



Holy-wood Academy, Kolhapur's

## SANJEEVAN ENGINEERING AND TECHNOLOGY INSTITUTE

Sanjeevan Knowledge City, Somwar Peth- Injole, Panhala, Tal. Panhala, Dist. Kolhapur

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**EN 6315**

### Criteria 1: Curricular Aspects Academic Year: 2021-22

Metric	Document title
1.3.1 (Qlm)	<ol style="list-style-type: none"><li>1. ICC/WEC committee formation and Moms (Prof. A.M. Momin)</li><li>2. All class Syllabus highlighting courses like Professional Ethics, Communication skill, Human Values, Environment and Sustainability</li><li>3. Report of Program covering Human values/ communication skill/ environment , with photos</li></ol>

Dr. Babasaheb Ambedkar Technological University, Lonere

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

**Group A**

Course Code	Course Title	Semester I								
		Teaching Scheme			Evaluation Scheme				Total	Credit
Mandatory	Induction Program	L	T	P	CA	MSE	ESE			
		3-weeks duration in the beginning of semester.								
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	
		14	2	8	330	100	420	850	18	
Semester II										
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 evaluate d in III Sem.
		13	3	10	430	80	440	950	19	
			27							

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

Group B

Course Code	Course Title	Semester I								
		Teaching Scheme			Evaluation Scheme				Credit	
Mandatory	Induction Program	L	T	P	CA	MSE	ESE	Total		
		3-weeks duration in the beginning of semester.								
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	
		13	03	10	370	80	400	850	18	
		25								
Semester II										
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.	
		14	02	09	390	100	460	950	19	
		26								

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

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

(Under Maharashtra Act No. XXIX of 2014)

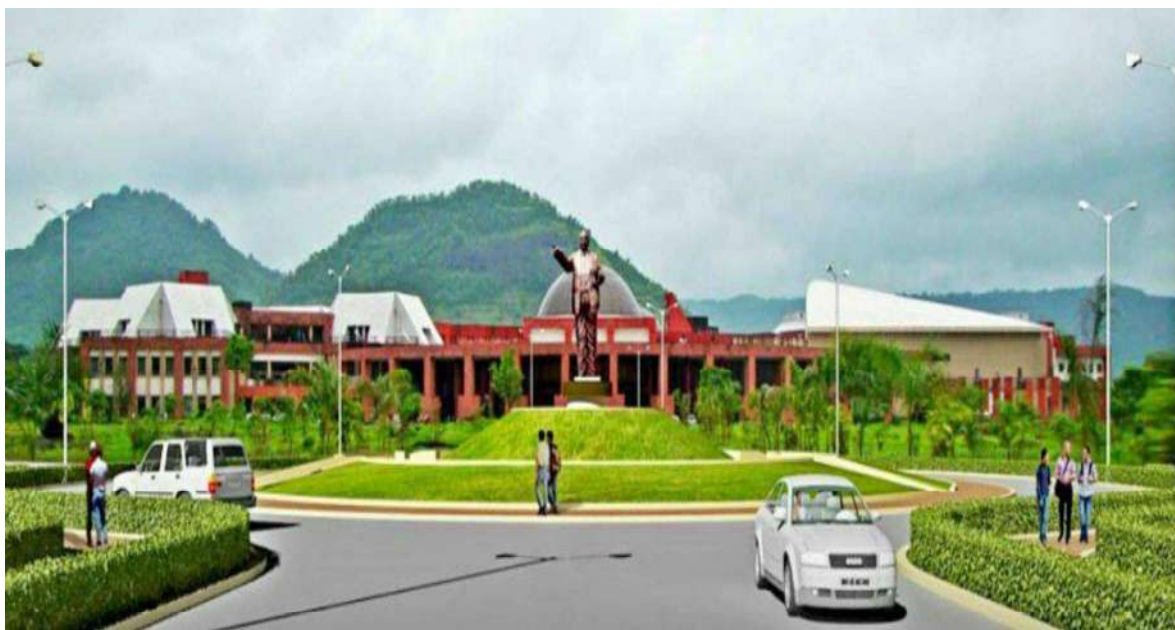
P.O. Lonere, Dist. Raigad, Pin 402 103, Maharashtra

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## **Curriculum for Undergraduate Degree Programme S.Y. B. Tech. in Civil Engineering**

