

# Dr. Babasaheb Ambedkar Technological University, Lonere

(Established as a University of Technology in the State of Maharashtra)

(Under Maharashtra Act No. XXIX of 2014)

P.O. Lonere, Dist. Raigad, Pin 402 103, Maharashtra

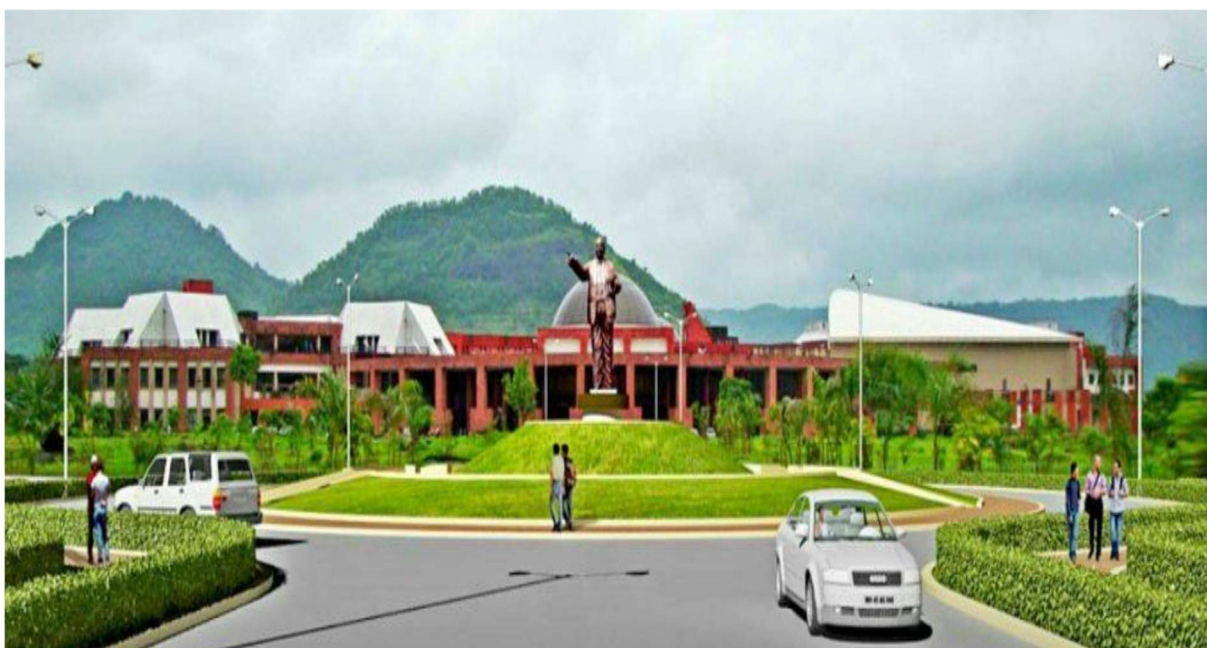
Telephone and Fax.: 02140 - 275142

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## Draft Copy of Curriculum for Undergraduate Degree Programme

### B. Tech. in Civil Engineering

With effect from (Fourth Year) AY 2023-24



**Teaching & Evaluation Scheme for Second Year B. Tech. Civil Engg.**

Semester- III										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
BSC 5	BTBS301	Mathematics – III	3	1	-	20	20	60	100	4
ESC 8	BTCVES302	Mechanics of Solids	3	1	-	20	20	60	100	4
PCC 1	BTCVC303	Building Construction & Drawing	2	1	-	20	20	60	100	3
PCC 2	BTCVC304	Hydraulics -I	3	1	-	20	20	60	100	4
PCC 3	BTCVC305	Surveying	2	1	-	20	20	60	100	3
HSSMC2	BTHM306	Soft Skill Development	2	-	-	50	-	-	50	Audit
LC 1	BTCVL 307	Solid Mechanics Laboratory	-	-	2	20	-	30	50	1
LC 2	BTCVL 308	Hydraulics-I Laboratory	-	-	2	20	-	30	50	1
LC 3	BTCVL 309	Surveying Laboratory	-	-	2	20	-	30	50	1
Internship	BTES210P	Internship –I Evaluation (From Sem II)	-	-	-	-	-	50	50	Audit
<b>Total</b>			<b>15</b>	<b>05</b>	<b>06</b>	<b>210</b>	<b>100</b>	<b>440</b>	<b>750</b>	<b>21</b>

Semester- IV										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
PCC 4	BTCVC401	Building Planning and Drawing	2	-	-	20	20	60	100	2
PCC 5	BTCVC402	Environmental Engineering	2	-	-	20	20	60	100	2
PCC 6	BTCVC403	Structural Mechanics - I	2	1	-	20	20	60	100	3
PCC 7	BTCVC404	Water Resources Engineering	3	-	-	20	20	60	100	3
PCC 8	BTCVC405	Hydraulics - II	2	1	-	20	20	60	100	3
PCC 9	BTCVC406	Engineering Geology	2	1	-	20	20	60	100	3
LC 4	BTCVL407	Building Planning and CAD Lab.	-	-	2	20	-	30	50	1
LC 5	BTCVL408	Environmental Engg. Lab.	-	-	2	20	-	30	50	1
LC 6	BTCVL409	HE-II Lab.	-	-	2	20	-	30	50	1
Internship	BTCVP410	Field Training / Internship/Industrial Training (minimum of 4 weeks training in Summer Vacation after Semester IV and appear at examination in Semester V)	-	-	-	-	-	-	-	To be evaluated in V Sem.
<b>Total</b>			<b>13</b>	<b>03</b>	<b>06</b>	<b>180</b>	<b>120</b>	<b>450</b>	<b>750</b>	<b>19</b>

**Teaching & Evaluation Scheme for Third Year B Tech Civil Engg.**

Semester- V										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
PCC 10	BTCVC501	Design of Steel Structures	2	1	-	20	20	60	100	3
PCC 11	BTCVC502	Geotechnical Engineering	3	1	-	20	20	60	100	4
PCC 12	BTCVC503	Structural Mechanics –II	2	1	-	20	20	60	100	3
PCC 13	BTCVC504	Concrete Technology	2	-	-	20	20	60	100	2
HSSMC3	BTHM505	Project Management	3	-	-	20	20	60	100	3
PEC 1	BTCVPE506	A. Advanced Environmental Engg. B. Applied Geology C. Hydraulic Engineering Design D. Advanced Water Resources E. Geomatics F. Town and Urban Planning G. Material, Testing and Evaluation H. Construction Economics & Finance	3	-	-	20	20	60	100	3
ESC10	BTCVES507	Software applications in Civil Engineering	2	-	-	50	-	-	50	Audit
LC 7	BTCVL508	SDD of Steel Structures Lab.	-	-	2	20	-	30	50	1
LC 8	BTCVL509	Geotechnical Engineering Lab.	-	-	2	20	-	30	50	1
LC 9	BTCVL510	Concrete Technology Lab.	-	-	2	20	-	30	50	1
Internship	BTCVP410	Internship – 2 Evaluation	-	-	-	-	-	-	-	Audit
<b>Total</b>			<b>17</b>	<b>3</b>	<b>6</b>	<b>230</b>	<b>120</b>	<b>450</b>	<b>800</b>	<b>21</b>

**Dr. Babasaheb Ambedkar Technological University**

**B.Tech. Civil Engineering**

**Course Structure for Semester VII (Fourth Year) w.e.f. 2023-2024**

Course Code	Type of Course	Course Title	Weekly Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	CA	MSE	ESE	Total	
BTCVC701	Core	Design of Reinforced & Prestressed Concrete Structures	3	1	--	20	20	60	100	4
BTCVC702	Core	Infrastructure Engineering	3	--	--	20	20	60	100	3
BTCVC703	Core	Construction Techniques	3	--	--	20	20	60	100	3
BTCVC704	Core	Professional Practices	3	1	--	20	20	60	100	4
BTCVE705A	Elective IV	Engineering Economics	3	--	--	20	20	60	100	3
BTCVE705B		Finite Element Method								
BTCVE705C		Limit State Design of Steel Structures								
BTCVE705D		Rock Mechanics								
BTCVE705E		Applications of Drone Technology								
BTCVE705F		Advanced RC Design								
BTCVE705G		Applied Hydrology & Flood Control								
BTCVE705H		Legal Aspects in Civil Engineering Contracts								
BTCVE705I		Bridge Engineering								
BTCVOE706A		Open Elective V								
BTCVOE706B	Air Pollution Control									
BTCVOE706C	Applications of AI and ML in Civil Engineering									
BTCVOE706D	Introduction to Earthquake Engineering									
BTCVOE706E	Internet of Things									
BTCVOE706F	Tunneling and Underground Excavations									
BTCVOE706G	Bamboo Construction Technology									
BTHM707A		Essence of Indian Traditional Knowledge	2	--	--	--	--	--	--	Audit
BTHM707B		Foreign language <sup>##</sup>								
BTCVL708		Design & Drawing of Prestressed Concrete	--	--	2	30	--	20	50	1

	Lab.	Structures								
BTCVL709		Professional Practices	--	--	2	30	--	20	50	1
BTCVP610	Training	Field Training / Internship/Industrial Evaluation	--	--	--	--	--	50	50	1
BTCVS710	BTS	Seminar	--	--	2	--	--	50	50	1
BTCVP711	BTP	Project Stage-I**	--	--	4	--	50	50	100	3
<b>Total</b>			<b>20</b>	<b>2</b>	<b>10</b>	<b>160</b>	<b>150</b>	<b>490</b>	<b>800</b>	<b>24</b>

**B.Tech. Civil Engineering**  
**Course Structure for Semester VIII [Fourth Year] w.e.f. 2023-2024**

Course Code	Type of Course	Course Title	Weekly Teaching Scheme			Evaluation Scheme <sup>s</sup>				Credits
			L	T	P	CA	MSE	ESE	Total	
BTCVSS801A	(Self-Study Course) #	Characterization of Construction Materials	02**	--	--	20	20	60	100	3
BTCVSS801B		Geo synthetics and Reinforced Soil Structures								
BTCVSS801C		Higher Surveying								
BTCVSS801D		Maintenance and Repair Of Concrete Structures								
BTCVSS801E		Structural Dynamics								
BTCVSS801F		Engineering Systems & Development								
BTCVSS801G		Sustainable River Basin Management								
BTCVSS801H		Modern Construction Materials								
BTCVSS801J		Advanced Town & Urban Planning								
BTCVSS802A		(Self-Study Course) #								
BTCVSS802B	Environmental Remediation of Contaminated Sites									
BTCVSS802C	Remote Sensing Essentials									
BTCVSS802D	Mechanical Characterization of Bituminous Materials									
BTCVSS802E	Soil Structure Interaction									
BTCVSS802F	Design of Water Supply Systems									
BTCVP803	Project Stage-II	Project Stage II or Internship	--	--	24	100	--	100	200	12
<b>Total</b>			<b>04</b>	<b>--</b>	<b>24</b>	<b>140</b>	<b>40</b>	<b>220</b>	<b>400</b>	<b>18</b>

**Draft of Proposed Course Structure  
For Post Graduate Degree Programme  
M. Tech. in Civil Engineering**  
with Specialization in  
**Construction Technology and Management**  
**Presented to Academic Council**  
**On 15 April 2017**



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Lonere 402 103, Dist- Raigad, Maharashtra, INDIA**

## First Semester

Sr. No.	Subject Code	Name of Subject	Hours /Week			Credit	Examination Scheme				
			L	P	T		Theory		CA	PR/OR	Total
							TH	MTE			
01	CVCTM 101	Management and Project Planning	03	--	1	04	60	20	20	--	<b>100</b>
02	CVCTM 102	Cost and Quality Management	03	--	1	04	60	20	20	--	<b>100</b>
03	CVCTM 103	Contract Administration and Management	03	--	1	04	60	20	20	--	<b>100</b>
04	CVCTM 104	Communication Skills	02	--	--	02	--	--	25	25	<b>50</b>
05	CVCTM -L01	PG Lab-I	--	03	--	02	--	--	25	25	<b>50</b>
06	CVCTM-E1	Elective-I	03	--	--	03	60	20	20	--	<b>100</b>
07	CVCTM-E2	Elective-II	03	--	--	03	60	20	20	--	<b>100</b>
<b>Total for Semester I</b>			<b>17</b>	<b>03</b>	<b>03</b>	<b>22</b>	<b>300</b>	<b>100</b>	<b>150</b>	<b>50</b>	<b>600</b>

