



Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA

An Autonomous Institute

FACULTY OF ENGINEERING

Department of Mechatronics Engineering

S.Y. B.Tech SEMESTER III

Course Code	Course Domain	Course Name	Teaching Scheme					Evaluation Scheme					TOTAL
			L	T	P	S L	Credit	Scheme	Theory		Practical		
									Max.	Min. Passing	Max	Min. Passing	
0UMTPC301	F	Engineering Mathematics III	3	1	0	5	4	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC302	F	Strength of Materials	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC303	F	Analog and Digital Electronics	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC304	F	Basic Mechatronics Engg.	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC305	F	Python Programming and Embedded C	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTVE306	F	Environmental Studies	2	0	0	3	2	ISE	50	40*	-	-	50
0UMTHM307	F,E	Engineering Economics	2	0	0	3	2	ISE	50	40*	-	-	50
0UMTPC308	F,E	Analog and Digital Electronics Lab I	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE			25		
0UMTPC309	F	Python Programming and Embedded C Lab II	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE			25		
0UMTPC310	F	Machine Drawing & CAD Lab III	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE			25		
0UMTVS311	F	VSEC Lab	0	0	2	1	1	ISE	-	-	50	25**	50
TOTAL			19	1	08	31	24	TOTAL MARKS					800
Total Contact Hours Per Week			28				24						

Course Category	Program Core Course	Program Elective Course	Open Elective Course	Multi Disciplinary Minor Course	Value Education	Vocational and Skill Enhancement Course	Ability Enhancement Course	Humanities and Management Course	Internship	Project	Co-curricular Courses	Total
	PC	PE	OE	MD	VE	VS	AE	HM	IR	PR	CC	
Credit	19	-	-	-	2	1	-	2	-	-	-	24

ISE :-In semester evaluation, MSE: - Mid Semester Examination, ESE: - End Semester Examination

Note1- * - ESE-40% and Combined together ISE+MSE+ESE needs to be 40% for Theory courses for passing

** - ISE-40%, ESE-50% and Combined together needs to be 50% for Lab courses for passing

Note 2- Internship I: Students are expected to complete 60 hours of internship after the third semester, and its evaluation will be conducted in the fourth semester.

Chairman -BOS

Member Secretary-AC

Chairman-AC





Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA

An Autonomous Institute

FACULTY OF ENGINEERING

Department of Mechatronics Engineering

S.Y. B.Tech SEMESTER IV

Course Code	Course Domain	Course Name	Teaching Scheme					Evaluation Scheme					Total
			L	T	P	SL	Credit	Scheme	Theory		Practical		
									Max.	Min. Passing	Max.	Min. Passing	
0UMTPC401	F	Machine Design	3	-	-	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC402	F	Power Electronics Systems	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC403	F	Electro-pneumatics systems	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC404	F	Manufacturing Processes	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTMD405	F	MDM I	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTVE406	F,E	Universal Human Values	2	0	0	3	2	ISE	50	40*	-	-	50
0UMTHM407	F	Entrepreneurship Development	2	0	0	3	2	ISE	50	40*	-	-	50
0UMTPC408	F	Machine Design Lab IV	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE			25		
0UMTPC409	F	Power Electronics Systems Lab V	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE			25		
0UMTAE410	F	Ability Enhancement Lab	0	0	2	1	1	ISE	-	-	50	25**	50
0UMTIR411	F,E	Internship-I	0	0	4	3	2	ISE	-	-	50	25**	50
TOTAL			19	0	10	32	24	TOTAL MARKS					800
Total Contact Hours Per Week			29										

Course Category	Programme Core Course	Programme Elective Course	Open Elective Course	Multi Disciplinary Minor Course	Value Education	Vocational and Skill Enhancement Course	Ability Enhancement Course	Humanities and Management Course	Internship	Project	Co-curricular Courses	Total
	PC	PE	OE	MD	VE	VS	AE	HM	IR	PR	CC	
Credit	14	-	-	3	2	-	1	2	-	2	-	24

