



KONKAN GYANPEETH COLLEGE OF ENGINEERING KARJAT

(Approved by A.I.C.T.E. - New Delhi & DTE Govt. of Maharashtra State,
Affiliated to University of Mumbai)

📍 Konkan Gyanpeeth Shaikshanik Sankul, At. Vengaoon Road, Dahivali / Parade,
Post - Tiware, Tal - Karjat, Dist. Raigad 410201 M.S.(India)

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Smt. Anupama Dharkar Wangdi
Chairperson

Capt. Sariputta Wangdi
Vice Chairman

Shri P. V. Shringarpure
Secretary & CEO


Shri. Z. A. Dabhiya
Treasurer


Dr. 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	1) 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. 2) Syllabus schemes implemented in A.Y.2018-19.(Sem.V and VI) (Appendix-I)


Cr. Coordinator
Prof. A. G. Nagpure


IQAC Coordinator
(G. S. Dabwankar)


Principal





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Date: 28/11/2019

1.2.1 New programmes/courses introduced during the Academic year

Programme with Code	Date of Introduction	Course with Code		Date of Introduction
Computer Engineering (KGCE 1)	A.Y.1994-95	CSC502	Database Management Systems	July of A.Y.2016-17
		CSC504	Theory of Computer Science	
		CSDLO5011	Multimedia Systems	
		CSDLO5012	Advance Operating System	
		CSDLO5013	Advance Algorithm	
		CSC603	Database Management Systems	
		CSC604	Database Management Systems	
		CSDLO6021	Machine Learning	
		CSDLO6022	Advanced Database Systems	
		CSDLO6023	Enterprise Resource Planning	
		CSDLO6024	Advance Computer Network	
Electronics and Telecommunication Engineering (KGCE 2)	A.Y.1994-95	ECC501	Microcontrollers and Peripherals Interfacing	July of A.Y.2016-17
		ECC502	Digital Communication	
		ECC503	Electromagnetic engineering	
		ECC504	Discrete Time Signal Processing	
		ECCDLO5011	Microelectronics	
		ECCDLO5012	TV and Video Engg	
		ECCDLO5013	Finite Automated Theory	
		ECCDLO5014	Data Compression and 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	
Instrumentation Engineering (KGCE 3)	A.Y.1995-96	ISC502	Applications of Microcontroller	July of A.Y.2016-17
		ISDLO5011	Advanced Sensors	
		ISDLO5012	Optimization Techniques	
		ISDL05013	Database Management System	
		ISDLO5014	Fiber Optic Instrumentation	
		ISC603	Electrical machines and Drives	
		ISC605	Advanced Control System	
		ISDLO6021	Material Science	
		ISDL06022	Computer Organization and Architecture	
		ISDLO6023	BioSensors and Signal Processing	
		ISDL06024	Nuclear Instrumentation	
Mechanical Engineering (KGCE 4)	A.Y.1995-96	MEC504	Dynamics of Machinery	July of A.Y.2016-17
		MEDLO 5011	Press Tool Design	
		MEDLO 5012	Machining Science and TD	
		MEDLO 5013	Design of Jigs and Fixtures	
		MEC601	Metrology and Quality Engg.	
		MEC604	Refrigeration and air conditioning	
		MEDLO 6021	Mechatronics	
		MEDLO 6022	Robotics	
		MEDLO 6023	Industrial Automation	



Production Engineering (KGCE 5)	A.Y.1999-2000	PEC501	Design of Mold & Metal Forming Tools	July of A.Y.2016-17
		PEC502	Operations Research	
		PEC503	Machine Design-I	
		PEC504	CAD/CAM/CIM	
		PEC505	Metrology & Quality Engineering	
		PEDLO5011	Internal Combustion Engines	
		PEDLO5012	Finite Element Analysis	
		PEDLO5013	Plastic Engineering	
		PEDLO5014	Micro and Nano Manufacturing	
		PEDLO5015	Sustainable Manufacturing	
		PEC601	Machining Science and Technology.	
		PEC602	Process Engineering and Tooling.	
		PEC603	Production Tooling	
		PEC604	Machine Design – II	
		PEC605	Production and Operation Management	
		PEDLO6011	Manufacturing Planning and Control	
		PEDLO6012	Refrigeration and Air Conditioning	
PEDLO6013	Reliability Engineering			
PEDLO6014	Industrial Robotics			
PEDLO6015	Rapid Prototyping and Manufacturing			
Information Technology (KGCE 6)	A.Y.2001-02	ITC501	Microcontroller and Embedded Programming	July of A.Y.2016-17
		ITC503	Advanced Data Management Technology	
		ITC504	Cryptography & Network Security	
		ITDLO5011	Advanced Data Structures & Analysis of Algorithms	
		ITDLO5012	Image Processing	
		ITDLO5013	E-Commerce & E-Business	
		ITDLO5014	IT Enabled Services	
		ITC 601	Software Engg. with Project Management	
		ITC 603	Cloud computing and services	
		ITC 604	Wireless Networks	