### Elective-I

**CVCTM-E1/01:** Advanced Construction Materials and Techniques

**CVCTM-E1/02:** Advanced Construction Equipment

**CVCTM-E1/03:** Retrofitting of Structures

### Elective-II

**CVCTM-E2/01:** Construction Disaster Management

**CVCTM-E2/02:** Applications of Statistical Methods

**CVCTM-E2/03:** Advanced Sustainable Building Technology

## Second Semester

Sr. No.	Subject Code	Name of Subject	Hours /Week			Credit	Examination Scheme				
			L	P	T		Theory		CA	PR/OR	Total
							TH	MTE			
01	CVCTM 201	Project Economics and Finance	03	--	1	04	60	20	20	--	<b>100</b>
02	CVCTM 202	Construction Safety	03	--	1	04	60	20	20	--	<b>100</b>
03	CVCTM-S01	Seminar-I	--	04	--	02	--	--	50	50	<b>100</b>
04	CVCTM-L02	PG Lab-II or Mini -Project	--	04	--	02	--	--	50	50	<b>100</b>
05	CVCTM-E3	Elective-III (Departmental)	03	--	--	03	60	20	20	--	<b>100</b>
06	CVCTM-E4	Elective-IV (Departmental)	03	--	--	03	60	20	20	--	<b>100</b>
07	CVCTM-E5	Elective-V (Open)	03	--	--	03	60	20	20	--	<b>100</b>
<b>Total for Semester II</b>			<b>15</b>	<b>08</b>	<b>02</b>	<b>21</b>	<b>300</b>	<b>100</b>	<b>200</b>	<b>100</b>	<b>700</b>

### Elective-III

**CVSE-E3/01:** Architecture and Town planning

**CVSE-E3/02:** Operation Research

**CVSE-E3/03:** Value Engineering and Valuation

### Elective- IV

**CVSE-E4/01:** Resource Management

**CVSE-E4/02:** Building Environment and Services

**CVSE-E4/03:** Risk Analysis and Decision Making

### Elective-V (Open)

**CVSE-E5/01:** Research Methodology

**CVSE-E5/02:** Infrastructure Development



### Third Semester

Sr. No.	Subject Code	Name of the subject	Hours/Week			Credit	Examination scheme				
							Theory		CA	PR / OR	Total
			L	P	T		TH	Test			
1	CVCTM301	Project Management and Intellectual Property Rights (Self Study)*	--	--	--	02	--	--	50	50	<b>100</b>
2	CVCTMPS1	Project Stage -I	--	--	--	10	--	--	50	50	<b>100</b>
<b>Total for Semester III</b>			--	--	--	<b>12</b>	--	--	<b>100</b>	<b>100</b>	<b>200</b>

### Fourth Semester

Sr. No.	Subject Code	Name of the subject	Hours/Week			Credit	Examination scheme				
							Theory		CA	PR/ OR	Total
			L	P	T		TH	Test			
1	CVCTMPS2	Project Stage-II	-	-	-	20	-	-	100	100	<b>200</b>
<b>Total for Semester IV</b>			-	-	-	<b>20</b>	-	-	<b>100</b>	<b>100</b>	<b>200</b>
<b>GRAND TOTAL</b>											<b>1700</b>

\* Student may select this course either from NPTEL/MOOC pool or any other approved reputed source. The submission of course completion certificate is mandatory.

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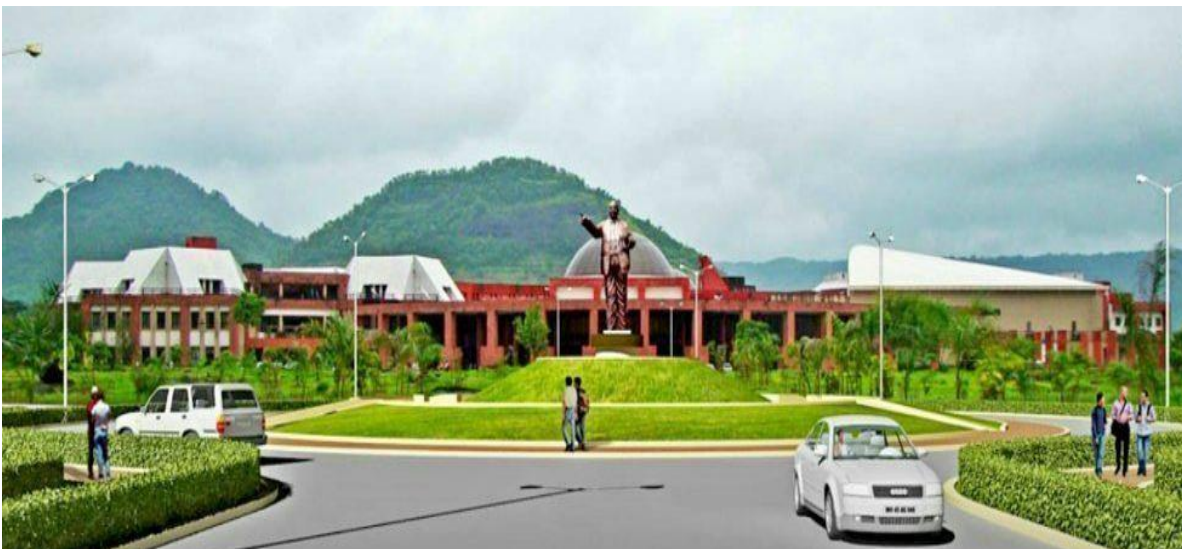
# **PROPOSED CURRICULUM**

# **UNDER GRADUATE PROGRAMME**

# **B.TECH**

**COMPUTER ENGINEERING**

**WITH EFFECT FROM THE ACADEMIC YEAR 2020-2021**



**Semester –III (Second Year)**  
**Proposed Scheme w.e.f. July – 2021**

Course Category	Course Code	Course Title	Weekly Teaching Hrs			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
	BTBS301	Engineering Mathematics – III	3	1	-	20	20	60	100	4
	BTCOC302	Discrete Mathematics	3	1	-	20	20	60	100	4
	BTCOC303	Data Structures	3	1	-	20	20	60	100	4
	BTCOC304	Computer Architecture & Organization	3	1	-	20	20	60	100	4
	BTCOC305	Elective –I (a) Object - oriented Programming in C++ (b) Object Oriented Programming in Java	3	1	-	20	20	60	100	4
	BTCOL306	Data Structures Lab & Object Oriented Programming Lab	-	-	4	60	-	40	100	2
	BTCOS307	Seminar – I	-		4	60	-	40	100	2
	BTES211P	Field Training / Internship / Industrial Training Evaluation	-	-	-	-	-	-	-	Audit
<b>TOTAL</b>			<b>15</b>	<b>5</b>	<b>8</b>	<b>220</b>	<b>100</b>	<b>380</b>	<b>700</b>	<b>24</b>

**Semester –IV (Second Year)**  
**Proposed Scheme w.e.f. January – 2022**

Course Category	Course Code	Course Title	Weekly Teaching Hrs			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
	BTCOC401	Design & Analysis of Algorithms	3	1	-	20	20	60	100	4
	BTCOC402	Operating Systems	3	1	-	20	20	60	100	4
	BTHM403	Basic Human Rights	3	-	-	20	20	60	100	3
	BTBS404	Probability Theory and Random Processes	3	-	-	20	20	60	100	3
	BTES405	Digital Logic Design & Microprocessors	3	1	-	20	20	60	100	4
	BTCOL406	Operating Systems & Python Programming Lab	1*	-	4	60	-	40	100	3
	BTCOS407	Seminar – II			4	60	-	40	100	2
	BTCOF408	Field Training / Internship / Industrial Training Evaluation						-	-	Audit to be evaluated in V Sem.
<b>TOTAL</b>			<b>16</b>	<b>3</b>	<b>8</b>	<b>220</b>	<b>100</b>	<b>380</b>	<b>700</b>	<b>23</b>

\*Note: Lecture should be conducted only for Python Programming

**Semester –V (Third Year)**  
**Proposed Scheme w.e.f. July – 2022**

Course Category	Course Code	Course Title	Weekly Teaching Hrs			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
	BTCOC501	Database Systems	3	1	-	20	20	20	100	4
	BTCOC502	Theory of Computation	3	1	-	20	20	20	100	4
	BTCOC503	Software Engineering	3	1	-	20	20	20	100	4
	BTCOE504	Elective – II (A) Human computer Interaction (B) Numerical Methods	3	-	-	20	20	20	100	3
	BTHM505	Elective – III (A) Economics and Management (B) Business Communication	3	-	-	20	20	20	100	3
	BTCOL506	Database Systems & Software Engineering Lab	-	-	4	60	-	40	100	2
	BTCOM507	Mini-project – I	-	-	4	60	-	40	100	2
	BTCOF408	Field Training / Internship / Industrial Training Evaluation	-	-	-	-	-	-	-	Audit
<b>TOTAL</b>			<b>15</b>	<b>3</b>	<b>8</b>	<b>220</b>	<b>100</b>	<b>380</b>	<b>700</b>	<b>22</b>

**Semester –VI (Third Year)**  
**Proposed Scheme w.e.f. January – 2023**

Course Category	Course Code	Course Title	Weekly Teaching Hrs			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
	BTCOC601	Compiler Design	3	1	-	20	20	60	100	4
	BTCOC602	Computer Networks	3	1	-	20	20	60	100	4
	BTCOC603	Machine Learning	3	1	-	20	20	60	100	4
	BTCOE604	Elective – IV (A) Geographic Information System (B) Internet of Things (C) Embedded Systems	3	-	-	20	20	60	100	3
	BTHM605	Elective – V (A) Development Engineering (B) Employability and Skill Development (C) Consumer Behaviour	3	-	-	20	20	60	100	3
	BTCOL606	Competitive Programming & Machine Learning Lab	1*	-	4	60	-	40	100	3
	BTCOM607	Mini-project – II	-	-	4	60	-	40	100	2
	BTCOF608	Field Training / Internship / Industrial Training	-	-	-	-	-	-	-	Audit to be Evaluated in VII Sem.
<b>TOTAL</b>			<b>16</b>	<b>3</b>	<b>8</b>	<b>220</b>	<b>100</b>	<b>380</b>	<b>700</b>	<b>23</b>

\*Note: Lecture should be conducted only for Competitive Programming

**Semester –VII (Final Year)**  
**Proposed Scheme w.e.f. July – 2023**

Course Category	Course Code	Course Title	Weekly Teaching Hrs			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
	BTCOC701	Artificial Intelligence	3	-	-	20	20	60	100	3
	BTCOC702	Cloud Computing	3	-	-	20	20	60	100	3
	BTCOE703	Elective – VI (A) Bioinformatics (B) Distributed System (C) Big Data Analytics	3	-	-	20	20	60	100	3
	BTCOE704	Open Elective – VII (A) Cryptography and Network Security (B) Business Intelligence (C) Block chain Technology	3	-	-	20	20	60	100	3
	BTCOE705	Open Elective – VIII (A) Virtual Reality (B) Deep Learning (C) Design Thinking	3	-	-	20	20	60	100	3
	BTHM706	Foreign Language Studies	-	-	4	-	-	-	-	Audit
	BTCOL707	Artificial Intelligence & Cloud Computing Lab	-	-	4	60	-	40	100	2
	BTCOS708	Project Phase – I	-	-	-	60	-	40	100	2
	BTCOF608	Field Training / Internship / Industrial Training	-	-	-	-	-	-	-	Audit
<b>TOTAL</b>			<b>15</b>	<b>-</b>	<b>8</b>	<b>220</b>	<b>100</b>	<b>380</b>	<b>700</b>	<b>19</b>

**Semester –VIII (Final Year)**  
**Proposed Scheme w.e.f. January – 2024**

Course Category	Course Code	Course Title	Weekly Teaching Hrs			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
	BTCOF801	Project phase – II (In-house) / Internship and Project in Industry	-	-	24	60	-	40	100	12
<b>TOTAL</b>			<b>-</b>	<b>-</b>	<b>24</b>	<b>60</b>	<b>-</b>	<b>40</b>	<b>100</b>	<b>12</b>



**Syllabus**  
**for**  
**M. Tech. (Computer Engineering)**  
**M. Tech. (Computer Science)**  
**M. Tech. (Computer Science & IT)**  
**M. Tech. (Computer Science & Engg)**  
**w.e.f. July 2017**