ISE :-In semester evaluation, MSE: - Mid Semester Examination, ESE: - End Semester Examination

Note- * - ESE-40% and Combined together ISE+MSE+ESE needs to be 40% for Theory courses for passing

** - ISE-40%, ESE-50% and Combined together needs to be 50% for Lab courses for passing

Total Credit in SY

SEM-I	SEM-II	SEM-III	SEM-IV	TOTAL
22/20	20/22	24	24	90

Chairman -BOS

Member Secretary-AC

Chairman-AC



Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA

An Autonomous Institute

FACULTY OF ENGINEERING

Department of Mechatronics Engineering

Multidisciplinary Minor I

Sr. no	Course code	Subject
1	0UMTMD405	Industrial Automation

VSEC Lab

Sr. no	Course code	Subject
1	0UMTVS311	Programmable Logic Control and SCADA

Ability Enhancement Lab

Sr. no	Course code	Subject
1	0UMTAE410	Technical Report Writing with Ethics



Chairman -BOS


Member Secretary-AC



Chairman-AC





Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA
 An Autonomous Institute
FACULTY OF ENGINEERING
Department of Mechatronics Engineering

T.Y. B.Tech SEMESTER V

Course Code	Course Domain	Course Name	Teaching Scheme					Evaluation Scheme					TOTAL
			L	T	P	SL	Credit	Scheme	Theory		Practical		
									Max.	Min. Passing	Ma x.	Min. Passing	
0UMTPC501	F	Sensors and Measurement	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC502	F	Kinematics and Dynamics of Machine	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPE503	F	PEC I	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTOE504	F	OE I (MOOC)	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTMD505	F	MDM II	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTVE506	F	Constitution of India	2	0	0	3	2	ISE	50	25*	-	-	50
0UMTPC507	F,E	Sensors and Measurement Lab VI	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE			25		
0UMTPC508	F	Kinematics and Dynamics of Machine Lab VII	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE			25		
0UMTVS509	F	Vocational and Skill Enhancement Lab	0	0	2	1	1	ISE	-	-	50	25**	50
0UMTAE510	F	Ability Enhancement Course	2	0	0	3	2	ISE	50	40*	-	-	50
0UMTCC511	F,E	Mini Project	0	0	2	1	1	ISE	-	-	25	25*	50
								ESE	-	-	25		
0UMXCC512	F	Co –curricular Courses	0	0	2	1	1	ISE	-	-	50	25**	50
TOTAL			17	0	10	31	24	TOTAL MARKS					850
Total Contact Hours Per Week			27										

Course Category	Programme Core Course	Programme Elective Course	Open Elective Course	Multi Disciplinary Minor Course	Value Education	Vocational and Skill Enhancement Course	Ability Enhancement Course	Humanities and Management Course	Internship	Project	Co-curricular Courses	Total
	PC	PE	OE	MD	VE	VS	AE	HM	IR	PR	CC	
Credit	8	3	3	3	-	1	2	-	-	1	1	22

ISE :-In semester evaluation, MSE: - Mid Semester Examination, ESE: - End Semester Examination

Note1- * - ESE-40% and Combined together ISE+MSE+ESE needs to be 40% for Theory courses for passing

** - ISE-40%, ESE-50% and Combined together needs to be 50% for Lab courses for passing

Note 2- Internship II: Students are expected to complete 60 hours of internship after the fifth semester, and its evaluation will be conducted in the sixth semester

Chairman -BOS

Member Secretary-AC

Chairman-AC



Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA
 An Autonomous Institute
FACULTY OF ENGINEERING
Department of Mechatronics Engineering