		ITDLO6021	Advanced Internet Programming	
		ITDLO6022	Software Architecture	
		ITDLO6023	Digital Forensics	
		ITDLO6024	Multimedia Systems	
		ITDLO6025	Green IT	



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 PRINCIPAL
 (Dr. M. J. Lengare)
PRINCIPAL
Konkan Gyanpeth
College of Engineering
Karjat 418 601

Appendix-1

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

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		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

@ 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

Course Code	Course Name	Examination Scheme							
		Theory					TW	Oral & Pract	Total
		Internal Assessment			End Sem. Exam	Exam Duration (in Hrs)			
		Test 1	Test 2	Avg.					
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 -I	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

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

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract	Tut	Theory	TW/Pract	Tut	Total
CSC601	Software Engineering	4	-	-	4	-	-	4
CSC602	System Programming & Compiler 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

Course Code	Course Name	Examination Scheme								
		Theory					TW	Oral	Oral & Pract	Total
		Internal Assessment			End Sem. Exam	Exam Duration (In Hrs)				
		Test 1	Test 2	Avg.						
CSC601	Software Engineering	20	20	20	80	3	-	-	-	100
CSC602	System Programming & Compiler 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	Mini-Project	-	-	-	-	-	25	-	25	50
Total		100	100	100	400	-	125	25	100	750

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
VII	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
VIII	DLOS011: High Performance Computing DLOS012: Natural Language Processing DLOS013: Adhoc Wireless Network	ILOS021. Project Management ILOS022. Finance Management ILOS023. Entrepreneurship Development and Management ILOS024. Human Resource Management ILOS025. Professional Ethics and CSR ILOS026. Research Methodology ILOS027. IPR and Patenting ILOS028. Digital Business Management ILOS029. Environmental Management

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

Semester V

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

@ 1 hour to be taken as tutorial classwise
*2 hours to be taken as tutorial batchwise

#2 hours to be taken as either lab or tutorial based on subject requirement

Course Code	Course Name	Examination Scheme							
		Theory					TW	Oral/Prac	Total
		Internal Assessment			EndSem Exam	Exam Duration (Hrs)			
		Test1	Test 2	Avg					
ECC501	Microprocessor & Peripherals Interfacing	20	20	20	80	03	--	--	100
ECC502	Digital Communication	20	20	20	80	03	--	--	100
ECC503	Electromagnetic Engineering	20	20	20	80	03	25	--	125
ECC504	Discrete Time Signal Processing	20	20	20	80	03	--	--	100
ECCDLO 501X	Department Level Optional Course I	20	20	20	80	03	--	--	100
ECL501	Microprocessor & Peripherals Interfacing Lab	--	--	--	--	--	25	25	50
ECL502	Digital Communication Lab	--	--	--	--	--	25	25	50
ECL503	Business Communication & Ethics Lab	--	--	--	--	--	50	--	50
ECL504	Open Source Technology for Communication Lab	--	--	--	--	--	25	25	50
ECLDLO 501X	Department Level Optional Lab I	--	--	--	--	--	25	--	25
Total				100	400		175	75	750

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

Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned		
		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	1
ECL603	Antenna & Radio Wave Propagation Lab	-	2	-	-	1	1
ECL604	Image Processing and Machine Vision Lab	-	2	-	-	1	1
ECLDLO 602X	Department Level Optional Lab II	-	2	-	-	1	1
Total		20	10	-	20	5	25

Course Code	Course Name	Examination Scheme							
		Theory					TW	Oral & Prac	Total
		Internal Assessment			End Sem Exam	Exam Duration (Hrs)			
Test1	Test 2	Avg							
ECC601	Microcontroller & Applications	20	20	20	80	03	--	--	100
ECC602	Computer Communication Network	20	20	20	80	03	--	--	100
ECC603	Antenna & Radio Wave Propagation	20	20	20	80	03	--	--	100
ECC604	Image Processing and Machine Vision Lab	20	20	20	80	03	--	--	100
ECCDLO 602X	Department Level Optional Course II	20	20	20	80	03	--	--	100
ECL601	Microcontroller & Applications Lab	--	--	--	--	--	25	25	50
ECL602	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	50
ECLDLO 602X	Department Level Optional Lab II	--	--	--	--	--	25	--	25
Total				100	400		125	100	725