**Department of Computer Engineering**  
**Master of Technology (Computer Engineering)**

Sr No	Code	Course Name	Teaching Scheme				Examination Scheme				
			L	P	T	CR	IA	MSE	ESE	OR	Total
<b>Semester I</b>											
1	MTCE1101	Computer Algorithms	3		1	4	20	20	60		100
2	MTCE1102	Machine Learning	3		1	4	20	20	60		100
3	MTCE1103	Advanced Computer Networks	3		1	4	20	20	60		100
4	MTCE1104	Elective I	3			3	20	20	60		100
5	MTCE1105	Elective II	3			3	20	20	60		100
6	MTCE1106	Communication Skill	2			2	25			25	50
7	MTCE1107	Software Lab I		4		2	25			25	50
		Total	17	4	3	22	150	100	300	50	600
<b>Semester II</b>											
1	MTCE1201	Data Science	3		1	4	20	20	60		100
2	MTCE1202	Software Architecture	3		1	4	20	20	60		100
3	MTCE1203	Elective III	3			3	20	20	60		100
4	MTCE1204	Elective IV	3			3	20	20	60		100
5	MTCE1205	Elective V	3			3	20	20	60		100
7	MTCE1207	Software Lab II		4		2	50			50	100
8	MT CE1208	Seminar I		4		2	50			50	100
		Total	15	8	2	21	200	100	300	100	700
<b>Semester III</b>											
1	MTCE2101	Project Management and Intellectual Property Rights (Self Study)				2	50			50	100
3	MTCE2103	Project- I				10	50			50	100
		Total				12	100			100	200
<b>Semester IV</b>											
1	MTCE2201	Project-II				20	100			100	200
		Total				20	100			100	200

## **List of Electives**

### **Elective 1**

1. Cloud Computing
2. Game Theory
3. Natural Language Processing
4. Social Network Analysis

### **Elective 3**

1. Software Testing
2. Algorithms for Big Data
3. Software Language Engineering
4. Cryptography and Network Security

### **Elective 5:**

1. Functional Programming
2. Object Oriented Systems
3. Reinforcement Learning
4. Pattern Recognition

### **Elective 2**

1. Intrusion Detection System
2. Model Checking
3. Artificial Intelligence and Knowledge Reasoning
4. High Performance Computing

### **Elective 4**

1. Introduction to Cognitive Sciences
2. Virtual Reality
3. Mobile Computing
4. Storage Systems

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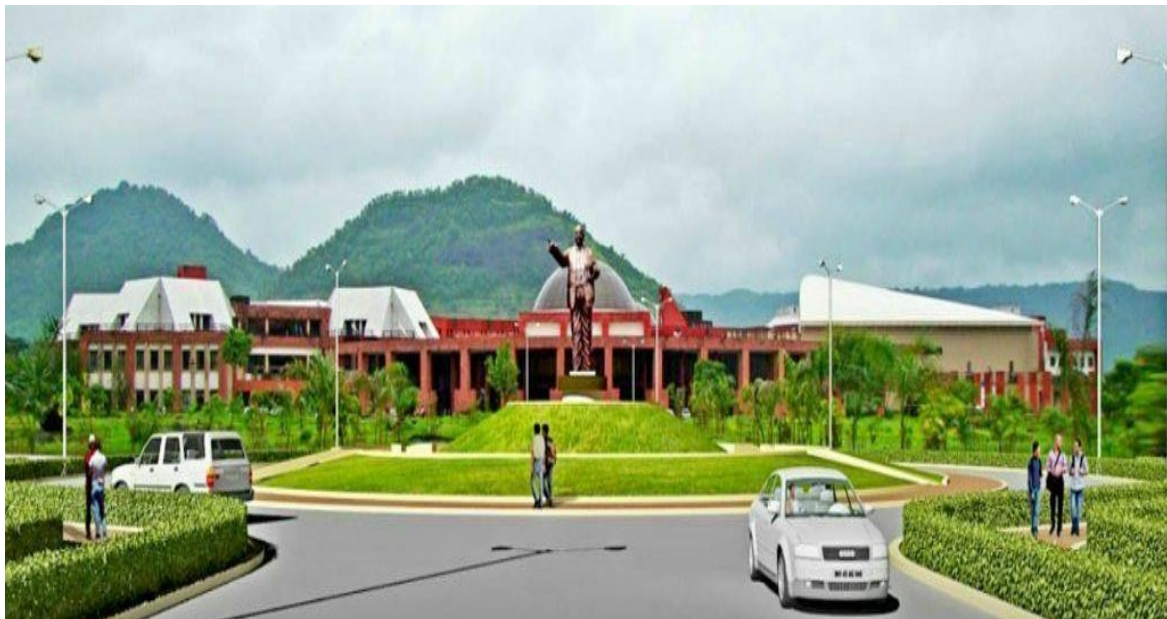


## **COURSE STRUCTURE AND SYLLABUS**

for

**Second Year B. Tech. Electrical Engineering / Electrical Engineering  
(Electronics and Power)/ Electrical & Electronics Engg / Electrical & Power  
Engineering**

**With effect from the Academic Year 2021-2022**



Dr. Babasaheb Ambedkar Technological University, Lonere.

**B.Tech (Electrical Engineering / Electrical Engineering (Electronics and Power)/ Electrical & Electronics Engg / Electrical & Power Engineering)**

**Curriculum of Second Year**

**Semester III**

Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
BSC	BTBS301	Engineering Mathematics-III	3	1	-	20	20	60	100	4
PCC1	BTEEC302	<b>Electrical Machines-I</b>	3	1	-	20	20	60	100	4
PCC2	BTEEC303	Electrical and Electronics Measurement	3	1	-	20	20	60	100	4
<b>HSSMC</b>	<b>BTHM304</b>	<b>Basic Human Rights</b>	<b>2</b>	<b>-</b>	<b>-</b>					<b>Audit</b>
ESC	BTES305	<b>Engineering Material Science</b>	3	-	-	20	20	60	100	3
LC	BTEEL306	Electrical Machines-I Lab			2	60		40	100	1
LC	BTEEL307	Electrical and Electronics Measurement Lab			2	60		40	100	1
Project	BTEEP308	Mini Project-I			4	60		40	100	2
Internship	BTES211P	Internship-I Evaluation						50	50	1
			14	3	8	260	80	410	750	20

**Semester IV**

Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
PCC3	BTEEC401	<b>Network Theory</b>	3	1	-	20	20	60	100	4
PCC4	BTEEC402	<b>Power System</b>	3	1	-	20	20	60	100	4
PCC5	BTEEC403	Electrical Machine-II	3	1	-	20	20	60	100	4
BSC	BTBS404	Analog and Digital Electronics	3	-	-	20	20	60	100	3
PEC1	BTEEPE405	Group A	3	-	--	20	20	60	100	3
LC	BTEEL406	Network Theory Lab	-	-	2	30		20	50	1
LC	BTEEL407	Power System Lab	-	-	2	30		20	50	1
LC	BTEEL408	Electrical Machine-II Lab	-	-	2	30		20	50	1
LC	BTEEL409	Analog and Digital Electronics lab	-	-	2	30		20	50	1
Internship	BTEEP410	Internship-II (minimum of 4 weeks which can be completed partially in third or fourth semester or in at one time)	-	-	-	-	-	-	-	-
						220	100	380	700	22

**Group-A**

- (A) Electromagnetic Field Theory
- (B) **Signals and System**
- (C) Advance Renewable Energy Sources
- (D) **Electronic Devices and Circuits**

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**B.Tech (Electrical Engineering / Electrical Engineering (Electronics and Power)/ Electrical & Electronics Engg / Electrical & Power Engineering)**

**Curriculum for Semester V**

Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MS E	ESE	Total	
PCC4	BTEEC501	Power System Analysis	3	1	-	20	20	60	100	4
PCC5	BTEEC502	Microprocessor and Microcontroller	3	-	-	20	20	60	100	3
PCC6	BTEEC503	Power Electronics	3	1	-	20	20	60	100	4
PCC2	BTEEPLE504	Group B	3	-	-	20	20	60	100	3
OEC1	BTEEOE505	Group C	3	-	-	20	20	60	100	3
HSSMC	BTHM506	Foreign Language #	-	-	-	-	-	-	-	Audit
LC	BTEEL507	Power System Analysis Lab	-	-	2	60	-	40	100	1
LC	BTEEL508	Microprocessor and Microcontroller Lab	-	-	2	60	-	40	100	1
LC	BTEEL509	Power Electronics Lab	-	-	2	60	-	40	100	1
Project	BTEEPE510	Mini project-II	-	-	2	60	-	40	100	1
Internship	BTEEP410	Internship-II Evaluation	-	-	-	-	-	50	50	1
<b>Total</b>			<b>15</b>	<b>2</b>	<b>10</b>	<b>340</b>	<b>100</b>	<b>510</b>	<b>950</b>	<b>22</b>

**Semester VI**

PCC7	BTEEC601	Switchgear and Protection	3	-	-	20	20	60	100	3
PCC8	BTEEC602	Electrical Machine Design	3	1	-	20	20	60	100	4
PCC9	BTEEC603	Control System Engineering	3	1	-	20	20	60	100	4
PEC3	BTEEPE604	Group D	3	-	-	20	20	60	100	3
OEC2	BTEEOE605	Group E	3	-	-	20	20	60	100	3
LC	BTEEL606	Switchgear and Protection Lab	-	-	2	60		40	100	1
LC	BTEEL607	Electrical Machine Design Lab	-	-	2	60		40	100	1
LC	BTEEL608	Control System Engineering Lab	-	-	2	60		40	100	1
Seminar	BTEEM609	Seminar	-	-	4	60		40	100	2
Internship	BTEEP610	Internship-III (minimum of 4 weeks which can be completed partially in third or fourth semester or in at one time)	-	-	-	-	-	-	-	Credits to be evaluated in VII sem.
<b>Total</b>			<b>15</b>	<b>2</b>	<b>10</b>	<b>340</b>	<b>100</b>	<b>460</b>	<b>900</b>	<b>22</b>

BSC= Basic Science Course, ESC= Engineering Science Course, PCC= Professional Core Course, PEC= Professional Elective Course, OEC= Open Elective Course, LC= Laboratory Course, HSSMC= Humanities and Social Science including Management Course

# Online NPTEL Course

### Semester V

<b>BTEEPE504 Professional Elective (Group B)</b>	<b>BTEEOE505 Open Elective (Group C)</b>
(A) HVDC	(A) Embedded System
(B) Power Quality Issues	(B) Electrical Safety
(C) Industrial Automation	(C) Condition Monitoring of Electric Apparatus

<b>BTHM506 Foreign Language</b>
(A) Japanese Language
(B) German Language

### Semester VI

<b>BTEEPE604 Professional Elective (Group D)</b>	<b>BTEEOE605 Open Elective (Group E)</b>
(A) Flexible AC Transmission System	(A) E-waste Management
(B) Smart Grid Technology	(B) Power Plant Engineering
(C) Modeling, Simulation and Control of Electric Drives	(C) Sensor Technology
	(D) Lightning Interaction with Power System

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**B.Tech (Electrical Engineering / Electrical Engineering (Electronics and Power)/  
Electrical & Electronics Engg / Electrical & Power Engineering)**

**Curriculum for Semester VII [Final Year]**

Sr. No.	Course Code	Type of Course	Course Title	Hours per week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTEEC701	PCC1	Power System Operation & Control	3	0	0	20	20	60	100	3
2	BTEEC702	PCC2	High Voltage Engineering	3	0	0	20	20	60	100	3
3	BTEEC703	PCC3	Electrical Drives	3	0	0	20	20	60	100	3
4	BTEEE704	PEC1	Elective-IX	3	0	0	20	20	60	100	3
5	BTEEE705	PEC2	Elective-X	3	0	0	20	20	60	100	3
6	BTEEL706	Lab	Power System Operation & Control Lab	0	0	2	--	30	20	50	1
7	BTEEL707	Lab	High Voltage Engineering Lab	0	0	2	--	30	20	50	1
8	BTEEL708	Lab	Electrical Drives Lab	0	0	2	--	30	20	50	1
9	BTEES709	Seminar	Seminar	0	0	2	--	30	20	50	1
10	BTEEP710	Project	Project Part-I	0	0	6	--	30	20	50	3
11	BTEEF711	--	Field Training /Internship/Industrial Training III	--	--	--	--	--	50	50	1
<b>Total</b>				<b>15</b>	<b>0</b>	<b>14</b>	<b>100</b>	<b>250</b>	<b>450</b>	<b>800</b>	<b>23</b>