**With effect from AY 2021-22**



**Dr. Babasaheb Ambedkar Technological University  
Lonere 402 103, Dist- Raigad, Maharashtra, INDIA**

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

**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>

	BTID405	Product Design Engineering	1	2	-	3
05	CV E1	<b>Elective I</b>	3	-	-	3
06	BTMC406	Engineering Management	1	-	-	1
07	BTHM401	Basic Human Rights	2	-	-	2
<b>Practical / Drawing and/or Design</b>						
08	BTCVL407	Hydraulics Laboratory II	-	-	2	1
09	BTCVL408	Surveying Laboratory II	-	-	4	2
10	BTCVL409	Mechanics of Solids Laboratory	-	-	2	1
11	BTCVM410	Mini Project	-	-	2	1
12	BTCVF411	Seminar on Topic of Field Visit to Superstructure Construction	-	-	1	1
Sub-Total			14	5	11	
<b>Total</b>			31			22
<b>Elective I</b>						
	BTCVE403	Numerical Methods in Engineering				
	BTCVE404B	Planning for Sustainable Development	3	-	-	3
	BTCVE404C	Instrumentation & Sensor Technologies for Civil Engineering Applications				

### Semester- V

Sr. No	Subject Code	Subject	Contact Hours			Credit
			L	T	P	
<b>Theory</b>						
01	BTCVC 501	Design of Steel Structures	2	2	-	4
02	BTCVC 502	Structural Mechanics-II	2	1	-	3
03	BTCVC 503	Soil Mechanics	3	1	✓	4
04	BTCVC 504	Environmental Engineering	2	-	✓	2
05	BTCVC 505	Transportation Engineering	2	-	✓	2
06	CV E2	<b>Elective II</b>	3	-	-	3
07	BTHM507	Essence of Indian Traditional Knowledge	1	-	-	AU
<b>Practical / Drawing and/or Design</b>						
08	BTCVL508	Soil Mechanics Laboratory	-	-	2	1
09	BTCVL509	Environmental Engineering Laboratory	-	-	2	1
10	BTCVL510	Transportation Engineering Laboratory	-	-	2	1
11	BTCVS511	Seminar on Topic of Field Visit to works related to Building Services	-	-	1	AU
Sub-Total			15	4	7	
<b>Total</b>			26			21
<b>Elective II</b>						
	BTCVE506A	Materials, Testing & Evaluation				
	BTCVE506B	Computer Aided Drawing	3	-	-	3
	BTCVE506C	Development Engineering				
	BTCVE506D	Business Communication & Presentation Skills				

## Semester- VI

\$:Students should register for the CVF 705 in Semester VI to undergo training during vacation after semester VI and appear at examination in Semester VII. Result shall appear in Grade-sheet of Semester VII

Sr. No.	Subject Code	Subject Title	Contact hours			Credit
			L	T	P	
01	BTCVC601	Design of Concrete Structures I	3	1	-	3
02	BTCVC602	Foundation Engineering	2	1	-	3
03	BTCVC603	Concrete Technology	2	-	✓	2
04	BTCVC604	Project Management	2	1	-	2
05	CVE3	<b>Elective III</b>	3	-	-	3
06	BTCVC606	Building Planning and Design	2	-	✓	2
<b>Practical / Drawing and/or Design</b>						
07	BTCVL607	Concrete Technology Laboratory	-	-	2	1
08	BTCVL608	Building Planning, Design and Drawing Laboratory	-	-	4	2
09	BTCVM609	Community Project (Mini Project)	-	-	2	1
10	BTCVS610	Seminar on Topic of Field Visit Road Construction	-	-	1	AU
11	BTCVF611	Industrial Training <sup>s</sup>	-	-	2	--
		Sub-Total	<b>14</b>	<b>3</b>	<b>11</b>	
		<b>Total</b>		<b>28</b>		<b>19</b>
<b>Elective III</b>						
	BTCVE605A	Air Pollution Control				
	BTCVE605B	Operations Research				
	BTCVE605C	Geographic Data Analysis and Applications				
	BTCVE605D	Advanced Engineering Geology				
	BTCVE605E	Advanced Soil Mechanics				
	BTCVE605F	Design of Masonry and Timber Structures				

## Semester – VII

Sr. No.	Subject Code	Subject Title	Contact hours			Credit
			L	T	P	
01	BTCVC701	Design of Concrete Structures II	2	1	-	3
02	BTCVC702	Infrastructure Engineering	2	-	-	3
03	BTCVC 703	Water Resources Engineering	2	1	-	3
04	BTCVC 704	Professional Practices	2	1	✓	3
05	CVE4	<b>Elective IV</b>	3	-	-	3
06	CVE5	<b>Elective V</b>	3	-	-	3
<b>Practical / Drawing and/or Design</b>						
07	BTCVL707	Professional Practices	-	-	2	1
08	BTCVL708	Design & Drawing of Steel Structures	-	-	4	2
09	BTCVP709	Project Study	-	-	2	1
10	BTCVF710	Industrial Training	-	-	-	AU
		Sub-Total	<b>15</b>	<b>3</b>	<b>08</b>	
		<b>Total</b>		<b>26</b>		<b>22</b>
<b>Elective IV</b>						
	BTCVE705A	Plastic Analysis and Design	-	-	-	
	BTCVE705B	Machine Foundations	-	-	-	

