b>	<b>20</b>	<b>16</b>	<b>180</b>	<b>320</b>	<b>500</b>

CA = Continuous Assessment, FE= Final Examination,

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**List of Electives (Humanities)**

Elective	Course Name	
Elective-I	17BTIT331	Human Resource Management
	17BTIT332	Environmental Sciences

**List of Electives (Professional)**

Elective	Course Name	
Elective-I	17BTIT631	Computer Vision
	17BTIT632	Soft Computing
	17BTIT633	Usability Engineering
Elective-II	17BTIT731	Block chain Technology
	17BTIT732	Natural Language Processing
	17BTIT733	Business Intelligence
Elective-III	17BTIT734	Big Data Analytics
	17BTIT735	Cloud Computing
	17BTIT736	Image Processing
	17BTIT737	Wireless Sensor Networks
Elective-IV	17BTIT831	Cyber Security
	17BTIT832	Virtual Reality
	17BTIT833	Information Storage and Retrieval
	17BTIT834	Bio Informatics
Elective-V	17BTIT835	Internet of Things
	17BTIT836	Advanced Unix Programming
	17BTIT837	Operations Research
	17BTIT838	Functional Programming