Elective-IX	Elective-X
A) Special Purpose Electrical Machines	A) Digital Signal Processing
B) Electrical Traction and Utilization	B) Energy Audit and Conservation
C) Engineering System Design and Optimization	C) Electrical Power Quality
D) Financial Management	D) HVDC Transmission and FACTS



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**B.Tech (Electrical Engineering / Electrical Engineering (Electronics and Power)/  
Electrical & Electronics Engg / Electrical & Power Engineering)**

**Curriculum for Semester VIII [Final Year]**

Sr. No.	Course Code	Course Title	Hours per week			Evaluation Scheme			Total Marks	Credits
			L	T	P	MSE	CA	ESE		
		1.Power Management Integrated Circuits 2.DC Power Transmission Systems 3.High Power Multilevel Converters 4.Fuzzy Sets, Logic and Systems & Applications 5.The Joy of Computing using Python 6.Introduction to Industry 4.0 and Industrial Internet of Things 7.Entrepreneurship Essentials <b># Student to opt any two subjects from above list</b>	3	0	0	20*	20*	60*	100	3
			3	0	0	20*	20*	60*	100	3
6	BTEEP803	Project - II	0	0	30	--	100	150	250	15
		<b>Total</b>	<b>6</b>	<b>0</b>	<b>30</b>	<b>40</b>	<b>240</b>	<b>270</b>	<b>450</b>	<b>21</b>

\* Six months of Internship in the industry

\*Students doing project at institute will have to appear for CA/MSE/ESE

\* Student doing project at Industry will give NPTEL examination / Examination conducted by university i.e. CA/MSE/ESE

# These subjects are to be studied on self –study mode using SWAYAM/NPTEL/Any other source

# Teacher who work as a facilitator for the course should be allotted 3 hrs/week load.

# Project Load: 2hrs/week/project.

**Mapping of Courses with MOOCs Platform SWYAM / NPTEL**

S.N.	Course Name	Duration	Name of Professor	Institute offering Course
1	Power Management Integrated Circuits	12 Weeks	Prof. Qadeer Ahmad Khan	IITM
2	DC Power Transmission Systems	12 Weeks	Prof. Krishna S	IITM
3	High Power Multilevel Converters	12 Weeks	Prof. Anandarup Das	IITD
4	Fuzzy Sets, Logic and Systems & Applications	12 Weeks	Prof. Nishchal Kumar Verma	IITK
5	The Joy of Computing using Python	12 Weeks	Prof. Sudarshan Iyengar Prof. Yayati Gupta	IIT Ropar
6	Introduction to Industry 4.0 and Industrial Internet of Things	12 Weeks	Prof. Sudip Misra	IIT KGP
7	Entrepreneurship Essentials	12 Weeks	Prof. Manoj Kumar Mondal	IIT KGP

**Dr. Babasaheb Ambedkar Technological University, Lonere.**

**Dr. Babasaheb Ambedkar Technological University  
(Established as a University of Technology in the State of Maharashtra)  
(under Maharashtra Act No. XXIX of 2014)  
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## **COURSE STRUCTURE AND SYLLABUS**

For

### **B. Tech. Electronics and Telecommunication Engineering Programme**

**With effect from the Academic Year**

**2017-2018 (First Year), 2018-2019 (Second Year),  
2019-2020 (Third Year), 2020-2021 (Final Year).**



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**B. Tech (Electronics & Telecommunication Engineering) / B. Tech (Electronics Engineering)  
Curriculum for Semester III [Second Year]**

Sr. No.	Course Code	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
			L	T	P	MSE	CA	ESE		
1	BTBSC301	Engineering Mathematics-III	3	1	0	20	20	60	100	4
2	BTEXC302	Analog Circuits	2	1	0	20	20	60	100	3
3	BTEXC303	Electronic Devices & Circuits	2	1	0	20	20	60	100	3
4	BTEXC304	Network Analysis	2	1	0	20	20	60	100	3
5	BTEXC305	Digital Logic Design	2	1	0	20	20	60	100	3
6	BTHM3401	Basic Human Rights	2	0	0	--	50	--	50	(Audit)
7	BTEXL307	Analog Circuits Lab	0	0	2	--	60	40	100	1
8	BTEXL308	Electronic Devices & Circuits Lab	0	0	2	--	60	40	100	1
9	BTEXL309	Network Analysis Lab	0	0	2	--	60	40	100	1
10	BTEXL310	Digital Logic Design Lab	0	0	2	--	60	40	100	1
11	BTEXW311	Electronics Workshop	0	0	2	--	60	40	100	1
12	BTES211P	Field Training/ Internship/Industrial Training Evaluation	--	--	--	--	--	50	50	1
<b>Total</b>			<b>13</b>	<b>05</b>	<b>10</b>	<b>100</b>	<b>450</b>	<b>550</b>	<b>1100</b>	<b>22</b>

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**B. Tech (Electronics & Telecommunication Engineering) / B. Tech (Electronics Engineering)  
Curriculum for Semester IV [Second Year]**

Sr. No	Course Code	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
			L	T	P	MSE	CA	ESE		
1	BTEXC401	Electrical Machines and Instruments	2	1	0	20	20	60	100	3
2	BTEXC402	Analog Communication Engineering	2	1	0	20	20	60	100	3
3	BTEXC403	Microprocessor	2	1	0	20	20	60	100	3
4	BTEXC404	Signals and Systems	2	1	0	20	20	60	100	3
5	BTID405	Product Design Engineering	1	0	2	30	30	40	100	2
6	BTBSC406	Numerical Methods and Computer Programming	2	1	0	20	20	60	100	3
7	BTEXL407	Electrical Machines and Instruments Lab	0	0	2	--	60	40	100	1
8	BTEXL408	Analog Communication Engineering Lab	0	0	2	--	60	40	100	1
9	BTEXL409	Microprocessor Lab	0	0	2	--	60	40	100	1
10	BTEXL410	Signals and Systems Lab	0	0	2	--	60	40	100	1
11	BTHML411	Soft-Skill Development	0	0	2	--	60	40	100	1

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12	BTEXF412	Field Training/ Internship/Industrial Training (Minimum 4 weeks which can be completed partially in third semester or fourth semester or in at one time)	--	--	--	--	--	--	--	1* (To be evaluated in V <sup>th</sup> Semester)
<b>Total</b>			<b>11</b>	<b>05</b>	<b>12</b>	<b>130</b>	<b>430</b>	<b>540</b>	<b>1100</b>	<b>22</b>

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**B. Tech (Electronics & Telecommunication Engineering)**  
**Proposed Curriculum for Semester V [Third Year]**

Sr. No.	Course Code	Type of Course	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTEXC501	Professional Core Course 1	Electromagnetic Field Theory	2	1	0	20	20	60	100	3
2	BTEXC502	Professional Core Course 2	Control System Engineering	3	0	0	20	20	60	100	3
3	BTETC503	Professional Core Course 3	Computer Architecture	3	0	0	20	20	60	100	3
4	BTEXC504	Professional Core Course 4	Digital Signal Processing	2	1	0	20	20	60	100	3
5	BTEXC505	Professional Core Course 5	Microcontroller and its Applications	3	0	0	20	20	60	100	3
6	BTEXPE506A	Program Elective Course 1	Probability Theory and Random Processes	3	0	0	20	20	60	100	3
	BTEXPE506B		NSQF (Level 7 Course)								
	BTEXPE506C		Data Structure & Algorithms Using Java Programming								
	BTEXPE506D		Introduction to MEMS								

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7	BTETL507	Control System Engineering Lab	0	0	2	--	30	20	50	1
8	BTETL508	Digital Signal Processing Lab	0	0	2	--	30	20	50	1
9	BTETL509	Microcontroller and its Applications Lab	0	0	2	--	30	20	50	1
10	BTETP510	Mini Project	0	0	2	--	30	20	50	1
11	BTETS511	Seminar	0	0	2	--	30	20	50	1
12	BTEXF412	Field Training/ Internship/Industrial Training Evaluation	--	--	--	--	--	50	50	1
<b>Total</b>			<b>16</b>	<b>02</b>	<b>10</b>	<b>120</b>	<b>270</b>	<b>510</b>	<b>900</b>	<b>24</b>

**Dr. Babasaheb Ambedkar Technological University, Lonere.**

**B. Tech (Electronics & Telecommunication Engineering)  
Proposed Curriculum for Semester VI [Third Year]**

Sr. No.	Course Code	Type of Course	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTETC601	Professional Core Course 1	Antennas and Wave Propagation	3	0	0	20	20	60	100	3
2	BTETC602	Professional Core Course 2	Computer Network & Cloud Computing	3	0	0	20	20	60	100	3
3	BTETC603	Professional Core Course 3	Digital Image Processing	3	0	0	20	20	60	100	3
4	BTETPE604A	Program Elective Course 2	CMOS Design	3	0	0	20	20	60	100	3
	BTETPE604B		Information Theory and Coding								
	BTETPE604C		Power Electronics								
	BTETPE604D		Nano Electronics								
	BTETPE604E		NSQF (Level 7 Course)								
	BTETPE604F		Android Programming								
5	BTETOE605A	Open Elective Course 1	Digital System Design	3	0	0	20	20	60	100	3
	BTETOE605B		Optimization Techniques								
	BTETOE605C		Project Management and Operation Research								



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	BTETOE605D		Augmented, Virtual and Mixed Reality								
	BTETOE605E		Python Programming								
	BTETOE605F		Web Development and Design								
6	BTHM606	Humanities & Social Science including Management Courses	Employability & Skill Development	2	0	0	20	20	60	100	2
7	BTETL607	Computer Network & Cloud Computing Lab		0	0	2	--	30	20	50	1
8	BTETL608	Program Elective 2 Lab		0	0	2	--	30	20	50	1
9	BTETL609	Open Elective 1 Lab		0	0	2	--	30	20	50	1
10	BTETP610	Mini-project		0	0	2	--	30	20	50	1
11	BTETF611	Field Training/ Internship/ Industrial Training (Minimum 4 weeks)		--	--	--	--	--	--	--	1* (To be evaluated in VII <sup>th</sup> Semester)
<b>Total</b>				<b>17</b>	<b>0</b>	<b>8</b>	<b>120</b>	<b>240</b>	<b>440</b>	<b>800</b>	<b>21</b>

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<b>Program Elective 2</b>	<b>Open Elective 1</b>
(A) CMOS Design	(A) Digital System Design
(B) Information Theory and Coding	(B) Optimization Techniques
(C) Power Electronics	(C) Project Management and Operation Research
(D) Nano Electronics	(D) Augmented, Virtual and Mixed Reality
(E) NSQF (Level 7 Course)	(E) Python Programming
(F) Android Programming	(F) Web Development and Design

\* To be evaluated in VII<sup>th</sup> Semester

**Dr. Babasaheb Ambedkar Technological University, Lonere.**

**B. Tech (Electronics & Telecommunication Engineering)**  
**Proposed Curriculum for Semester VII [Final Year]**

Sr. No.	Course Code	Type of Course	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTETC701	Professional Core Course 1	Digital Communication	3	0	0	20	20	60	100	3
2	BTETPE702	Program Elective 3	Group A	3	0	0	20	20	60	100	3
3	BTETPE703	Program Elective 4	Group B	3	0	0	20	20	60	100	3
4	BTETPE704	Program Elective 5	Group C	3	0	0	20	20	60	100	3
5	BTHM705	Humanities & Social Science including Management Courses	Financial Management	2	0	0	20	20	60	100	2
6	BTETL706	Program Elective 3 Lab		0	0	2	--	30	20	50	1
7	BTETL707	Program Elective 4 Lab		0	0	2	--	30	20	50	1
8	BTETL708	Program Elective 5 Lab		0	0	2	--	30	20	50	1
9	BTETP709	Project Part I		0	0	8	--	50	50	100	4
10	BTETF611	Field Training/ Internship/Industrial Training Evaluation		--	--	--	--	--	50	50	1
<b>Total</b>				<b>14</b>	<b>0</b>	<b>14</b>	<b>100</b>	<b>240</b>	<b>460</b>	<b>800</b>	<b>22</b>