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

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

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total
ISC501	Signals and Systems	4	-	-	4	-	-	4
ISC502	Applications of Microcontroller	4	-	-	4	-	-	4
ISC503	Control System Design	4	-	-	4	-	-	4
ISC504	Control System Components	4	-	-	4	-	-	4
ISDLO501X	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	-	1
ISL504	Control System Components – Lab Practice	-	2	-	-	1	-	1
ISL505	Department Level Optional Course I – Lab Practice	-	2	-	-	1	-	1
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

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

Scheme for Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Practical	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
ISC604	Digital Signal Processing	4	-	-	4	-	-	4
ISC605	Advanced Control System	3	-	-	3	-	-	3
ISDL0602 X	Department Level Optional Course II	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	-	-	1	-	1
ISL605	Advanced Control System – Lab Practice	-	2	-	-	1	-	1
ISL 606	Mini-project - II	-	2	-	-	1	-	1
Total		21	12	-	21	06	-	27

Semester V

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract	Theory	Pract	Total
MEC501	Internal Combustion Engines*	04	--	04	--	04
MEC502	Mechanical Measurements and Control*	04	--	04	--	04
MEC503	Heat Transfer*	04	--	04	--	04
MEC504	Dynamics of Machinery	04	--	04	--	04
MEDLO 501X	Department Level Optional Course I	04	--	04	--	04
MEL501	Internal Combustion Engines	--	02	--	01	01
MEL502	Mechanical Measurements and Control	--	02	--	01	01
MEL503	Heat Transfer	--	02	--	01	01
MEL504	Dynamics of Machinery	--	02	--	01	01
MEL505	Manufacturing Sciences Lab	--	02	--	01	01
MEL506	Business Communication and Ethics	--	04	--	02	02
Total		20	14	20	07	27

Course Code	Course Name	Examination Scheme									
		Theory					End Sem Exam	Exam Duration (Hrs)	Term Work	Pract/ Oral	Total
		Internal Assessment			Avg						
		Test1	Test 2	Avg							
MEC501	Internal Combustion Engines	20	20	20	80	03	--	--	100		
MEC502	Mechanical Measurements and Control	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	--	--	--	--	--	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

Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract	Theory	Pract	Total
MEC601	Metrology and Quality engineering	04	--	04	--	04
MEC602	Machine Design I	04	--	04	--	04
MEC603	Finite Element analysis	04	--	04	--	04
MEC604	Refrigeration and Air Conditioning	04	--	04	--	04
MEDLO 602X	Department Level Optional Course II	04	--	04	--	04
MEL601	Metrology and Quality Engineering	--	02	--	01	01
MEL602	Machine Design I	--	02	--	01	01
MEL603	Finite Element Analysis	--	02	--	01	01
MEL604	Refrigeration and Air Conditioning	--	02	--	01	01
MEL605	Mechatronics Lab	--	02	--	01	01
Total		20	10	20	05	25

Course Code	Course Name	Examination Scheme									
		Theory					End Sem Exam	Exam Duration (Hrs)	Term Work	Pract/ Oral	Total
		Internal Assessment			Avg						
		Test1	Test 2	Avg							
MEC601	Metrology and Quality engineering	20	20	20	80	03	--	--	100		
MEC602	Machine Design I	20	20	20	80	03	--	--	100		
MEC603	Finite Element Analysis	20	20	20	80	03	--	--	100		
MEC604	Refrigeration and Air Conditioning	20	20	20	80	03	--	--	100		
MEDLO 602X	Department Level Optional Course II	20	20	20	80	03	--	--	100		
MEL601	Metrology and Quality engineering	--	--	--	--	--	25	25	50		
MEL602	Machine Design I	--	--	--	--	--	25	--	25		
MEL603	Finite Element analysis	--	--	--	--	--	25	25	50		
MEL604	Refrigeration and Air Conditioning	--	--	--	--	--	25	25	50		
MEL605	Mechatronics Lab	--	--	--	--	--	25	25	50		
Total				100	400		125	100	725		

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

T.E. (Production) Sem.-V

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned					
		Theory	Pract	Theory	Pract	Total			
PEC501	Design of Mold & Metal Forming Tools	04	--	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	--	01	01			
PEL503	CAD/CAM/CIM Laboratory	--	02	--	01	01			
PEL504	Metrology & Quality Engg Laboratory	--	02	--	01	01			
PEL505	Business Communication & Ethics	--	02*+02	--	02	02			
	Total	22	12	22	06	28			
Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. /Oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (in Hrs)			
		Test1	Test 2	Avg.					
PEC501	Design of Molds & Metal Forming Tools	20	20	20	80	03	--	--	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
PEL504	Metrology & Quality Engg Laboratory.	--	--	--	--	--	25	25	50
PEL505	Business Communication & Ethics Laboratory						50	--	50
	Total			120	480		150	100	850

* Theory for entire class to be conducted.

