Image: State of the state

Smt. Anupama Dharkar Wangdi
ChairpersonCapt. Sariputta Wangdi
Vice ChairmanShri P. V. Shringarpure
Secretary & CEOShri. Z. A. Dabhiya
TreasurerDr. M. J. Lengare
Principal

KGCE/AQAR 2018-19/Cr.-1

Date: 28/11/19

Criteria 1.2.1	New programmes/courses introduced during the Academic year.
Response	 As affiliated to University of Mumbai, Institute does not have authority /provision to introduce new course/s. But we have made analysis of new courses introduced in academic year 2018-19. Syllabus schemes implemented in A.Y.2018-19.(Sem.V and VI) (Appendix-I)

Cr.V Coordinator Brof. A.G. Nagpure

Farrowing

IQAC Coordinator (G.S. Darvankas)



Principal



KONKAN GYANPEETH COLLEGE OF ENGINEERING, KARJAT

(Approved by A.I.C.T.E., New Delhi and Affiliated to the University of Mumbai) Konkan Gyanpeeth ShaikshanikSankul, Vengaon Road, Dahivali, Karjat, Dist.-Raigad.410201. (M.S.)

Tel.:- (02148)222580, 223768 Fax:- (02148)223664, 222359 E-mail:-kgce@ysnl.netWebsite:-www.kgce.org

Date: 28/11/2019

1.2.1 New programmes/courses introduced during the Academic year

Programme with	Date of	Cour	se with Code	Date of
Code	Introduction			Introduction
		CSC502	Database Management Systems	
-		CSC504	Theory of Computer Science	
		CSDLO5011	Multimedia Systems	
		CSDLO5012	Advance Operating System	
Computer		CSDLO5013	Advance Algorithm	Inter of
Engineering (KGCE 1)	A.Y.1994-95	CSC603	Database Management Systems	July of A.Y.2016-17
		CSC604	Database Management Systems	
		CSDLO6021	Machine Learning	
		CSDLO6022	Advanced Database Systems	
		CSDLO6023	Enterprise Resource Planning	
		CSDLO6024	Advance Computer Network	
		ECC501	Microcontrollers and Peripherals Interfacing	
		ECC502	Digital Communication	
Electronics and		ECC503	Electromagnetic	
Telecommunication			engineering	July of
Engineering (KGCE 2)	A.Y.1994-95	ECC504	Discrete Time Signal Processing	A.Y.2016-17
(NOCE 2)		ECCDLO5011	Microelectronics	
		ECCDLO5012	TV and Video Engg	
		ECCDLO5013	Finite Automated Theory	1
		ECCDLO5014	Data Compression and	1
			Encryption	



		ECC601	Microcontroller and			
			Applications			
		ECC602	Computer			
			Communication			
			Networks			
	-	ECC603	Antenna and Radio Wave			
			Propagation			
		ECC604	Image Processing and			
			Machine Vision			
		ECCDLO6021	Digital VLSI Design			
		ECCDLO6022	Radar Engg.			
		ECCDLO6023	Data base mgmt system			
		ECCDLO6024	Audio Processing			
		ISC502	Applications of			
		100502	Microcontroller			
		ISDL05011	Advanced Sensors			
		ISDLO5012	Optimization			
			Techniques			
		ISDL05013	Database Management			
			System			
		ISDLO5014	Fiber Optic			
Instrumentation		10020001	Instrumentation	July of A.Y.2016-17		
Engineering	A.Y.1995-96	ISC603	Electrical machines and			
(KGCE 3)		130005	Drives			
(KUCE 3)		100005				
		ISC605	Advanced Control			
			System			
		ISDLO6021	Material Science			
		ISDL06022	Computer Organization			
			and Architecture			
		ISDLO6023	BioSensors and Signal			
			Processing			
		ISDL06024	Nuclear			
			Instrumentation			
		MEC504	Dynamics of Machinery			
		MEDLO 5011	Press Tool Design			
		MEDLO 5012	Machining Science and			
			TD			
		MEDLO 5013				
Mechanical			Design of Jigs and Fixtures			
Engineering	A.Y.1995-96	MECCOL		July of		
(KGCE 4)		MEC601	Metrology and Quality	A.Y.2016-17		
		MECCOA	Engg.	-		
		MEC604	Refrigeration and air			
			conditioning	-		
		MEDLO 6021	Mechatronics	4		
		MEDLO 6022	Robotics	-		
		MEDLO 6023	Industrial Automation			