## B. Tech. Civil Engineering

### Course Structure for Semester VII (Fourth Year) w.e.f. 2020-2021

Course Code	Type of Course	Course Title	Weekly Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	CA	MSE	ESE	Total	
BTCVC701	Core	Design of Concrete Structures - II	2	1	--	20	20	60	100	3
BTCVC702	Core	Infrastructure Engineering	3	--	--	20	20	60	100	3
BTCVC703	Core	Water Resources Engineering	3	1	--	20	20	60	100	4
BTCVC704	Core	Professional Practices	2	1	--	20	20	60	100	3
BTCVE705A	Elective IV	Construction Techniques	3	--	--	20	20	60	100	3
BTCVE705B		Engineering Economics								
BTCVE705C		Finite Element Method								
BTCVE705D		Limit State Design of Steel Structures								
BTCVE705E		Plastic Analysis and Design								
BTCVE705F		Water Power Engineering								
BTCVOE706A	Open Elective V	Advanced Structural Mechanics	3	--	--	--	--	--	--	Audit (AU/ NP)
BTCVOE706B		Air Pollution Control								
BTCVOE706C		Bridge Engineering								
BTCVOE706D		Introduction to Earthquake Engineering								
BTCVOE706E		Town and Urban Planning								
BTCVOE706F		Tunneling and Underground Excavations								
BTCVL707	Laboratory	Design & Drawing of RC & Steel Structures	--	--	2	30	--	20	50	1
BTCVL708	Laboratory	Professional Practices	--	--	2	30	--	20	50	1
BTCVT709	Training	Field Training /Internship/Industrial	--	--	--	--	--	50	50	1
BTCVS710	BTS	Seminar	--	--	2	--	--	50	50	1
BTCVP711	BTP	Project Stage-I**	--	--	6	--	50	50	100	3
<b>Total</b>			<b>16</b>	<b>3</b>	<b>12</b>	<b>160</b>	<b>150</b>	<b>490</b>	<b>800</b>	<b>23</b>

*\*\*In case of students opting for Internship and Industry Project in the eighth semester, the Project must be industry-based.*



**B. Tech. Civil Engineering**  
**Course Structure for Semester VIII [Fourth Year] w.e.f. 2020-2021**

Course Code	Type of Course	Course Title	Weekly Teaching Scheme			Evaluation Scheme <sup>§</sup>				Credits
			L	T	P	CA	MSE	ESE	Total	
BTCVSS801A	(Self-Study Course) #	Characterization of Construction Materials	03**	--	--	20	20	60	100	3
BTCVSS801B		Geosynthetics and Reinforced Soil Structures								
BTCVSS801C		Higher Surveying								
BTCVSS801D		Maintenance and Repair of Concrete Structures								
BTCESS801E		Structural Dynamics								
BTCESS802A	(Self-Study Course) #	Energy Efficiency Acoustics and Daylighting in Building	03**	--	--	20	20	60	100	3
BTCESS802B		Environmental Remediation of Contaminated Sites								
BTCESS802C		Remote Sensing Essentials								
BTCESS802D		Mechanical Characterization of Bituminous Materials								
BTCESS802E		Soil Structure Interaction								
BTCEP803	Project Stage-II	In-house Project or Internship and Project in Industry*	--	--	30	50	--	100	150	15
Total			04	--	30	90	40	220	350	21

# The subjects are to be studied on self-study mode using SWAYAM/NPTEL/any other online source approved by the University.

\*\* If required Coordinator may be appointed for each Self study course and an administrative load of 03 hours per week may be considered for monitoring and assisting the students, and to conduct examination (if required), evaluation and preparation of result.

§ If the examination schedule for the online Self study course chosen by student do not match with the University's Academic Schedule, the University/Institute have to conduct exam for such courses.

\* Six months of Internship and Project in the Industry. One Faculty guide from the Institute and one Mentor from the Industry should be identified to monitor the progress of work. During the Project/Internship period of work, a review of work should be taken twice followed by a final presentation at the end of Project period.