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<b>Program Elective - 3 (Group A)</b>	<b>Program Elective -4 (Group B)</b>	<b>Program Elective- 5 (Group C)</b>
(A) Microwave Theory & Techniques	(A) Embedded System Design	(A) Consumer Electronics
(B) RF Circuit Design	(B) Artificial Intelligence Deep learning	(B) Analog Integrated Circuit Design
(C) Satellite Communication	(C) VLSI Design & Technology	(C) Soft Computing
(D) Fiber Optic Communication	(D) Data Compression & Encryption	(D) Advance Industrial Automation-1
(E) Wireless Sensor Networks	(E) Big Data Analytics	(E) Mechatronics
(F) Mobile Computing	(F) Cyber Security	(F) Electronics in Smart City

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**B. Tech (Electronics & Telecommunication Engineering)**

Proposed Curriculum for Semester VIII [Final Year]

**(Students doing the Project at Institute Level)**

Sr. No.	Course Code	Type of Course	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTETPE801	Program Elective 6	Group A	3	0	0	20	20	60	100	3
2	BTETPE802	Program Elective 7	Group B	3	0	0	20	20	60	100	3
3	BTETOE803	Open Elective 2	Group C	3	0	0	20	20	60	100	3
4	BTETL804	Program Elective 6 Lab		0	0	2	--	30	20	50	1
5	BTETL805	Program Elective 7 Lab		0	0	2	--	30	20	50	1
6	BTETP806	Project Part-II		0	0	16	--	150	100	250	8
<b>Total</b>				<b>9</b>	<b>0</b>	<b>20</b>	<b>60</b>	<b>270</b>	<b>320</b>	<b>650</b>	<b>19</b>

OR

**B. Tech (Electronics & Telecommunication Engineering)**

Proposed Curriculum for Semester VIII [Final Year]

**(Students doing the Project at Industry)**

Sr. No.	Course Code	Type of Course	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTETPE801	Program Elective 6	Group A	3	0	0	20	20	60	100	3*
2	BTETPE802	Program Elective 7	Group B	3	0	0	20	20	60	100	3*
3	BTETOE803	Open Elective 2	Group C	3	0	0	20	20	60	100	3*
4	BTETP804	Project Part-II		0	0	20	--	200	150	350	10
<b>Total</b>				<b>9</b>	<b>0</b>	<b>20</b>	<b>60</b>	<b>260</b>	<b>330</b>	<b>650</b>	<b>19</b>

\* Students should complete the certification credit course using SWAYAM, MOOC, NPTEL, Coursera platform and submit the certificate. University will transfer these credits accordingly.

OR

**B. Tech (Electronics & Telecommunication Engineering)**

Proposed Curriculum for Semester VIII [Final Year]

(Students doing the In-plant training and completing the Project sponsored / promoted by Industry)

Sr. No.	Course Code	Type of Course	Course Title	Hours Per Week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTETPE801	Program Elective 6	Group A	--	--	--	--	60*	40*	--	Audit *
2	BTETPE802	Program Elective 7	Group B	--	--	--	--	60*	40*	--	Audit *
3	BTETOE803	Open Elective 2	Group C	--	--	--	--	60*	40*	--	Audit *
4	BTETP804I	In-Plant Training and Project Part-II		--	--	30	--	450	200	--	19
<b>Total</b>				--	--	<b>30</b>	--	<b>450</b>	<b>200</b>	<b>650</b>	<b>19</b>

\* Students should complete the certification course using SWAYAM, MOOC, NPTEL Platform or self -study mode.

Program Elective 6 (Group A)	Program Elective 7 (Group B)	Open Elective 2 (Group C)
(A) Entrepreneurship Development	(A) e-Yantra	(A) Advanced Industrial Automation -2
(B) Mixed Signal Design	(B) Mobile Communication & Networks	(B) IoT based Embedded System Design.
(C) Bio-medical Signal Processing	(C) Geo-informatics and Spatial Computing	(C) Industrial Drives and Control
(D) Multirate Digital Signal Processing	(D) Software Defined Radio	(D) Robotics Design
(E) Wavelet Theory	(E) Under Water Signal Processing	(E) Block Chain Technology

# **Dr. Babasaheb Ambedkar Technological University**

## **Course Structure and Syllabus**

**For**

**M. Tech. (Electronics & Telecommunication Engineering)**

**Two Year (Four Semester) Course**

**(w.e.f. July 2017)**



**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,**

**Lonere-402103, Raigad (MS)**



# Dr. Babasaheb Ambedkar Technological University

Teaching and Examination Scheme for

M.Tech. (Electronics & Telecommunication Engineering) w.e.f. July 2017

Sr. No.	Course Code	Name of the Course	Hours/Week			Credit	Examination scheme				
			L	P	T		Theory		IA	PR/OR	TOTAL
							TH	Test			
<b>First Semester</b>											
01	MTETC101	Signal Theory	03	--	1	04	60	20	20	--	<b>100</b>
02	MTETC102	Radiation and Microwave Techniques	03	--	1	04	60	20	20	--	<b>100</b>
03	MTETC103	Signal Processing Algorithms & Applications	03	--	1	04	60	20	20	--	<b>100</b>
04	MTETE114	Elective-I	03	--	--	03	60	20	20	--	<b>100</b>
05	MTETE125	Elective-II	03	--	--	03	60	20	20	--	<b>100</b>
06	MTETC106	Communication Skills	02	--	--	02	--	--	25	25	<b>50</b>
07	MTETL107	PG Lab-I*	--	03	--	02	--	--	25	25	<b>50</b>
<b>Total for Semester I</b>			<b>17</b>	<b>03</b>	<b>03</b>	<b>22</b>	<b>300</b>	<b>100</b>	<b>150</b>	<b>50</b>	<b>600</b>
<b>Second Semester</b>											
01	MTETC201	Estimation and Detection Theory	03	--	1	04	60	20	20	--	<b>100</b>
02	MTETC202	Information Theory and Coding	03	--	1	04	60	20	20	--	<b>100</b>
03	MTETE233	Elective-III	03	--	--	03	60	20	20	--	<b>100</b>
04	MTETE244	Elective- IV	03	--	--	03	60	20	20	--	<b>100</b>
05	MTETE255	Elective-V- (Open to all)	03	--	--	03	60	20	20	--	<b>100</b>
06	MTETS206	Seminar-I	--	04	--	02	--	--	50	50	<b>100</b>
07	MTETP207	Mini-Project	--	04	--	02	--	--	50	50	<b>100</b>
<b>Total for Semester II</b>			<b>15</b>	<b>8</b>	<b>02</b>	<b>21</b>	<b>300</b>	<b>100</b>	<b>200</b>	<b>100</b>	<b>700</b>
<b>Third Semester</b>											
1	MTETC301	Project Management & Intellectual Property Rights (Self Study)#	--	--	--	02	--	--	50	50	<b>100</b>
2	MTETP302	Project-I	--	--	--	10	--	--	50	50	<b>100</b>
<b>Total for Semester III</b>			<b>--</b>	<b>--</b>	<b>-</b>	<b>12</b>	<b>--</b>	<b>--</b>	<b>100</b>	<b>100</b>	<b>200</b>
<b>Fourth Semester</b>											
1	MTETP401	Project-II	--	--	--	20	--	--	100	100	<b>200</b>
<b>Total for Semester IV</b>			<b>--</b>	<b>--</b>	<b>--</b>	<b>20</b>	<b>--</b>	<b>--</b>	<b>100</b>	<b>100</b>	<b>200</b>
<b>GRAND TOTAL</b>											<b>1700</b>

\* PG Lab-I –Practical shall be based on courses of first semester.

# Student has to choose this course either from NPTEL/MOOC pool and submission of course completion certificate is mandatory.

**Elective-I**

1. Artificial Neural Networks and Applications
2. Electromagnetic Interference and Compatibility
3. Mobile Communication
4. Fault Tolerant Systems
5. Analog and Mixed Signal Processing

**Elective-II**

1. RF and Millimeter Wave circuit Design
2. System On-Chip
3. Optical Fiber Communication
4. Statistical Signal Processing
5. Microelectronics

**Elective-III**

1. Multirate Digital Signal Processing
2. Embedded System Design
3. Wireless Sensor Network Design
4. VLSI and Microsystems
5. Numerical Methods in Electromagnetics

**Elective-IV**

1. Advanced Biomedical Signal Processing
2. Reconfigurable Computing
3. Digital VLSI Design
4. Radar Signal Processing
5. Electromagnetics, Antenna and Propagation

**Elective-V (Open)**

1. Internet of Things
2. Linear Algebra
3. Neural Networks in Embedded Applications
4. Research Methodology
5. Wavelet Transforms and its Applications

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**Course Contents for**  
**B. Tech. in Mechanical Engineering**  
**w.e.f. June 2018**

**From 3<sup>rd</sup> Semester - 8<sup>th</sup> Semester**

**Course Structure for Semester III**

**B. Tech in Mechanical Engineering / B. Tech. in Mechanical Engineering (Sandwich)  
(2022-23)**

Semester III										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				No. of Credits
			L	T	P	CA	MSE	ESE	Total	
BSC7	BTBS301	Engineering Mathematics – III	3	1	-	20	20	60	100	4
PCC1	BTMC302	Fluid Mechanics	3	1	-	20	20	60	100	4
PCC2	BTMC303	Thermodynamics	3	1	-	20	20	60	100	4
ESC10	BTMES304	Materials Science and Metallurgy	3	1	-	20	20	60	100	4
PCC3	BTMCL305	Machine Drawing and CAD Lab	-	-	4	60	-	40	100	2
PCC4	BTMCL306	Mechanical Engineering Lab – I	-	-	4	60	-	40	100	2
PROJ-2	BTES209P	IT – 1 Evaluation	-	-	-	-	-	100	100	1
<b>Total</b>			<b>12</b>	<b>4</b>	<b>8</b>	<b>200</b>	<b>80</b>	<b>420</b>	<b>700</b>	<b>21</b>

BSC = Basic Science Course, ESC = Engineering Science Course, PCC = Professional Core Course

PEC = Professional Elective Course, OEC = Open Elective Course, LC = Laboratory Course

HSSMC = Humanities and Social Science including Management Courses

**Course Structure for Semester IV**

**B. Tech in Mechanical Engineering / B. Tech. in Mechanical Engineering (Sandwich)  
(2022-23)**

Semester IV										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				No. of Credits
			L	T	P	CA	MSE	ESE	Total	
PCC 5	BTMC401	Manufacturing Processes – I	3	1	-	20	20	60	100	4
PCC 6	BTMC402	Theory of Machines-I	3	1	-	20	20	60	100	4
HSSMC3	BTHM403	Basic Human Rights	3	-	-	20	20	60	100	3
ESC11	BTMES404	Strength of Materials	3	1	-	20	20	60	100	4
PEC 1	BTMPE405A-C	Elective-I	3	-	-	20	20	60	100	3
PCC7	BTMCL406	Mechanical Engineering Lab-II	-	-	4	60	-	40	100	2
PROJ-3	BTMI407	Field Training /Industrial Training (minimum of 4 weeks which can be completed partially in the third and fourth semester or in one semester itself)	-	-	-	-	-	-	-	Credits to be evaluated in Sem V
<b>Total</b>			<b>15</b>	<b>4</b>	<b>4</b>	<b>160</b>	<b>100</b>	<b>340</b>	<b>600</b>	<b>20</b>

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**Elective I**

Sr. No	Course code	Course Name
1	BTMPE405A	Numerical Methods in Engineering
2	BTMPE405B	Sheet Metal Engineering
3	BTMPE405C	Fluid Machinery

**Course Structure for Semester V**

**B. Tech in Mechanical Engineering / B. Tech. in Mechanical Engineering (Sandwich)  
(2022-23)**

Semester V										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				No. of Credits
			L	T	P	CA	MSE	ESE	Total	
PCC 8	BTMC 501	Heat Transfer	3	1	-	20	20	60	100	4
PCC 9	BTMC 502	Machine Design – I	3	1	-	20	20	60	100	4
PCC 10	BTMC 503	Theory of Machines- II	3	1	-	20	20	60	100	4
PEC 2	BTMPE 504A-C BTAPE504A,D	Elective-II	3	-	-	20	20	60	100	3
OEC 1	BTMOE 505A-D	Open Elective-I	3	-	-	20	20	60	100	3
PCC 11	BTMC 506	Applied Thermodynamics	3	-	-	20	20	60	100	3
PCC12	BTMCL 507	Mechanical Engineering Lab – III	-	-	6	60	-	40	100	3
PROJ-3	BTMI 408	IT – 2 Evaluation	-	-	-	-	-	100	100	1
<b>Total</b>			<b>18</b>	<b>3</b>	<b>6</b>	<b>180</b>	<b>120</b>	<b>500</b>	<b>800</b>	<b>25</b>