		II	DECCOL	D. J. CM. H. & Marth	r 		
			PEC501	Design of Mold & Metal			
	<u>k</u> . =	,	PEC502	Forming Tools Operations Research			
			PEC502	Machine Design-I			
			PEC503	CAD/CAM/CIM			
			PEC504	Metrology & Quality			
		5 .	FECJUJ	Engineering			
			PEDLO5011	Internal Combustion			
			FEDLOSOTI	Engines			
			PEDLO5012	Finite Element Analysis			
			PEDLOS012 PEDLOS013	Plastic Engineering			
			PEDLOS013	Micro and Nano			
1			FEDLO3014	Manufacturing			
			PEDLO5015	Sustainable	July of		
	Production	A.Y.1999-	FEDLOJUIJ	Manufacturing	A.Y.2016-17		
	Engineering	2000	PEC601	Machining Science and	11112010 17		
	(KGCE 5)	2000	FECOU	Technology.			
			PEC602	Process Engineering and			
			FEC002	Tooling.			
			PEC603	Production Tooling			
			PEC604	Machine Design – II			
			PEC605	Production and			
			FECOUS	Operation Management			
			PEDLO6011	Manufacturing Planning			
			FEDLOOT	and Control			
			PEDLO6012	Refrigeration and Air			
			I EDECOUTZ	Conditioning			
			PEDLO6013	Reliability Engineering			
			PEDLO6014	Industrial Robotics			
			PEDLO6015	Rapid Prototyping and			
				Manufacturing			
			ITOSAL	Microcontroller and			
			ITC501	Embedded Programming			
			ITC502	Advanced Data			
			ITC503	Management			
				Technology			
			ITC504	Cryptography & Network			
			110504	Security			
				Advanced Data			
	Information		ITDLO5011	Structures & Analysis of			
	Technology	A.Y.2001-02		Algorithms	July of		
	(KGCE 6)	A. 1.2001-02	ITDLO5012	Image Processing	A.Y.2016-17		
	(RUCE 0)		ITDLO5013	E-Commerce & E-			
		П		Business			
			ITDLO5014	IT Enabled Services			
1			ITC 601	Software Engg. with			
				Project Management]		
		2	ITC 603	Cloud computing and			
				services	ļ		
1			ITC 604	Wireless Networks			



1 1			Advanced Internet	
		ITDLO6021	Programming	
	2.	ITDLO6022	Software Architecture	
200		ITDLO6023	Digital Forensics	
2.41		ITDLO6024	Multimedia Systems	
1		ITDLO6025	Green IT	



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Appendix-1

Course	Course		g Scheme t Hours)		Credits Assigned				
Code	Name	Theory	Pract	Tut	Theory	TW/ Pract	Tut	Total	
CSC501	Microprocessor	4	-	-	4	-	-	4	
CSC502	Database Management System	4	-	-	4	-	-	4	
CSC503	Computer Network	4	-	-	4	-	-	4	
CSC504	Theory of Computer Science	3+1@		-	4	-		4	
CSDLO 501X	Department Level Optional Course -I	4	-	-	4	-	-	4	
CSL501	Microprocessor Lab	-	2	-	-	1		1	
CSL502	Computer Network Lab	-	2	-	-	1	-	1	
CSL503	Database & Info. System Lab	-	2	-	-	1	-	1	
CSL504	Web Design Lab	-	2+2*	-	-	2	-	2	
CSL505	Business Comm. & Ethics	-	2+2*	-	-	2	-	2	
	Total	20	14	-	20	7	-	27	

Program Structure B.E. Computer Engineering, (Rev. 2016) w.e.f. AY 2018-19 T. E. Computer Engineering (Semester-V)

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@ 1 hour to be taken tutorial as class wise.
 *2 hours shown as Practical's to be taken class wise and other 2 hours to be taken as batch wise