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

T.E. (Production) Sem.-VI

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		Total			
		Theory	Pract	Theory	Pract				
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 – II	04	--	04	--	04			
PEC605	Production and Operation Management	04	--	04	--	04			
PEDLO 601X	Department Level Optional Course II	03	--	03	--	03			
PEL601	Machining Science and Technology Laboratory	--	02	--	01	01			
PEL602	Process Engineering and Tooling Laboratory	--	02	--	01	01			
PEL603	Production Tooling Laboratory	--	02	--	01	01			
PEL604	Machine Design-II Laboratory	--	02	--	01	01			
	Total	23	08	23	04	27			
Examination Scheme									
Course Code	Course Name	Theory					Term Work	Pract. /Oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		Test1	Test 2	Avg					
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
	Total			120	480		100	50	750

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

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract	Tut	Theory	TW/Pract	Tut	Total
ITC501	Microcontroller and Embedded Programming	4	-	-	4	-	-	4
ITC502	Internet Programming	4	-	-	4	-	-	4
ITC503	Advanced Data Management Technology	4	-	-	4	-	-	4
ITC504	Cryptography & Network Security	4	-	-	4	-	-	4
ITDLO-I	Department Level Optional Course-I	4	-	-	4	-	-	4
ITL501	Internet Programming Lab	-	2	-	-	1	-	1
ITL502	Security Lab	-	2	-	-	1	-	1
ITL503	OLAP Lab	-	2	-	-	1	-	1
ITL504	IOT (Mini Project) Lab	-	2	-	-	1	-	1
ITL505	Business Communication and Ethics	-	2+2*	-	-	2	-	2
	Total	20	14	-	20	7	-	26

Course Code	Course Name	Examination Scheme								
		Theory					TW	Oral	Oral & Pract	Total
		Internal Assessment			End Sem. Exam	Exam Duration (in Hrs)				
		Test 1	Test 2	Avg.						
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
ITL503	OLAP Lab	-	-	-	-	-	25	25	--	50

ITL504	IOT (Mini Project) Lab	-	-	-	-	-	25	25	--	50
ITL505	Business Communication and Ethics	-	-	-	-	-	50	--	--	50
Total		100	100	100	400	-	150	75	25	750

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
ITDLO5012	Image Processing
ITDLO5013	E-Commerce & E-Business
ITDLO5014	IT Enabled Services
ITDLO5015	Computer Graphics & Virtual Reality

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T. E. Information Technology (Semester VI)

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract	Tut	Theory	TW/ Pract	Tut	Total
ITC601	Software Engineering with Project Management	4	-	-	4	-	-	4
ITC602	Data Mining and Business Intelligence	4	-	-	4	-	-	4
ITC603	Cloud Computing & Services	4	-	-	4	-	-	4
ITC604	Wireless Networks	4	-	-	4	-	-	4
ITDLO-II	Department Level Optional Course -II	4	-	-	4	-	-	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	-	4	-	-	2	-	2
	Total	20	12	-	20	6	-	26

Course Code	Course Name	Examination Scheme								
		Internal Assessment (Theory)			End Sem Exam	Exam Duration (in Hrs)	TW	Oral	Oral & Pract	Total
		Test 1	Test 2	Avg						
IT6011	Software Engineering with Project Management	20	20	20	60	4	-	-	-	100
IT6012	Data Mining and Business Intelligence	20	20	20	60	4	-	-	-	100
IT6013	Cloud Computing & Services	20	20	20	60	4	-	-	-	100
IT6014	Wireless Networks	20	20	20	60	4	-	-	-	100
IT6015	Department Level Optional course - II	20	20	20	60	4	-	-	-	100
IT6016	Software Design Lab	-	-	-	-	-	25	25	--	50
IT6017	Business Intelligence Lab	-	-	-	-	-	25	25	--	50
IT6018	Cloud services Design Lab	-	-	-	-	-	25	25	--	50
IT6019	Sensor Network Lab	-	-	-	-	-	25	25	--	50
IT6020	Mini-Project	-	-	-	-	-	25	25	--	50
Total		100	100	100	100	-	125	125	--	750

* Department Level Optional Course (DLO)

Every student is required to take one Department Elective Course for Semester VI. 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 VI	
ITDLO6021	Advance Internet Programming
ITDLO6022	Software Architecture
ITDLO6023	Digital Forensics
ITDLO6024	Multimedia Systems
ITDLO6025	Green IT