BSC = Basic Science Course, ESC = Engineering Science Course, PCC = Professional Core Course

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**Elective II**

Sr. No	Course code	Course Name
1	BTMPE504A	Refrigeration and Air conditioning
2	BTMPE504B	Steam and Gas Turbines
3	BTMPE504C	Engineering Tribology
4	BTAPE504A	Fundamentals of Automobile Design
5	BTAPE504D	Automobile Engineering

**Open Elective I**

Sr.No.	Course code	Course Name
1	BTMOE505A	Solar Energy
2	BTMOE505B	Renewable Energy Sources
3	BTMOE505C	Human Resource Management
4	BTMOE505D	Product Design Engineering

**Course Structure for Semester VI**

**B. Tech in Mechanical Engineering / B. Tech. in Mechanical Engineering (Sandwich)  
(2022-23)**

Semester VI										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				No. of Credits
			L	T	P	CA	MSE	ESE	Total	
PCC12	BTMC 601	Manufacturing Processes-II	3	1	-	20	20	60	100	4
PCC13	BTMC 602	Machine Design-II	3	1	-	20	20	60	100	4
PEC3	BTMPE 603A-C BTAPE 603C,E	Elective-III	3		-	20	20	60	100	3
PEC4	BTMPE 604A-D BTAPE 604B	Elective-IV	3		-	20	20	60	100	3
OEC2	BTMOE 605A-E	Open Elective-II	3	-	-	20	20	60	100	3
PCC14	BTMCL 606	Mechanical Engineering Lab – IV	-	-	6	60	-	40	100	3
PROJ-4	BTMS607	B Tech Seminar	-	-	2	60		40	100	1
PROJ-5	BTMP 608	Mini Project (TPCS)	-	-	2	60	-	40	100	1
PROJ-6	BTMI 609 (IT-3)	Field Training / Industrial Training (minimum of 4 weeks which can be completed partially in fifth semester and sixth semester or in one semester itself).	-	-	-	-	-	-	-	Credits to be evaluated in Sem VII
<b>Total</b>			<b>15</b>	<b>2</b>	<b>10</b>	<b>280</b>	<b>100</b>	<b>420</b>	<b>800</b>	<b>22</b>

BSC = Basic Science Course, ESC = Engineering Science Course, PCC = Professional Core Course  
 PEC = Professional Elective Course, OEC = Open Elective Course, LC = Laboratory Course  
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**Elective III:**

Sr.No	Course code	Course Name
1	BTMPE603A	IC Engines
2	BTMPE603B	Mechanical Vibrations
3	BTMPE603C	Machine Tool Design
4	BTMPE603D	Engineering Metrology and Quality Control
5	BTAPE603C	Advance Automobile Design
6	BTAPE603E	E – Vehicles

## **Dr. Babasaheb Ambedkar Technological University, Lonere**

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### **Elective IV:**

<b>SrNo</b>	<b>Course code</b>	<b>Course Name</b>
1	BTMPE604A	Process Equipment Design
2	BTMPE604B	Product Life Cycle Management
3	BTMPE604C	Finite Element Method
4	BTMPE604D	Robotics
5	BTAPE604B	Computational Fluid Dynamics

### **Open Elective II:**

<b>Sr.No</b>	<b>Course code</b>	<b>Course Name</b>
1	BTMOE605A	Quantitative Techniques and Project Management
2	BTMOE605B	Nanotechnology
3	BTMOE605C	Energy Conservation and Management
4	BTMOE605D	Wind Energy
5	BTMOE605E	Introduction to Probability Theory and Statistics

**Course Structure for Semester VII**

**B. Tech in Mechanical Engineering / B. Tech. in Mechanical Engineering (Sandwich)  
(2023-24)**

Semester VII										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				No. of Credits
			L	T	P	CA	MSE	ESE	Total	
PCC15	BTMC701	Mechatronics	3	-	-	20	20	60	100	3
HSSMC4	BTHM702	Industrial Engineering and Management	3	-	-	20	20	60	100	3
PEC5	BTMPE703A-G BTPPE703D	Elective-V	3	-	-	20	20	60	100	3
OEC3	BTMOE704A-C	Open Elective-III	3	-	-	20	20	60	100	3
OEC4	BTMOE705A-C	Open Elective-IV	3	-	-	20	20	60	100	3
PCC16	BTMCL706	Mechanical Engineering Lab -V	-	-	4	60	-	40	100	2
PROJ-6	BTMP 707	Mini Project	-	-	6	30	-	20	50	3
PROJ-7	BTMI609	IT – 3 Evaluation	-	-	-	-	-	100	100	1
<b>Total</b>			<b>15</b>	<b>-</b>	<b>10</b>	<b>190</b>	<b>100</b>	<b>460</b>	<b>750</b>	<b>21</b>

BSC = Basic Science Course, ESC = Engineering Science Course, PCC = Professional Core Course

PEC = Professional Elective Course, OEC = Open Elective Course, LC = Laboratory Course

HSSMC = Humanities and Social Science including Management Courses

**Elective V:**

Sr. No	Course code	Course Name
1	BTMPE703A	Design of Air Conditioning Systems
2	BTMPE703B	Biomechanics
3	BTMPE703C	Non-conventional Machining
4	BTMPE703D	Advanced IC Engines
5	BTMPE703E	Additive Manufacturing
6	BTMPE703F	Surface Engineering
7	BTPPE703D	Processing of Polymers
8	BTMPE703G	Stress Analysis

**Open Elective III:**

Sr. No	Course code	Course Name
1	BTMOE704A	Sustainable Development
2	BTMOE704B	Entrepreneurship Development
3	BTMOE704C	Plant Maintenance



**Open Elective IV:**

Sr.No	Course code	Course Name
1	BTMOE705A	Engineering Economics
2	BTMOE705B	Biology for Engineers
3	BTMOE705C	Intellectual Property Rights

**Course Structure for Semester VIII**

**B. Tech in Mechanical Engineering / B. Tech. in Mechanical Engineering (Sandwich) 2023-24**

Semester VIII										
Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
		Choose any two subjects from ANNEXURE-A#				20	20	60	100	3
						20	20	60	100	3
PROJ-8	BTMP801/ BTMI801	Project OR Internship	-	-	16	60	-	40	100	08
<b>Total</b>			-	-	16	100	40	160	300	14

**ANNEXURE-A# (Provisional)**

**Recommendations of 8<sup>th</sup> Semester Courses in Self-study Mode from NPTEL/ SWYAM Platform,  
THE LIST MAY ALTER AND MODIFY AS PER THE AVAILABILITY OF THE SUBJECTS ON THE  
NPTEL/ SWYAM Platform AND USEFULNESS, EVERY YEAR**

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## **Course Structure and Contents**

**for**

## **M.Tech. in Design Engineering/Machine Design Engineering/Mechanical Design Engineering**

**From 1<sup>st</sup> Semester - 4<sup>th</sup> Semester**

**MASTER OF TECHNOLOGY**  
**(Design Engineering/ Machine Design Engineering/ Mechanical Design Engineering)**

Syllabus with effect from July 2018

**Semester-I**

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MDE11	PCC	Advanced Methods in Engineering Design	3	1	--	4	60	20	20	--	100
MDE12	PCC	Analysis and Synthesis of Mechanisms	3	1	--	4	60	20	20	--	100
MDE13	PCC	Advanced Mechanical Vibrations	3	1	--	4	60	20	20	--	100
MDE14A	Elective I	Advanced Machine Design	3	--	--	3	60	20	20	--	100
MDE14B		Mechanics of Composite Materials									
MCADM14C		Instrumentation and Automatic Control									
MDE14D		Experimental Stress Analysis									

MME14E		Robotics									
MDE14F		Advanced Engineering Materials									
MDE14G		Stress Analysis									
MDE15A	Elective II	Tribology in Design	3	--	--	3	60	20	20	--	100
MDE15B		Theory of Elasticity and Plasticity									
MDE15C		Failure Analysis and Design									
MDE15D		Machine Tool Design									
MDE15E		Process Equipment Design									
MDE15F		Computational Techniques in Engineering Design									
BSH16	HSMC	Communication Skills	2	--	--	2	--	--	25	25	50
MDE17	PCC	Design Lab	--	--	3	2	--	--	25	25	50
<b>Total</b>			<b>17</b>	<b>3</b>	<b>3</b>	<b>22</b>	<b>300</b>	<b>100</b>	<b>150</b>	<b>50</b>	<b>600</b>

## Semester-II

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MDE21	PCC	Finite Element Method	3	1	--	4	60	20	20	--	100
MDE22	PCC	Design Optimization	3	1	--	4	60	20	20	--	100
MDE23A	Elective III	Vehicle Dynamics	3	--	--	3	60	20	20	--	100
MDE23B		Engineering Fracture Mechanics									
MDE23C		Noise, Vibration and Harshness									
MCAAD23D		Design of Piping System									
ME-XX24A	Elective IV	Mechatronics	3	--	--	3	60	20	20	--	100
MDE24B		Design For Manufacture and Assembly									
MDE24C		Rotor Dynamics									
MOE25A	Elective V	Research Methodology	3	--	--	3	60	20	20	--	100
MOE25B		Design of Experiments									
MOE25C		Advanced Optimization Techniques									

MOE25D		Environmental Engineering and Pollution Control										
MOE25E		Soft Computing Techniques										
MOE25F		Manufacturing Automation										
MOE25G		Modeling and Simulation										
MDE26	PCC	Seminar	--	--	4	2	--	--	50	50	100	
MDE27	PCC	Mini Project	--	--	4	2	--	--	50	50	100	
<b>Total</b>			<b>15</b>	<b>2</b>	<b>8</b>	<b>21</b>	<b>300</b>	<b>100</b>	<b>200</b>	<b>100</b>	<b>700</b>	

### Semester-III

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MMECH31	PCC	*Project Management and Intellectual Property Rights (Self Study Course)	--	--	--	2	--	--	50	50	100
MDE32	PCC	Project Stage -I	---	--	--	10	--	--	50	50	100
<b>Total</b>			---	--	--	<b>12</b>	--	--	<b>100</b>	<b>100</b>	<b>200</b>

### Semester-IV

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MDE41	PCC	Project Stage -II	---	--	--	20	--	--	100	100	200
<b>Total</b>			---	--	--	<b>20</b>	--	--	<b>100</b>	<b>100</b>	<b>200</b>

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## **Course Contents for**

**M. Tech. in Manufacturing Engineering/ Manufacturing Engineering  
Processes/ Manufacturing Process Engineering/ Mechanical Production  
Engineering**

**From 1<sup>st</sup> Semester - 4<sup>th</sup> Semester**



## MASTER OF TECHNOLOGY

(Manufacturing Engineering/ Manufacturing Engineering Processes/ Manufacturing Process Engineering/ Mechanical Production Engineering)

Syllabus with effect from July 2018

### Semester-I

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MME11	PCC	Theory of Machining	3	1	--	4	60	20	20	--	100
MME12	PCC	CNC Technology	3	1	--	4	60	20	20	--	100
MME13	PCC	Advanced Joining Technology	3	1	--	4	60	20	20	--	100
MME14A	Elective I	Quality Control and Reliability	3	--	--	3	60	20	20	--	100
MME14B		Sheet Metal Engineering									
MME14C		Processing of Advanced Materials									
MME14D		Additive Manufacturing									
MME14E		Robotics									
MME14F		Advanced Tool Design									
MME15A	Elective II	Polymer Processing Technology	3	--	--	3	60	20	20	--	100
MMECH15A		Manufacturing Planning and Control									
MME15B		Micro-Nano Engineering									
ME-XX15C		Hydraulic, Pneumatic and Fluidic Control									
MDE15D		Machine Tool Design									
MME15E		Finite Element Method									
MME15F	Machine Learning Techniques										
BSH16	HSMC	Communication Skills	2	--	--	2	--	--	25	25	50
MME17	PCC	Manufacturing Engineering Lab	--	--	3	2	--	--	25	25	50
<b>Total</b>			<b>17</b>	<b>3</b>	<b>3</b>	<b>22</b>	<b>300</b>	<b>100</b>	<b>150</b>	<b>50</b>	<b>600</b>