T.Y. B.Tech SEMESTER VI

Course Code	Course Domain	Course Name	Teaching Scheme					Evaluation Scheme					Total
			L	T	P	SL	Credit	Scheme	Theory		Practical		
									Max.	Min. Passing	Max.	Min. Passing	
0UMTPC601	F	Control Systems	3	0	-	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC602	F	Digital Signal Processing	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPE603	F	PEC II	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPE604	F	PEC III	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTOE605	F	OE II	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTMD606	F	MDM III	2	0	0	3	2	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTVS607	F,E	Vocational and Skill Enhancement Lab	0	0	2	1	1	ISE	-	-	50	25**	50
0UMTPC608	F	Control Systems Lab VIII	0	0	2	1	1	ISE	-	-	25	13**	50
								ESE			25	13**	
0UMTPC609	F	Digital Signal Processing Lab IX	0	0	2	1	1	ISE	-	-	25	13**	50
								ESE			25	13**	
0UMTPR610	F,E	Project Phase-I	0	0	4	3	2	ISE	-	-	25	13**	50
								ESE	-	-	25	13**	
0UMTCC611		Internship-II	0	0	4	3	2	ISE	-	-	50	25**	50
TOTAL			17	0	14	32	24	TOTAL MARKS					850
Total Contact Hours Per Week			31										

Course Category	Programme Core Course	Programme Elective Course	Open Elective Course	Multi Disciplinary Minor Course	Value Education	Vocational and Skill Enhancement Course	Ability Enhancement Course	Humanities and Management Course	Internship	Project	Co-curricular Courses	Total
	PC	PE	OE	MD	VE	VS	AE	HM	IR	PR	CC	
Credit	8	6	3	2	-	1	-	-	2	2	-	24

ISE :-In semester evaluation, MSE: - Mid Semester Examination, ESE: - End Semester Examination

Note- * - ESE-40% and Combined together ISE+MSE+ESE needs to be 40% for Theory courses for passing

** - ISE-40%, ESE-50% and Combined together needs to be 50% for Lab courses for passing

Total Credit in TY

SEM-I	SEM-II	SEM-III	SEM-IV	SEM-V	SEM-VI	TOTAL
22/20	20/22	24	24	24	24	138

Chairman –BOS



Member Secretary-AC

Chairman-AC

Zeroth Version



Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA
 An Autonomous Institute
FACULTY OF ENGINEERING
Department of Mechatronics Engineering

Program Elective I (SEM V)

Sr. no	Track	Course code	Subject
1	Thermal Engineering and Energy Systems	0UMTPE503A	Fundamentals of Thermodynamics and Heat transfer
2	AI and Digital Technologies	0UMTPE503B	MATLAB Programming
3	Industrial Automation & IIoT	0UMTPE503C	Industrial Automation

Program Elective II (SEM VI)

Sr. no	Track	Course code	Subject
1	Thermal Engineering and Energy Systems	0UMTPE603A	Thermal Systems and Energy Conversion
2	AI and Digital Technologies	0UMTPE603B	R Programming and Numerical Methods
	Industrial Automation & IIoT	0UMTPE604C	Design for internet of things

Program Elective III (SEM VI)

Sr. no	Track	Course code	Subject
1	Advanced Manufacturing	0UMTPE604A	Advanced Manufacturing and Process Modelling
2	Design of SPMs	0UMTPE604B	SPM design
3	PLM	0UMTPE604C	Design engagement systems

Open Elective

Sr. No.	Semester	Course Code	Course Name	Credit
1	V	0UMTOE504	NPTEL	3
2	VII	0UMTOE605	NPTEL	3
Total Credits				6

List of NPTEL Courses in Open Electives I

Sr. No.	Term	Discipline	Course Name	WEEK	Link
1.	I	Economics	Economic Environment and Business Strategy	8 Weeks	https://onlinecourses.nptel.ac.in/no_c25_ec16/preview
2.		Multidisciplinary	Intellectual Property Portfolio Management	8 Weeks	https://onlinecourses.nptel.ac.in/no_c25_ge51/preview
3.		Humanities and Social Science	Soft Skill Development	8 Weeks	https://onlinecourses.nptel.ac.in/no_c25_hs142/preview
4.		Multidisciplinary	Research Methodology	8 Weeks	https://onlinecourses.nptel.ac.in/no_c25_ge66/preview
5.		Management	Patent Search for Engineers and Lawyers	8 Weeks	https://onlinecourses.nptel.ac.in/no_c25_mg143/preview
6.		Humanities and Social Science	Energy Economics and Policy	8 Weeks	https://onlinecourses.nptel.ac.in/no_c25_hs136/preview
7.		Humanities and Social Science	Developing Soft Skills and Personality	8 Weeks	https://onlinecourses.nptel.ac.in/no_c25_hs174/preview