		Examination Scheme									
Course	Course			Theor	y			Oral			
Code	Name	Inte	ernalAs	sessment	End	Exam	TW	&	Total		
		Test 1	Test 2	Avg.	Sem. Exam	Duration (in Hrs)		Pract			
CSC501	Microprocessor	20	20	20	80	3	-	-	100		
CSC502	Database Management System	20	20	20	80	3	-	-	100		
CSC503	Computer Network	20	20	20	80	3	· -	-	100		
CSC504	Theory of Computer Science	20	20	20	80	3	-	-	100		
CSDLO 501X	Department Level Optional Course -J	20	20	20	80	3	-	-	100		
CSL501	Microprocessor Lab	-	-	-	-	-	25	25	50		
CSL502	Computer Network Lab	-	-	-	-	-	25	25	50		
CSL503	Database & Info. System Lab	-	-	-	•	-	25	25	50		
CSL504	Web Design Lab	-	-	-	-	-	25	25	50		
CSL505	Business Comm. & Ethics	-	-	-	-	-	50	-	50		
	Total	100	100	100	400	-	150	100	750		
	umbai B E (Computer Eng	ineerin	g) Rev	2016				4			

University of Mumbai, B. E. (Computer Engineering), Rev. 2016

Course	Course		Teaching Scheme (Contact Hours)				Credits Assigned				
Code	Name	Theory	Pract	Tut	Theory	TW/ Pract	Tut	Total			
CSC601	Software Engineering	4	-		4			4			
CSC602	System Programming & Complier Construction	4			4	-		4			
CSC603	Data Warehousing & Mining	4		-	4			4			
CSC604	Cryptography & System Security	4	-		4			4			
CSDLO 601X	Department Level Optional Course -II	4			4	• •	-	4			
CSL601	Software Engineering Lab	-	2	-	-	1	-	1			
CSL602	System software Lab		2		-	1	-	1			
CSL603	Data Warehousing & Mining Lab	•	2			1	-	1			
CSL604	System Security Lab	-	2		-	1	-	1			
CSP605	Mini-Project		4	-		2	-	2			
	Total	20	12		20	6	-	26			

Program Structure B.E. Computer Engineering, (Rev. 2016) w.e.f. AY 2018-19 T. E. Computer Engineering (Semester-VI)

	Course Name				Exami	ination Sch	eme			
Course				Theor			Oral			
Code		Inte	ernal As	sessment	End	Exam	TW	Oral	&	Total
		Test 1	Tes0 2	Avg.	Sem. Exam	Duration (in Hrs)			Pract	
CSC601	Software Engineering	20	20	20	80	3	-	-	-	100
CSC602	System Programming & Complier Construction	20	20	20	80	3			-	100
CSC603	Data Warehousing & Mining	20	20	20	80	3	-	-	-	100
CSC604	Cryptography & System Security	20	20	20	80	3		-	-	100
CSDLO 601X	Department Level Optional Course -II	20	20	20	80	3	-	-	-	100
CSL601	Software Engineering Lab	-	-		-	-	25	25		50
CSL602	System Software Lab	-	-	-	-		25		25	50
CSL603	Data Warehousing & Mining Lab		-	-		-	25		25	50
CSL604	System Security Lab	-	-	-	-	-	25		25	50
CSP605	Minl-Project	-	-	-	-	-	25		25	50
	Total	100	100	100	400	-	125	25	100	750

University of Mumbai, B. E. (Computer Engineering), Rev. 2016

Sem.	Department Level Optional Course (DLOC)	Institute Level Optional Course (ILOC)
v	CSDLO5011: Multimedia System CSDLO5012: Advance Operating System CSDLO5013: Advance Algorithm	
VI	CSDLO6021: Machine Learning CSDLO6022: Advance Database System CSDLO6023: Enterprise Resource Planning CSDLO6024: Advance Computer Network	
vu	CSDLO7031: Advance System Security & Digital Forensics CSDLO7032: Big Data & Analytics CSDLO7033: Robotics	ILO7011. Product Lifecycle Management ILO7012. Reliability Engineering ILO7013. Management Information System ILO7014. Design of Experiments ILO7015. Operation Research ILO7016. Cyber Security and Laws ILO7017. Disaster Management & Mitigation Measures ILO7018. Energy Audit and Management ILO7019. Development Engineering
vm	DLO8011: High Performance Computing DLO8012: Natural Language Processing DLO8013: Adhoc Wireless Network	ILO8021. Project Management ILO8022. Finance Management ILO8023. Entrepreneurship Development and Management ILO8024. Human Resource Management ILO8025. Professional Ethics and CSR ILO8026. Research Methodology ILO8026. Research Methodology ILO8027. IPR and Patenting ILO8028. Digital Business Management ILO8029. Environmental Management