**Semester-II**

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MME21	PCC	Metal Forming Processes	3	1	--	4	60	20	20	--	100
MME22	PCC	Casting and Moulding Technology	3	1	--	4	60	20	20	--	100
MME23A	Elective III	Ultra-precision Machining	3	--	--	3	60	20	20	--	100
MMECH23A		Numerical Methods and Computational Techniques									
MME23B		Sensors for Intelligent Manufacturing and Monitoring									
ME-XX23B		CAD-CAE									
MME23C		Diamond Turning Technology									
MME23D		Management Information System									
MME23E		Technology and Knowledge Management									
MME23F		Knowledge Based System in Manufacturing									
ME-XX24A	Elective IV	Mechatronics	3	--	--	3	60	20	20	--	100
MME24B		Surface Engineering									
MME24C		Metrology and Computer Aided Inspection									
MME24D		Characterization Techniques									
MME24E		Lean Manufacturing									

MME24F		World Class Manufacturing										
MME24G		Total Productive Maintenance										
MOE25A	Elective V	Research Methodology	3	--	--	3	60	20	20	--	100	
MOE25B		Design of Experiments										
MOE25C		Advanced Optimization Techniques										
MOE25D		Environmental Engineering and Pollution Control										
MOE25E		Soft Computing Techniques										
MOE25F		Manufacturing Automation										
MOE25G		Modeling and Simulation										
MME26		PCC										Seminar
MME27	PCC	Mini Project	--	--	4	2	--	--	50	50	100	
<b>Total</b>			<b>15</b>	<b>2</b>	<b>8</b>	<b>21</b>	<b>300</b>	<b>100</b>	<b>200</b>	<b>100</b>	<b>700</b>	

### Semester-III

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MMECH31	PCC	*Project Management and Intellectual Property Rights (Self Study Course)	--	--	--	2	--	--	50	50	100
MME32	PCC	Project Stage -I	---	--	--	10	--	--	50	50	100
<b>Total</b>			---	--	--	<b>12</b>	--	--	<b>100</b>	<b>100</b>	<b>200</b>

### Semester-IV

Course Code	Type of Course	Name of the Course	Hours/Week			Credit	Examination Scheme				
			L	T	P		Theory		CA	PR/OR	Total
							TH	Test			
MME41	PCC	Project Stage -II	---	--	--	20	--	--	100	100	200
<b>Total</b>			---	--	--	<b>20</b>	--	--	<b>100</b>	<b>100</b>	<b>200</b>

**Dr. Babasaheb Ambedkar Technological University**  
(Established as a University of Technology in the State of Maharashtra)  
(under Maharashtra Act No. XXIX of 2014)  
P.O. Lonere, Dist. Raigad, Pin 402 103, Maharashtra  
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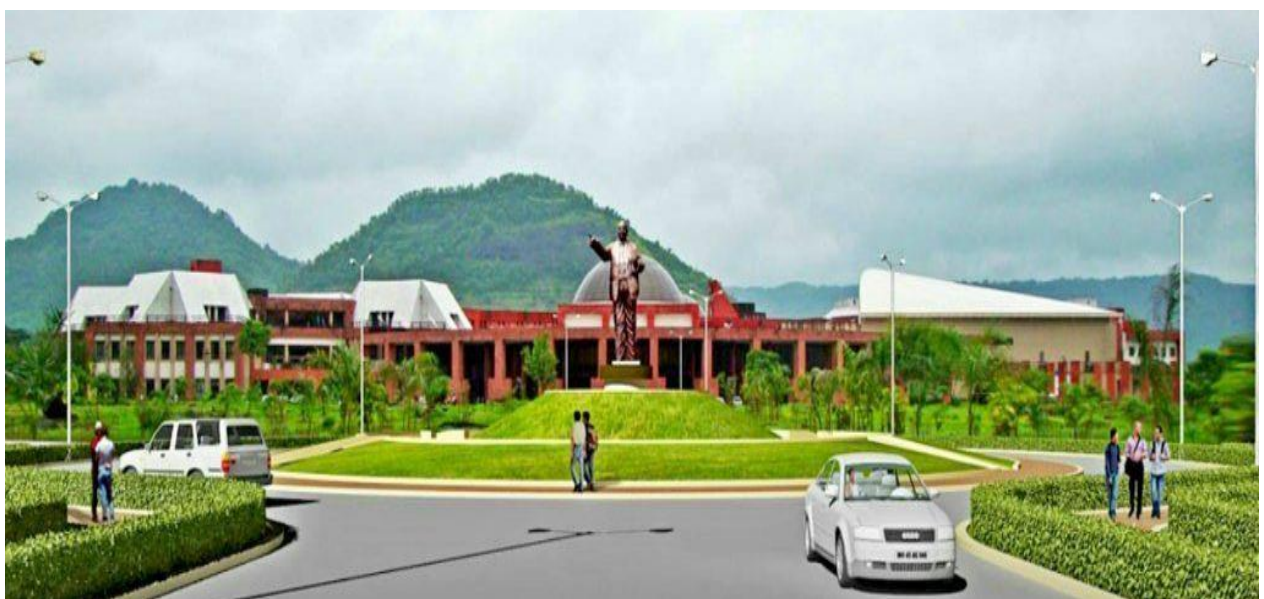


# **PROPOSED CURRICULUM UNDER GRADUATE PROGRAMME**

## **B.Tech**

**FIRST YEAR ENGINEERING**

**WITH EFFECT FROM THE ACADEMIC YEAR 2020-2021.**



Teaching and Evaluation Scheme for First Year B. Tech. (All Branches)

**Group A**

<b>Semester I</b>									
Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
		L	T	P	CA	MSE	ESE	Total	
Mandatory	<b>Induction Program</b>	<b>3-weeks duration in the beginning of semester.</b>							
BTBS101	Engineering Mathematics- I	3	1	-	20	20	60	100	4
BTBS102	Engineering Physics	3	1	-	20	20	60	100	4
BTES103	Engineering Graphics	2	-	-	20	20	60	100	2
BTHM104	Communication Skills	2	-	-	20	20	60	100	2
BTES105	Energy and Environment Engineering	2	-	-	20	20	60	100	2
BTES106	Basic Civil and Mechanical Engineering	2	-	-	50	-	-	50	Audit
BTBS107L	Engineering Physics Lab	-	-	2	60	-	40	100	1
BTES108L	Engineering Graphics Lab	-	-	4	60	-	40	100	2
BTHM109L	Communication Skills Lab.	-	-	2	60	-	40	100	1
		<b>14</b>	<b>2</b>	<b>8</b>	<b>330</b>	<b>100</b>	<b>420</b>	<b>850</b>	<b>18</b>
<b>Semester II</b>									
BTBS201	Engineering Mathematics-II	3	1	-	20	20	60	100	4
BTBS202	Engineering Chemistry	3	1	-	20	20	60	100	4
BTES203	Engineering Mechanics	2	1	-	20	20	60	100	3
BTES204	Computer Programming in C	3	-	-	20	20	60	100	3
BTES205	Workshop Practices	-	-	4	60	-	40	100	2
BTES206	Basic Electrical and Electronics Engineering	2	-	-	50	-	-	50	Audit
BTBS207L	Engineering Chemistry Lab	-	-	2	60	-	40	100	1
BTES208L	Engineering Mechanics Lab	-	-	2	60	-	40	100	1
BTES210S	Seminar	-	-	2	60	-	40	100	1
BTES211P	Field Training / Internship/Industrial Training (minimum of 4 weeks which can be completed partially in first semester and second Semester or in at one time).	-	-	-	-	-	-	-	Credits To be evaluated in III Sem.
		<b>13</b>	<b>3</b>	<b>10</b>	<b>430</b>	<b>80</b>	<b>440</b>	<b>950</b>	<b>19</b>
		<b>27</b>							

Teaching and Evaluation Scheme for First Year B. Tech. (All Branches)

**Group B**

<b>Semester I</b>									
Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
		L	T	P	CA	MSE	ESE	Total	
Mandatory	<b>Induction Program</b>	<b>3-weeks duration in the beginning of semester.</b>							
BTBS101	Engineering Mathematics- I	3	1	-	20	20	60	100	4
BTBS102	Engineering Chemistry	3	1	-	20	20	60	100	4
BTES103	Engineering Mechanics	2	1	-	20	20	60	100	3
BTES104	Computer Programming in C	3	-	-	20	20	60	100	2
BTES105L	Workshop Practices	-	-	4	60	-	40	100	2
BTES106	Basic Electrical and Electronics Engineering	2	-	-	50	-	-	50	Audit
BTBS107L	Engineering Chemistry Lab	-	-	2	60	-	40	100	1
BTES108L	Engineering Mechanics Lab	-	-	2	60	-	40	100	1
		<b>13</b>	<b>03</b>	<b>10</b>	<b>370</b>	<b>80</b>	<b>400</b>	<b>850</b>	<b>18</b>
		<b>25</b>							
<b>Semester II</b>									
BTBS201	Engineering Mathematics-II	3	1	-	20	20	60	100	4
BTBS202	Engineering Physics	3	1	-	20	20	60	100	4
BTES203	Engineering Graphics	2	-	-	20	20	60	100	2
BTHM204	Communication Skills	2	-	-	20	20	60	100	2
BTES205	Energy and Environment Engineering	2	-	-	20	20	60	100	2
BTES206	Basic Civil and Mechanical Engineering	2	-	-	50	-	-	50	Audit
BTBS207L	Engineering Physics Lab	-	-	2	60	-	40	100	1
BTES208L	Engineering Graphics Lab	-	-	3	60	-	40	100	2
BTHM209L	Communication Skills Lab.	-	-	2	60	-	40	100	1
BTES210S	Seminar	-	-	2	60	-	40	100	1
BTES211P	Field Training / Internship/Industrial Training (minimum of 4 weeks which can be completed partially in first semester and second Semester or in at one time)	-	-	-	-	-	-	-	Credits To be evaluated in III Sem.
		<b>14</b>	<b>02</b>	<b>09</b>	<b>390</b>	<b>100</b>	<b>460</b>	<b>950</b>	<b>19</b>
		<b>26</b>							



SHIVAJI UNIVERSITY, KOLHAPUR-416 004. MAHARASHTRA

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FAX 0091-0231-2691533 & 0091-0231-2692333 – BOS - 2609094

शिवाजी विद्यापीठ, कोल्हापूर - 416004.

दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग- २६०९०९४)

फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३. e-mail: bos@unishivaji.ac.in

Ref../SU/BOS/Com & Mgmt./

Date : 23/06/2020

To,

The Principal  
All Affiliated (Commerce & Management) Colleges/Institutions,  
Shivaji University, Kolhapur

No 1297

**Subject : Regarding Syllabi and Equivalence of MBA Part-II (Sem-III/IV) Choice Based Credit System (CBCS) degree programme under the Faculty of Commerce & Management.**

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the University authorities have accepted and granted approval to the revised syllabi and equivalence of MBA Part-II (Sem-III/IV) Choice Based Credit System (CBCS) under the Faculty of Commerce & Management.

This syllabi shall be implemented from the academic year 2020-2021 onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in) (Student - Online Syllabus).

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in October / November 2020 & March / April, 2021. These chances are available for repeater students, if any.

You are therefore, requested to bring this to the notice of all Students and Teachers concerned.

Thanking you,

Yours faithfully,

  
Dr. Registrar

**Encl : As above**

**Copy to,**

1. I/c Dean, Faculty of Commerce & Management
  2. Chairman, Board of Studies
  3. Director, BOEE
  4. Appointment Section
  5. P. G. Admission Section
  6. O. E. 1 Section
  7. Affiliation Section (U.G./P.G.)
  8. Computer Center/I.T.
  9. Eligibility Section
  10. Distance Education
  11. P.G. Seminar Section
- } for information
- } for information and necessary action.