Chairman –BOS

Member Secretary-AC

Chairman-AC

Zeroth Version



Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA

An Autonomous Institute
FACULTY OF ENGINEERING

Department of Mechatronics Engineering

8.					
9.		Management	Marketing Management - I	8 Weeks	https://onlinecourses.nptel.ac.in/noc25_mg115/preview
10.		Management	Yoga and Positive Psychology for Managing Career and Life	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_mg14/preview
11.		Management	Ethics in Engineering Practice	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_mg42/preview
12.		Humanities and Social Sciences	Introduction to Psychology	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_hs42/preview
13.		Humanities and Social Sciences	Modernisation and Creative Communication	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_hs50/preview
14.		Multidisciplinary	Roadmap for Patent Creation	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_ge18/preview
15.	II	Humanities and Social Sciences	Introduction on Intellectual Property to Engineers and Technologists	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_hs62/preview
16.		Multidisciplinary	Industry 4.0: Managing The Digital Transformation	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_ge04/preview
17.		Management	Business Development: From Start to Scale	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_mg50/preview
18.		Multidisciplinary	Introduction to Industry 4.0 and Industrial Internet of Things	8 Weeks	https://onlinecourses.nptel.ac.in/noc26_cs38/preview

Multidisciplinary Minor II (SEM V)

Sr. no	Course code	Subject
1	0UMTMD505	Sensors and Instrumentation

Multidisciplinary Minor

Sr. no	Course code	Subject
1	0UMTMD505	Industrial robotics

VSEC COURSE--

Sr. no	Course code	Subject
1	0UMTVS509	Industrial Robotics Programming Lab
2	0UMTVS607	Manufacturing Process Lab

Ability Enhancement Course

Sr. no	Course code	Subject
1	0UMTAE5010	Leadership and Team Building

Co-curricular Courses

Sr. no	Course code	Subject
1	0UMTCC512	PCB Design LAB

[Signature]

Chairman –BOS

[Signature]

Member Secretary-AC

[Signature]

Chairman-AC





Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA

An Autonomous Institute

FACULTY OF ENGINEERING

Department of Mechatronics Engineering

B.Tech SEMESTER VII

Course Code	Course Domain	Course Name	Teaching Scheme					Evaluation Scheme					TOTAL
			L	T	P	SL	Credit	Scheme	Max.	Min. Passing	Max.	Min. Passing	
0UMTPC701	F	Design of Microcontroller-based systems	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC702	F	Mechatronics System Design	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPE703	F	PEC IV	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPE704	F	PEC V	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTMD705	F	MDM IV	3	0	0	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTPC706	F,E	Design of Microcontroller-based Systems Lab X	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE	-	-	25		
0UMTPC707	F,E	Maintenance and Safety Lab XI	0	0	2	1	1	ISE	-	-	25	25**	50
								ESE	-	-	25		
0UMTPR708	F	Project Phase- II	0	0	8	6	4	ISE	-	-	50	50**	100
								ESE	-	-	50		
0UMTCC709	F,E	Co-curricular Courses	0	0	2	1	1	ISE	-	-	50	25**	50
TOTAL			15	0	14	29	22	TOTAL MARKS					750
Total Contact Hours Per Week			29										