University of Mumbai, B. E. (Computer Engineering), Rev. 2016

Course	Course Name	Teaching	TeachingScheme		(Credits Assigne	d	
Code	o our se runne	Hours) Theory Pracs		Tut				
ECC501	Microprocessor & Peripherals Interfacing	4	-	-	Theory 4	TW/ Pracs	Total 4	
ECC502	Digital Communication	4	1		4			
ECC503	Electromagnetic Engineering	4		1@	4	-	4	
ECC504	Discrete Time Signal Processing	4	-	-	4	-	5	
ECCDLO 501X	Department Level Optional Course I	4	-	-	4	-	4	
ECL501	Microprocessor & Peripherals Interfacing Lab	-	2	-	-	1	1	
ECL502	Digital Communication Lab		2	-			'	
ECL503	Business Communication & Ethics Lab	-	2+2*	-	-	2	1	
ECL504	Open Source Technology for Communication Lab	-	2	-	-	I	-	
ECLDLO 501X	Department Level Optional Lab I	-	-	2#	-	1	1	
21. 1. 1. 1.	Total	20	10	3	20	7	27	

Program Structure for B.E. Electronics & Telecommunication Engineering (Rev. 2016) University of Mumbai (With Effect from 2017-2018) Semester V

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(a) 1 hour to be taken astutorial classwise #2 hours to be taken as either lab or tutorial based on subjectrequirement *2 hours to be taken as tutorial batchwise

		_	Examination Scheme								
Course	Course No.	Inter	nal Asses	Theory	EndSem	Exam		Oral/	Total		
cout	Course Name	Test1			Enusem	Duration	TW	Prac	1014		
ECC501	Microprocessor &	Testi	Test 2	Avg	2.44 III	(Hrs)					
	Peripherals Interfacing	20	20	20	80	03	_		100		
ECC502	Digital Communication	20	20	20	85				100		
	Electromagnetic		20	20	80	03			100		
ECC503	Engineering	20	20	20	80	03	25		125		
ECC504	Discrete Time Signal	20	20						125		
ECCDLO	Processing	20	20	20	80	03	-		100		
	Department Level Optional Course I	20	20	20	80						
	Microprocessor &		10	20	80	03	-		100		
ECL501	Peripherals Interfacing Lab						25	25			
ECL502	Digital Communication Lab			_			25	25	50		
FCI 503	Business Communication &						25	25	50		
	Ethics Lab			-			50		50		
ECL504	Open Source Technology							-	50		
1	for Communication Lab			-	-		25	25	50		
ECLDLO	Department Level Optional								50		
	Lab I			-			25		25		
· ·	Total			100	400		175				
University of	f Mumbai, B. E. (Electroni	cs & Tele				-	175	75	750		

University of Mumbai, B. E. (Electronics & Telecommunication Engineering), Rev 2016

Course Code	Department Level Optional Course I
ECCDLO 5011	Microelectronics
ECCDLO 5012	TV & Video Engineering
ECCDLO 5013	Finite Automata Theory
ECCDLO 5014	Data Compression and Encryption

University of Mumbai, B. E. (Electronics & Telecommunication Engineering), Rev 2016

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Semester VI

Course	Course Name		ching Scl ontact Ho			Credits Assigned			
Code		Theory	Pracs	Tut	Theory	TW/ Pracs	Total		
ECC601	Microcontrollers & Applications	4	-		4		4		
ECC602	Computer Communication Networks	4	-	-	4	-	4		
ECC603	Antenna & Radio Wave Propagation	4	-	-	4	-	4		
ECC604	Image Processing and Machine Vision	4	-		4		4		
ECCDLO 602X	Department Level Optional Course II	4	-	-	4	-	4		
ECL601	Microcontroller & Applications Lab	-	2	-	-	1	1		
ECL602	Computer Communication Network Lab	-	2	-	-		1		
ECL603	Antenna & Radio Wave Propagation Lab	-	2	-	-		1		
ECL604	Image Processing and Machine Vision Lab	-	2	-	_	1	1		
ECLDLO 602X	Department Level Optional Lab II	-	2	-		,			
	Total	20	10			1	1		
		40	10	-	20	5	25		