### MBA Part -I Semester-I

Paper No.	Course Code	Subjects	Weekly	Internal Marks	Uni. Exam		Total Marks
					Written	Online /Written MCQ	
1	CC 101	Indian Ethos & Management Concepts	4	20	60	20	100
2	CC102	Management Accounting	4	20	60	20	100
3	CC 103	Managerial Economics	4	20	60	20	100
4	CC 104	Information Technology for Management	4	20	60	20	100
5	CC 105	Legal and Business Environment	4	100	-	-	100
6	CC 106	Organizational Behaviour	4	20	60	20	100
7	SECC 107	Soft Skill Development (Internal)	4	20	60	20	100
8	SECC 108	Optional – A* (Internal)	2	50	--	--	50
		<b>Total</b>	<b>30</b>	<b>280</b>	<b>300</b>	<b>120</b>	<b>700</b>

### MBA Part-I Semester-II

Paper No.	Course Code	Subjects	Weekly	Internal Marks	Uni. Exam		Total Marks
					Written	Online/ Written MCQ	
9	CC 201	Marketing Management	4	20	60	20	100
10	CC 202	Financial Management	4	20	60	20	100
11	CC 203	Human Resource Management	4	20	60	20	100
12	CC 204	Operations Management	4	20	60	20	100
13	CC 205	Management Information System	4	20	60	20	100
14	CC 206	Research Methodology	4	20	60	20	100
15	AECC 207	Managerial Skills for Effectiveness (Internal)	4	100	-	-	100
16	SECC 208	Optional – B* (Internal)	2	50	--	--	50
		<b>Total</b>	<b>30</b>	<b>280</b>	<b>300</b>	<b>120</b>	<b>700</b>

### MBA. Part-II Semester-III

Paper No.	Course Code	Subjects	Weekly	Internal Marks	Uni. Exam		Total Marks
					Written	Online /Written MCQ	
17	CC 301	Strategic and Change Management	4	20	60	20	100
18	CC 302	Business Intelligence and Analytics	4	20	60	20	100
19	AECC 303	Project Report & Viva-Voce	4	50	50	--	100
20	DSC 304	Elective I- Paper-I	4	20	60	20	100
21	DSC 305	Elective-I Paper-II	4	20	60	20	100
22	DSC 306	Elective-II Paper-I	4	20	60	20	100
23	DSC 307	Elective-II Paper-II	4	20	60	20	100
24	SECC 308	Optional – C* (Internal)	2	50	--	--	50
		<b>Total</b>	<b>30</b>	<b>230</b>	<b>350</b>	<b>120</b>	<b>700</b>

### MBA. Part-II Semester-IV

Paper No.	Course Code	Subjects	Weekly	Internal Marks	Uni. Exam		Total Marks
					Written	Online /Written MCQ	
25	CC 401	Innovation and Entrepreneurship	4	20	60	20	100
26	CC 402	Startups and New Venture (Internal)	4	100	-	-	100
27	SECC 403	Employability Skill (Internal)	4	100	-	-	100
28	DSE 404	Elective I- Paper-III	4	20	60	20	100
29	DSE 405	Elective-I Paper-IV	4	20	60	20	100
30	DSE 406	Elective II- Paper-III	4	20	60	20	100
31	DSE 407	Elective-II Paper-IV	4	20	60	20	100
32	SECC 408	Optional – D* (Internal)	2	50	--	--	50
		<b>Total</b>	<b>30</b>	<b>280</b>	<b>300</b>	<b>120</b>	<b>700</b>

28 Heads, Total Marks – 2800 One theory lecture duration is 60 minutes. 112 credits program.


7 full time faculties as per revised AICTE directions

Sr.	Existing Electives**	Sr.	Additional Electives Offered**
1	Marketing Management	8	Hospitality Management
2	Human Resource Management	9	Entrepreneurship Development
3	Financial Management	10	International Business
4	Production Management		
5	IT & System Management		
6	Agriculture Business Management		
7	Textile Management		

Sr.	Optional A Paper - VIII	Sr.	Optional B Paper - XVI
I	Chh. Shivaji Maharaj -The Management Guru	I	Total Quality Management
II	Computerized Accounting	II	Negotiation Skills
III	Personality Development	III	Taxation
IV	Business Models	IV	E-Business
V	Constitution of India	V	Computer Applications for Business
VI	Creativity and Innovation	VI	Behavioural Finance
Sr.	Optional C Paper - XXIV	Sr.	Optional D Paper - XXXII
I	Corporate Social Responsibility	I	Corporate Finance
II	ERP/SAP	II	B2B Marketing
III	Business Analytics	III	Econometrics
IV	Labour Laws	IV	Organizational Development
V	Marketing Research	V	Sports Management
VI	Customer Relationship Management	VI	Logistic and Supply Chain Management

\* Optional papers are **TWO** unit credit courses which are assessed internally by respective institute. Optional courses are to be imparted by industrial experts, practitioners, consultants and professionals from business. Student has to opt for any one optional course offered per internal course and no university examination would be held for the same. **THIRTY** (30) hours of pedagogy excluding tutorials and examination would be the duration of one optional course. The evaluation of optional course is to be done by institute. Optional course is natured as internal course and no university examination would be held for the same. Institute has to design the examination of optional papers. The performance of student in optional course out of 50 marks has to be send to university with rest internal marks.

\*\*The electives selected by minimum 15 students will be taught by a faculty in a class. Rest of the students will prepare themselves for their selected module. However faculty will counsel them and complete their internal work as per module requirement. In case of electives selected less than 15 students, it is at the discretion of Head of the Institution to decide on the teaching and practical instructions.

	<b>ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR.</b> Faculty of Engineering	
	<b>CIRCULAR/NOTICE</b>	
	Doc. No.: AMGOI -FRM-03	Rev. Dt: 04/07/2013

Date: 19/07/2023

## Notice

All the B. Tech CSE Students are here by inform that, for Semester VII of Academic year 2023-24, Give your preference for below listed Elective subjects.


Subject Code	List of Elective Subjects
BTCOE705	A. Virtual Reality
	B. Deep Learning
	C. Design Thinking


### Instructions for Elective Subject Selection:

1. You can choose one elective subject for the upcoming semester.
2. Make sure you meet the prerequisites (if any) for the elective subjects you select  
Prerequisite information is available in the course descriptions.
3. Elective subject will be finalizing on majority basis.

Results :- Design Thinking = 65 students interested  
Deep Learning = 04 students interested.

Feedback is taken from B.Tech CSE students on 19<sup>th</sup> July 2023 and discussed with hon. HOD sir we have clear results showing intrest in subject "Design Thinking". (BTCOE705)

  
 Subject Incharge  
 Prof. A.B. Desai.

  
 HOD  
 Computer Science & Engineering  
 AMGOI, Faculty of Engineering  
 Vathar Tar Vadgaon, Dist. Kolhapur





ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR.

Faculty of Engineering

# CIRCULAR/NOTICE

Doc. No.: AMGO -FRM-03

Rev. No.: 00

Rev. Dt: 04/07/2013

Roll No.	Name Of Student	Elective Subject Name	Sign
1	Ganbawale Owskar Dayanand	Design Thinking	
2	Magdum Snehal Satyappa	Design Thinking	
3	Mangalekar Harshvardhan Anil	Design Learning Thinking	
4	Tiwari Shruti Anandkishore	Design Learning Thinking	
5	Shinde Snehankeet Sampat	Design Thinking	
6	Jadhav Rohan Rajshinha	Design thinking	
7	Patil Ajinkya Ashok	Design Thinking	
8	Patil Dhairyashil Udaysingh	Design Thinking	
9	Salunkhe Abhishek Manikrao	Design Thinking	
10	Bargale Akanksha Shital	Design Thinking	
11	Khot Jyoti Ashok	Design Thinking	
12	Patil Shrutika Malgonda	Design Thinking	
13	Vadgave Trupti Bharat	Design Thinking	
14	Jadhav Vivek Chandrakant	Design Thinking	
15	Kurane Prathmesh Sachin	Deep Learning	
16	Pawar Harshada Sharad	Design Thinking	
17	Pise Pranali Uday	Design Thinking	
18	Nangarepatil Avadhut Maruti	Design Thinking	
19	Panchal Shreyas Manohar	Design Thinking	
20	Patil Jayram Ishwar	Design Thinking	
21	Patil Pratik Mahendra	Design Thinking	
22	Kamble Harshada Sanjay	Design Thinking	
23	Manade Swaroop Dilip	Design Thinking	
24	Morbale Snehal Rajaram	Design Thinking	
25	Patil Minakshi Shamarav	Design Thinking	
26	Khade Rohan Maruti	Design Thinking	
27	Kumbhar Pushkar Ramesh	Design Thinking	
28	Mulla Amanulla Allauddin	Deep Learning	
29	Patil Ashutosh Dilip	Design Thinking	
30	Patil Tejas Vijay	Design Thinking	
31	Fakir Saniya Altaf	Design Thinking	
32	Tamhankar Sofiya Ikbal	Design Thinking	
33	Kamble Pournima Ramesh	Design Thinking	
34	Vani Anagha Gourihar	Design Thinking	
35	Jarag Karan Rajendra	Design Thinking	
36	Kamble Akshay Rangrao	Design Thinking	
37	Pathan Mujaffar Allauddin	Deep Learning	
38	Patil Prathamesh Sudhakar	Design Thinking	
39	Chougule Aditi Maruti	Design Thinking	
40	Chougule Aditya Mahesh	" " "	
41	Chokakkar Yash Deepak	Design Thinking	
42	Mali Snehal Dhondiram	Design Thinking	





ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR.

Faculty of Engineering

## CIRCULAR/NOTICE

Doc. No.: AMGOI -FRM-03

Rev. No.: 00

Rev. Dt: 04/07/2013

Roll No.	Name Of Student	Elective Subject Name	Sign
43	Gaikwad Soham Shivaji	Deep learning	
44	Patil Punam Ratnakar	Design Thinking	
45	Patil Shruti Ramesh	Design Thinking	
46	Thombare Ankita Anandrao	Design Thinking	
47	Patil Dhiraj Sardar	Design Thinking	
48	Patole Ritesh Rajesh	Design Thinking	
49	Tashildar Sanskar Mohan	Design Thinking	
50	Vathare Sushant Sanjay	Design Thinking	
51	Pavale Tushar Krisna	Design Thinking	
52	Shinde Sourish	— AB —	
53	Shreshthi Poorva Mahesh	Design Thinking	
54	Tikode Anirudha Sukhdev	Design Thinking	
55	Jagdale Swapnali Rajendra	Design Thinking	
56	Mane Amruta Arjun	Design Thinking	
57	Nitturkar Omkar Yallapa	Design Thinking	
58	Raje Pramey Prashant	Design Thinking	
59	Devkar Nilesh Ashok	— AB —	
60	Ganje Shital Kumar	Design Thinking	
61	Gawade Pankaj Prakash	Design Thinking	
62	Kamble Jaydeep Krishnat	Design Thinking	
63	Bhaldar Karina Ajim	Deep Learning	
64	Gaikwad Pranoti Bajarang	Design Thinking	
65	Patil Samruddhi Rajendra	Design Thinking	
66	Sutar Kasturi Sambhaji	Design Thinking	
67	Farakte Anuradha Shashikant	Design Thinking	
68	Karale Utkarsh Khandu	Design Thinking	
69	Kashid Shrawani Sunil	Design Thinking	
70	Thorat Aniket Raghunath	Design Thinking	
71	Kashid Omkar Ashok	Design Thinking	
72	Patilmulik Piyushya Anil	Design Thinking	
73	Shinde Kiran Dagadu	Design Thinking	

I acknowledge that I have read and understood the instructions for elective subject selection.

Prof. A. B. Desai  
Class Coordinator.

Prof. S. S. Redekar  
HOD, CSE Dept

**HOD**  
Computer Science & Engineering  
AMGOI, Faculty of Engineering  
Vathar Tari Vadgaon, Dist. Kolhapur





ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR.

Faculty of Engineering

## CIRCULAR/NOTICE

Doc. No.: AMGOI -FRM-03

Rev. No.: 00

Rev. Dt: 04/07/2013

Date: 20/07/2023

### Notice

All the B. Tech students are hereby informed that the elective subject for the Semester VII have been finalized based on your highest expressed interests taken on 19<sup>th</sup> July 2023.

Total 65 students have shown interest in Design Thinking & only 4 students shown interest in Deep Learning.

As per highest interest Design Thinking is finalized as an Elective subject for Semester VII.

We appreciate your active participation in the selection process and are confident that this subject will contribute positively to your academic growth.

Thank you for your cooperation.

Prof. A. B. Desai  
Subject Incharge

Prof. S. S. Redekar  
HOD (CSE)

**HOD**  
Computer Science & Engineering  
AMGOI, Faculty of Engineering  
Vathar Tari vadgaon, Dist. Kolhapur