Course Category	Programme Core Course	Programme Elective Course	Open Elective Course	Multi-Disciplinary Minor Course	Value Education	Vocational and Skill Enhancement Course	Ability Enhancement Course	Humanities and Management Course	Internship	Project	Co-curricular Courses	Total
	PC	PE	OE	MD	VE	VS	AE	HM	IR	PR	CC	
Credit	8	6	-	3	-	-	-	-	-	4	1	22

ISE :-In semester evaluation, MSE: - Mid Semester Examination, ESE: - End Semester Examination

Note- * - ESE-40% and Combined together ISE+MSE+ESE needs to be 40% for Theory courses for passing

** - ISE-40%, ESE-50% and Combined together needs to be 50% for Lab courses for passing


Chairman -BOS


Member Secretary-AC


Chairman-AC





Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA

An Autonomous Institute

FACULTY OF ENGINEERING

Department of Mechatronics Engineering

B.Tech SEMESTER VIII

Course Code	Course Domain	Course Name	Teaching Scheme					Evaluation Scheme					Total
			L	T	P	SL	Credit	Scheme	Theory		Practical		
									Max.	Min. Passing	Max.	Min. Passing	
0UMTPE801	F	PEC VI (MOOC)	2	-	-	4	3	ISE	20	40*	-	-	100
								MSE	20				
								ESE	60				
0UMTIR802	F,E	Internship- III	-	-	2	25	8	ISE	-	-	100	100**	200
								ESE			100		
TOTAL			2	0	2	29	11	TOTAL MARKS					300
Total Contact Hours Per Week			4										

Course Category	Programme Core Course	Programme Elective Course	Open Elective Course	Multi Disciplinary Minor Course	Value Education	Vocational and Skill Enhancement Course	Ability Enhancement Course	Humanities and Management Course	Internship	Project	Co-curricular Courses	Total
	PC	PE	OE	MD	VE	VS	AE	HM	IR	PR	CC	
Credit	-	3	-	-	-	-	-	-	8	-	-	11

ISE :-In semester evaluation, MSE: - Mid Semester Examination, ESE: - End Semester Examination

Note1- * - ESE-40% and Combined together ISE+MSE+ESE needs to be 40% for Theory courses for passing

** - ISE-40%, ESE-50% and Combined together needs to be 50% for Lab courses for passing

Note 2- Internship III: Students are expected to complete 240 hours of internship in the same semester.

Total Credit in BTech

SEM-I	SEM-II	SEM-III	SEM-IV	SEM-V	SEM-VI	SEM-VII	SEM-VIII	TOTAL
22/20	20/22	24	24	24	24	22	11	173

Program Elective VI (SEM VII)

Sr. no	Track	Course code	Subject
1	Thermal Engineering and Energy Systems	0UMTPE703A	Thermal Management of Mechatronic Systems
2	AI and Digital Technologies	0UMTPE703B	Advanced Communication Systems
3	Industrial Automation & IIoT	0UMTPE703C	Manufacturing Engineering Systems

Program Elective V (SEM VII)

Sr. no	Track	Course code	Subject
1	Advanced Manufacturing	0UMTPE704A	Project Planning and Control
2	Design of SPMs	0UMTPE704B	Architecture of MMS
3	Design of MMSs	0UMTPE704C	Product life cycle management

Program Elective VI (SEM VIII)

Sr. No.	Discipline	Course Name	WEEK	Link
1	Mechanical	Robotics: Basics and Selected Advanced Concepts	12	

Chairman -BOS

Member Secretary-AC

Chairman-AC

Zeroth Version



Yashoda Shikshan Prasarak Mandal's
YASHODA TECHNICAL CAMPUS, SATARA
An Autonomous Institute
FACULTY OF ENGINEERING
Department of Mechatronics Engineering

Multidisciplinary Minor IV

Sr. no	Course code	Subject
1	0UMTMD705	Project Planning and Control

Co-curricular Courses

Sr. no	Course code	Subject
1	0UMTCC709	Additive Manufacturing (3D Printing)

Chairman -BOS

Member Secretary-AC

Chairman-AC