						nation Sch	eme		
Course Code	Course Name	Intern	ternal Assessme		leory I End Sem	Exam	TW	Oral &	Total
ECC601	Microcontroller& Applications	Test1		, O		Duration (Hrs)		Prac	lotai
ECC602	C	20 20	20 20	20 20	80 80	03			100
ECC603		20	20	20	80	03			100
	Image Processing and Machine Vision Lab	20	20	20	80	03			100
602X	Department Level Optional Course II	20	20	20	80	03			100
ECL601	Microcontroller & Applications Lab				-		25	25	50
	Computer Communication Network Lab		-				25	25	50
ECL603	Antenna & Radio Wave Propagation Lab		,		-		25	25	50
ECL604	Image Processing and Machine Vision Lab						25	25	
ECLDLO I 602X I	Department Level Optional Lab I						25		50
	Total			100	400		125	100	25 725

. University of Mumbai, B. E. (Electronics & Telecommunication Engineering), Rev 2016

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Course Code	Department Level Optional Course II
ECCDLO 6021	Digital VLSI Design
ECCDLO 6022	Radar Engineering
ECCDLO 6023	Database Management System
ECCDLO 6024	Audio Processing

University of Mumbai, B. E. (Electronics & Telecommunication Engineering), Rev 2016

Program Structure for TE Instrumentation Engineering University of Mumbai (With Effect from 2018-19) Scheme for Semester V

Course	Course Name		aching Sch Iontact Ho		Credits Assigned				
Code	Course Name	Theo ry	Practic al	Tutori al	Theory	Practi cal	Tutoria l	Total	
1SC501	Signals and Systems	4	-	-	4	-	-	4	
1SC502	Applications of Microcontroller	4	-	-	4	-	-	4	
ISC503	Control System Design	4	-	-	4	-	-	4	
1SC504	Control System Components	4	-	-	4	-	-	4	
ISDLO50 1X	Department Level Optional Course I	3	-	-	3	-	-	3	
ISL501	Business Communication and Ethics	-	4#	-	-	2	-	2	
ISL502	Applications of Microcontroller – Lab Practice	-	2	-	-	1	-	1	
ISL503	Control System Design Lab Practice	-	2	-	-	1	٥	1	
ISL504	Control System Components – Lab Practice	-	2	-	-	1	-	1	
ISL505	Department Level Optional Course I – Lab Practice	-	2	-	-	1	-	l	
ISL506	Mini-project – I	-	2	-	-	1	-	1	
	Total	19	14	-	19	07	-	26	

Out of four hours, 2 hours theory shall be taught to entire class and 2 hours practical in batches

University of Mumbai, Instrumentation Engineering, Rev 2016-17

Program Structure for TE Instrumentation Engineering University of Mumbai (With Effect from 2018-19)

Sahama	for	Semester	VI
Scheme	101	Semester	V I

Course	Course Name		ching So ntact H		Credits Assigned				
Code	Course Name	Theory	Pract ical	Tutorial	Theory	Practical	Tutorial	Total	
ISC601	Process Instrumentation System	4	-	-	4	-	-	4	
ISC602	Industrial Data Communication	3	-	-	3	-	-	3	
ISC603	Electrical machines and Drives	4	-	-	4	-	-	4	
1SC604	Digital Signal Processing	4	-	-	4	-	-	4	
ISC605	Advanced Control System	3	-	-	3	-	-	3	
ISDL0602 X	Department Level Optional Course 11	3	-	-	3	-	-	3	
ISL601	Process Instrumentation System – Lab Practice	-	2	-	-	1	-	1	
ISL602	Industrial Data Communication – Lab Practice	-	2	-	-	1	-	1	
ISL603	Electrical machines and Drives – Lab Practice	-	2	-	-	1	-	1	
ISL604	Digital Signal Processing – Lab Practice	-	2	-	-	l	-	1	
ISL605	Advanced Control System – Lab Practice	-	2	-	-	1	-	1	
ISL 606	Mini-project - II	-	2	-	-	1	-	1	
	Total	21	12	-	21	06	-	27	