**1.3.1 (Qlm) : 2.**All class Syllabus highlighting courses like Professional Ethics, Communication skill, Human Values, Environment and Sustainability 1. Soft skills, 2. Language and communication skills,

Syllabus Basic Human Rights

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

**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

## Syllabus Business Communication

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

### Semester - V

Sr. No.	Course Code	Course Title	Weekly Teaching hrs			Evaluation Scheme			Credit
			L	T	P	CA	MSE	ESE	
1	BTCOC501	Database Systems	3	1	-	20	20	60	4
2	BTCOC502	Theory of Computations	3	1	-	20	20	60	4
3	BTCOC503	Machine Learning	3	1	-	20	20	60	4
4	BTCOE504	<b>Elective – III</b> (A) Introduction to Research (B) Cyber Laws (C) Open Elective offered by other departments	2	-	-	20	20	60	2
5	BTCOE505	<b>Elective – IV</b> (A) Economics & Management (B) Business Communication	2	-	-	20	20	60	2
6	BTCOC506	Competitive Programming-I	1	-	2	60	-	40	2
7	BTCOL507	Database System Laboratory	-	-	2	60	-	40	1
8	BTCOL508	Machine Learning Laboratory	-	-	2	60	-	40	1
9	BTCOS509	Seminar	-	-	2	60	-	40	1
10	BTCOF411	Field Training / Internship / Industrial Training Evaluation	-	-	-	60	-	40	1
<b>TOTAL</b>			<b>14</b>	<b>3</b>	<b>8</b>	<b>400</b>	<b>100</b>	<b>500</b>	<b>22</b>

**BTCOC501 - Database Systems:** Content of this subject is updated. Pl. find below the updated content.

# Syllabus Basic Human Rights

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

## BTHM403: Basic Human Rights

**[Unit 1]** **[6 Hours]**  
The Basic Concepts: - Individual, group, civil society, state, equality, justice, Human Values, Human rights and Human Duties: - Origin, Contribution of American bill of rights, French revolution, Declaration of independence, Rights of citizen, Rights of working and exploited people.

**[Unit 2]** **[6 Hours]**  
Fundamental rights and economic programme, Society, religion, culture, and their inter relationship, Impact of social structure on human behavior, Social Structure and Social Problems: - Social and communal conflicts and social harmony, rural poverty, unemployment, bonded labor.

**[Unit 3]** **[6 Hours]**  
Migrant workers and human rights violations, human rights of mentally and physically challenged, State, Individual liberty, Freedom and democracy, NGOs and human rights in India: - Land, Water, Forest issues.

**[Unit 4]** **[6 Hours]**  
Human rights in Indian constitution and law:- i) The constitution of India: Preamble ii) Fundamental rights iii) Directive principles of state policy vi) Fundamental duties v) Some other provisions.

**[Unit 5]** **[6 Hours]**  
Universal declaration of human rights and provisions of India, Constitution and law, National human rights commission and state human rights commission.

**Text Book:**

1. Shastry, T. S. N., India and Human rights: Reflections, Concept Publishing Company India (P Ltd.), 2005.

**Reference books:**

1. Nimal, C.J., Human Rights in India: Historical, Social and Political Perspectives (Law in India), Oxford India

**BTCE505(B) Business Communication**

**[Unit 1]**

Introduction, Definitions & Concepts, Communicative Competence.

**[Unit 2]**

Intercultural Communication, Nonverbal Communication, Thought and Speech, Translation as Problematic Discourse.

**[Unit 3]**

Barriers to Communication, Listening, Communication Rules, Communication Style.

**[Unit 4]**

Interpersonal Communication, Relational Communication, Organizational Communication.

**[Unit 5]**

Collaboration, Communication in Groups and Teams, Persuasive Communication.

**[Unit 6]**

Negotiation and Conflict Management, Leadership, Written Communication in International Business, Role of Technology in international Business Communication, Moving to Another Culture, Crisis Communication, Ethics in Business Communication.



Holy-wood Academy, Kolhapur's

## SANJEEVAN ENGINEERING AND TECHNOLOGY INSTITUTE

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■ Approved By AICTE - New Delhi ■ Recognized by Govt. of Maharashtra & DTE ■ Affiliated to Shivaji University, Kolhapur

### DEPARTMENT OF ELECTRICAL ENGINEERING

**1.3.1 (QIm) :** 2.All class Syllabus highlighting courses like Professional Ethics, Communication skill, Human Values, Environment and Sustainability 1. Soft skills, 2. Language and communication skills.

### Syllabus HVDC Transmission FACTS

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

**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

## Syllabus Introduction to Industry 4.0 & IOT

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

**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 # Student to opt any two subjects from above list	3	0	0	20*	20*	60*	100	3
		# Student to opt any two subjects from above list	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

## Syllabus Electrical Safety & German Language

### 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

#### **BTHM506 Foreign Language**

- (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



Internship	BTEEP610	which can be completed partially in third or fourth semester or in at one time)	-	-	-	-	-	-	-	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

*CP*  
*IGAC*

*Asar*

**PRINCIPAL**

**Sanjeevan Engg. & Tech. Institute  
Somwar Peth, Panhala - 416 201**