University of Mumbai, Instrumentation Engineering, Rev 2016-17

Semester V

Course Code	Course Name		Teaching (Contact			Cree	lits Assig	ned		
			Theory	Pract	The	ory	Pract	Te	Total	
MEC501	Internal Combustion Engines*		04		0)4	
MEC502	Mechanical Measurements and C	Control*	04		04)4	
MEC503	Heat Transfer*		04		04	4)4	
MEC504	Dynamics of Machinery	Dynamics of Machinery			04	4)4	
MEDLO 501X	Department Level Optional Cour	se l	04		04	4)4	
MEL501	Internal Combustion Engines			02			01)]	
MEL502	Mechanical Measurements and Control			02			01)]	
MEL503	Heat Transfer			02		,	01)]	
MEL504	Dynamics of Machinery			02			01)]	
MEL505	Manufacturing Sciences Lab			02			01)1	
MEL506	506 Business Communication and Ethics			04			02)2	
	Total			14	20)	07		27	
			The	Eory			/			
Course	Course Norma	Inter	rnal Assess	ment		Exam			Í	
Code	Course Name		Test1	Test 2	Avg	End Sem Exam		Term Work	Pract/ Oral	Total
MEC501	Internal Combustion Engines	20	20	20	80	03			100	
MEC502	Mechanical Measurements and Control	20	20	20 20	80	03			100	
MEC503	Heat Transfer	20	20	20	80	03			100	
MEC504	Dynamics of Machinery	20	20	20	80	03			100	
MEDLO 501X	Department Level Optional Course I	20	20	20	80	03			100	
MEL501	Internal Combustion Engines						25	25	50	
MEL502	Mechanical Measurements and Control						25	25	50	
MEL503	Heat Transfer		c-				25	25	50	
MEL504	Dynamics of Machinery						25	25	50	
MEL505	Manufacturing Sciences Lab						25		25	
MEL506	Business Communication and Ethics				,		50		50	
	Total			100	400		175	100	775	

Course Code	Department Level Elective Course I
MEDLO5011	Press Tool Design
MEDLO5012	Machining Sciences and Tool Design
MEDLO5013	Design of Jigs and Fixtures

University of Mumbai, B. E. (Mechanical Engineering), Rev 2016

Semester VI

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Course	Course Name		Teaching (Contact			Cred	its Assign	ed	
Code	Course Name		Theory	Pract	Theo	rv	Pract	To	fal
MEC601	Metrology and Quality engineerin	10	04		04	And in case of the local division in the loc		04	
MEC602	Machine Design I		04		04			0-	
MEC603	Finite Element analysis		04		04			0.	-
MEC604	Refrigeration and Air Conditionin	19	04		04		**	0	
MEDLO 602X		Department Level Optional Course II			04			0-	
MEL601	Metrology and Quality Engineeri	ng		02			01	0	1
MEL602	Machine Design 1			02			01	0	1
MEL603	Finite Element Analysis			02			01	0	1
MEL604	Refrigeration and Air Conditionin	ng		02			01	0	1
MEL605	Mechatronics Lab			02			01	0	1
	Total		20	10	20		05	2	5
				E	Examination	1 Scheme			
				eory					
Course	Course Name	Internal Assessment				Exam	Term	Pract/	
Code	Course Maine	Test1	Test 2	Avg	End Sem Exam	Durati on (Hrs)	Work	Pract/ Oral	T
MEC601	Metrology and Quality engineering	20	20	20	80	03			1
MEC602	Machine Design I	20	20	20	80	03			1
MEC603	Finite Element Analysis	20	20	20	80	03			1
MEC604	Refrigeration and Air Conditioning	20	20	20	80	03			1
MEDLO 602X	Department Level Optional Course II	20	20	20	80	03			
MEL601	Metrology and Quality engineering						25	25	
MEL602	Machine Design I						25		
MEL603	Finite Element analysis						25	25	
MEL604	Refrigeration and Air Conditioning						25	25	
MEL605	Mechatronics Lab						25	25	
Total		1		100	400		125	100	

Course Code	Department Level Optional Course II
MEDLO6021	Mechatronics
MEDLO6022	Robotics
MEDLO6023	Industrial Automation

University of Mumbai, B. E. (Mechanical Engineering), Rev 2016

	<u>T.E.</u>		uction)							
Course Code	Course Name	(C	ching S ontact 1	lours)			lits Ass	lgned	ed	
0.000		Theo	ry	Pract		Theory	Pra	ct	Fotal	
PEC501	Design of Mold & Metal Forming Tools	04			4	04			04	
PEC502	Operations Research	03				03			03	
PEC503	Machine Design-I	04				04			04	
PEC504	CAD/CAM/CIM	04				04			04	
PEC505	Metrology & Quality Engineering	04				04			04	
PEDLO 501X	Department Level Optional Course I	03				03			03	
PEL501	Design of Mold & Metal Forming Tools Laboratory			02			01		01	
PEL502	Machine Design-I Laboratory			02		-4	01		01	
PEL503	CAD/CAM/CIM Laboratory				01		01			
PEL504	Metrology & Quality Engg Laboratory			02		01			01	
PEL505	Business Communication & Ethics	02*+02		02		02				
	Total	22		12		22	06		28	
				_	amina	tion Schen			20	
				Theor						
Course Code	Course Name	Intern	al Asse	Assessment		Exam. Duration	Term Work	Pract.	Total	
		Test1	Test 2	Avg.	Sem Exam	(in Hrs)		/ 0141		
PEC501	Design of Molds & Metal Forming Tools	20	20	20	80	03	1		100	
PEC502	Operations Research	20	20	20	80	03			100	
PEC503	Machine Design-I	20	20	20	80	03			100	
PEC504	CAD/CAM/CIM	20	20	20	80	03			100	
PEC505	Metrology & Quality Engg.	20	20	20	80	03			100	
PEDLO 501X	Department Level Optional Course I	20	20	20	80	03			100	
PEL501	Design of Mold & Metal Forming Tools Laboratory				-		25	25	50	
PEL502	Machine Design-I Laboratory						25	25	50	
PEL503	CAD/CAM/CIM Laboratory						25	25	50	
	Metrology & Quality Engg						25	25	50	
PEL504	Laboratory.							25		
PEL504 PEL505							50		50	

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* Theory for entire class to be conducted.

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Course Code	Department Level Optional Course I
PEDLO5011	Internal Combustion Engines
PEDLO5012	Finite Element Analysis
PEDLO5013	Plastic Engineering
PEDLO5014	Micro and Nano Manufacturing
PEDLO5015	Sustainable Manufacturing
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Course Code	Course Name	(Cor	hing So ntact H	ours)		Credits	Assign	ed	2
		Theor	y	Pract		Theory	Pr	act	Total
PEC601	Machining Science and Technology.	04				04			04
PEC602	Process Engineering and Tooling.	04				04			04
PEC603	Production Tooling.	04				04		-	04
PEC604	Machine Design – 11	04			-	04	-	-	04
PEC605	Production and Operation Management	04				04		-	04
PEDLO 601X	Department Level Optional Course 11	03				03	-	-	03
PEL601	Machining Science and Technology Laboratory			02			0	1	01
PEL602	Process Engineering and Tooling Laboratory			02			0	1	01
PEL603	Production Tooling Laboratory			02			0	1	01
PEL604	Machine Design-Il Laboratory	02				01		01	
	T <u>ot</u> al	23		08		23		4	27
				Exa	minatio	n Scheme			
				Theo	ory				
Course Code	Course Name	Interna Assessm		essment			Term	Pract.	Total
Code		Test1			Sem. Exam.	Duration (in Hrs)	Work	/Oral	TULAI
PEC601	Machining Science and Technology	20	20	20	80	03			100
PEC602	Process Engineering and Tooling	20	20	20	80	03			100
PEC603	Production Tooling	20	20	20	80	03			100
PEC604	Machine Design-II	20	20	20	80	03			100
PEC605	Production and Operation Management	20	20	20	80	03			100
PEDLO 601X	Department Level Optional Course II	20	20	20	80	03			100
PEL601	Machining Science and Technology Laboratory	-					25		25
PEL602	Process Engineering and Tooling Laboratory				-		25	25	50
PEL603	Production Tooling Laboratory		-				25	25	50
PEL604	Machine Design-II Laboratory						25		25
		_							

T.E.	(Production) SemVI	
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Course Code	Department Level Optional Course II
PEDLO6011	Manufacturing Planning and Control
PEDLO6012	Refrigeration and Air Conditioning
PEDLO6013	Reliability Engineering
PEDLO6014	Industrial Robotics
PEDLO6015	Rapid Prototyping and Manufacturing

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Program Structure B.E. Information Technology, (Rev. 2016)

Course Code	Course Name	Teaclú (Cont	ug Scheine act Hours)		Credits Assigned					
		Theory	Pract	Tut	Theory	TW?	Tut	Total		
ITC501	Microcontroller and Embedded Programming	4		-	4	Pract		1		
ITC 502	Internet Programming	4			1					
ITC503	Advanced Data Management Technology	4			1			1		
ITC504	Cryptography & Network Security	1			1	•		1		
ITDLO-1	Department Level Optional Course-I	4	-		-1		-	4		
ITL501	Internet Programming Lab	-	2			1		1		
ITL502	Security Lab		2							
ITL503	OLAP Lab		2					1		
ITL504	IOT (Mint Project) Lab		2					1		
ITL505	Business Communication and Ethics		2+2*	-	•	2	•	1		
	Total	20	14	-	20	7		26		

1. E. Information Technology (Semister V)

Course Course		Examination Scheme											
Code				Theor				Τ					
Code Name		Test 1	Test 2	sessment Avg.	End Sein. Exam	Exam Duratiou (in Hrs)	TW	Oral	Oral & Pract	Total			
ITC501	Microcontroller and Embedded Programming	20	20	20	80	3	-		-	100			
ITC502	Internet Programming	20	20	20	80	3	•		-	100			
ITC503	Advanced Data Management Technology	20	20	20	80	3	•		-	100			
ITC504	Cryptography & Network Security	20	20	20	80	3			-	100			
ITDLO-I	Department Level Optional Course-I	20	20	20	80	3			-	100			
ITL501	Internet Programming Lab	-	-	-	-	-	25		25	50			
ITL502	Security Lab	-	-	-	-	-	25	25		50			
TTL503	OLAP Lab	-	_	_		_	25	25		50			

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ITI COL	NOT ALL D. L. L.				I	1				
ITL504	IOT (Mini Project) Lab	-	•	-	-		25	25		50
ITL 505	Business Communication							and Landson station		
	and Ethics		-	•	-	•	50			50
	Total	100	100	100	400		150	75	25	740
	# Department Level O	ntiona	Con	me (DI C		میں ، " روان میں اور اور موجود کار " ماہ اور		and a second second second		

Department Level Optional Course (DLO)

Every student is required to take one Department Elective Course for Semester V. Different sets of courses will run in both the semesters. Students can take these courses from the list of department electives, which are closely allied to their disciplines.

(DLO-I subjects will have no Labs only Theory)

Subject Code	Department Level Optional Course
	(DLO)
	Semester V
ITDLO5011	Advanced Data Structures & Analysis of Algorithms
ITDL05012	Image Processing
ITDL05013	E-Commerce & E-Business
ITDL05014	IT Enabled Services
ITDL05015	Computer Graphics & Virtual Reality

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Program Structure B.E. Information Technology, (Rev. 2016)

Course Code	Course Name	Teachin (Conta	g Scheine ct Hours)			Cred	its Assi	gued
		Theory	Pract	Tut	Theory	TW/	Tut	Total
ITC601	Software Engineering with Project Management	4		-	.1	Pract		4
ITC602	Data Mining and Business Intelligence	-4		•			-	
ITC603	Cloud Computing & Services	4		-	4			-1
ITC604	Wireless Networks	4			4	•	-	4
ITDLO-II	Department Level Optional Course -II	1	-	•		-	-	4
ITL601	Software Design Lab	•	2		-	1	-	1
ITL602	Business Intelligence Lab		2	-		1	-	1
ITL603	Cloud Service Design Lab	•	2	•		1	-	1
ITL604	Sensor Network Lab	•	2		-	1	-	1
ITM605	Mini-project		-1	-	-	2	-	2
	Total	20	12	•	20	6	-	26

T. E. Information Technology (Semester-VI)

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111 0014	Nursen Network 1 ah	1	1	- 1	₹) 	•	25	24		50 50
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* Department Level Optional Course (DLO)

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Every student is required to take one Department Elective Course for Semester VI. Different sets of courses will mu in both the semesters. Students can take these courses from the list of department electives, which are closely allied to their disciplines.

(D) O-1 subjects will have no 1 abs only Theory)

Department Level Optional Course (DLO)
Semester VI
Advance Internet Programming
Software Architecture
Digital Forensies
Multimedia Systems
Green IT

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