Department of Electronics

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Syllabus under CBCS for M.Sc.(Electronics)
Syllabus Structure (with effect from 2019-20)

Semester-I

Course Code	Course Type	Title of the Course	Contact hours/week *For Practical per week per batch			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
EL -101	Core	Semiconductor Devices	04	--	04	40	--	60	--	100	--	04
EL-102	Core	VLSI Tools and Techniques	04	--	04	40	--	60	--	100	--	04
EL-103	Core	Analog Circuit Simulation Techniques	04	--	04	40	--	60	--	100	--	04
EL-104	Skill Based	Industrial Automation and Control	04	--	04	40	--	60	--	100	--	04
EL-105	Practical	Practical Laboratory I	--	*04	*04	--	40	--	60	--	100	04
AC-101	Audit Course	Practicing Cleanliness		02	02		100	--	--	--	100	02

Semester-II

Course Code	Course Type	Title of the Course	Contact hours/week *For Practical per week per batch			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
EL-201	Core	Optoelectronics	04	--	04	40	--	60	--	100	--	04
EL-202	Skill Based	Java Programming and Web Technology	04	--	04	40	--	60	--	100	--	04
EL-203	Core	Advanced Microcontrollers and Applications	04	--	04	40	--	60	--	100	--	04
EL-204	Core	Advanced Communication Systems	04	--	04	40	--	60	--	100	--	04
EL-205	Practical	Practical Laboratory II	--	*04	*04	--	40		60	--	100	04
AC-201(A)	Audit Course (Personality and Cultural Development Related) (Choose 1)	Soft Skills	--	02	02	100	--	--	--	100	--	02
AC-201(B)		Practicing Sports Activities										
AC_201(C)		Practicing Yoga										
AC-201(D)		Introduction to Indian Music										

Semester-III

Course Code	Course Type	Title of the Course	Contact hours/week *For Project and Practical per week per batch			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
EL-301 (A)	Elective (Choose 1)	Digital Signal Processing and Applications	04	--	04	40	--	60	--	100	--	04
EL-301 (B)		CMOS RF Circuits										
EL-302	Core	Semiconductor Devices Processing and Fabrication	04	--	04	40	--	60	--	100	--	04
EL-303	Core	Embedded Systems and Applications	04	--	04	40	--	60	--	100	--	04
EL-304	Practical	Practical Laboratory III	--	*04	*04	--	40	--	60	--	100	04
EL-305	Practical	**Special Laboratory (Project I + Report)**	**--**	***04**	***04**	**--**	**40**	**--**	**60**	**100**	**--**	**04**
AC-301(A)	Audit Course (Technology + value added course) (Choose 1)	Computer Skills	02	--	02	100	--	--	--	100	--	02
AC-301(B)		Cyber Security										
AC-301(C)		Python Programming for Electronics										
AC-301(D)		Robotics and applications										

Semester-IV

Course Code	Course Type	Title of the Course	Contact hours/week *For Project and Practical per week per batch			Distribution of Marks for Examination						Credits
						Internal		External		Total		
			Th(L)	Pr	Total	Th	Pr	Th	Pr	Th	Pr	
EL-401(A)	Elective (Choose 1)	Modeling and Simulation Techniques	04	--	04	40	--	60	--	100	--	04
EL-401(B)		Micro-electromechanical Systems and Applications										
EL-402	Core	CMOS Technology and Applications	04	--	04	40	--	60	--	100	--	04
EL-403	Core	Digital Image Processing and Applications	04	--	04	40	--	60	--	100	--	04
EL-404	Practical	Practical Laboratory IV	--	*04	*04	--	40	--	60	--	100	04
EL-405	Practical	**Special Laboratory (Project + Thesis)**	**--**	***04**	***04**	**40**	**--**	**60**	**--**	**100**	**--**	**04**
AC-401(A)	Audit Course (Professional and Social + value added course) (Choose 1)	Human Rights	02	--	02	100	--	--	--	100	--	02
AC-401(B)		Current Affairs										
AC-401(C)		Electronics for Internet of Things										
AC-401(D)		Mechatronics and Applications										

M.Sc. (Electronics) (Total credits : 84)

Semester	Course	Title of the course	Marks		Credit
			Internal	External	
I	EL-101	Semiconductor Devices	40	60	04
	EL-102	VLSI Tools and Techniques	40	60	04
	EL-103	Analog Circuit Simulation Techniques	40	60	04
	EL-104	Industrial Automation and Control	40	60	04
	EL-105	Practical* Lab-I	40	60	04
	EL-106	Tutorial – I (Audit Course)	40	-	01
	PS-001	Industrial Materials	40	60	04
II	EL-201	Optoelectronics	40	60	04
	EL-202	Java Programming and Web Technology	40	60	04
	EL-203	Microcontrollers and Applications	40	60	04
	EL-204	Advanced Communication Systems	40	60	04
	EL-205	Practical* Lab-II	40	60	04
	EL- 206	Tutorial – II (Audit Course)	40	-	01
	PS-001	Industrial Materials	40	60	04
III	EL 301	Digital Signal Processing and Applications	40	60	04
	EL 302	Device Fabrication Techniques	40	60	04
	EL 303	Embedded Systems	40	60	04
	EL 304	Practical Laboratory III	40	60	04
	EL 305	Project-I	40	60	04
	EL 306	Seminar-I (Audit Course)	40	-	01
IV	EL 401 (A)	Modelling and Simulation Techniques	40	60	04

	EL-401(B)	Micro-electromechanical Systems and Applications	40	60	04
	EL 402	CMOS Design and Application	40	60	04
	EL 403	Digital Image Processing	40	60	04
	EL 404	Practical Laboratory IV	40	60	04
	EL 405	Project - II	40	60	04
	EL 406	Seminar-II (Audit Course)	40	-	01

Course Structure for M.Sc. Electronics
(Total Credit - 88)

Semester	Course	Title of the course	Marks		Credit
			Internal	External	
I	EL-101	Semiconductor Devices	40	60	04
	EL-102	VLSI Tools and Techniques	40	60	04
	EL-103	Analog Circuit Simulation Techniques	40	60	04
	EL-104	Industrial Automation and Control	40	60	04
	EL-105	Practical* Lab-I	40	60	04
	EL-106	Tutorial – I (Audit Course)	40	-	01
	PS-001	Industrial Materials	40	60	04
II	EL-201	Optoelectronics	40	60	04
	EL-202	Java Programming and Web Technology	40	60	04
	EL-203	Microcontrollers and Applications	40	60	04
	EL-204	Advanced Communication Systems	40	60	04
	EL-205	Practical* Lab-II	40	60	04
	EL- 206	Tutorial – II (Audit Course)	40	-	01

	PS-001	Industrial Materials	40	60	04
III	EL 301	Digital Signal Processing and Applications	40	60	04
	EL 302	Device Fabrication Techniques	40	60	04
	EL 303	Embedded Systems	40	60	04
	EL 304	Practical Laboratory III	40	60	04
	EL 305	Project-I	40	60	04
	EL 306	Seminar-I (Audit Course)	40	-	01
IV	EL 401 (A)	Modelling and Simulation Techniques	40	60	04
	EL-401(B)	Micro-electromechanical Systems and Applications	40	60	04
	EL 402	CMOS Design and Application	40	60	04
	EL 403	Digital Image Processing	40	60	04
	EL 404	Practical Laboratory IV	40	60	04
	EL 405	Project - II	40	60	04
	EL 406	Seminar-II (Audit Course)	40	-	01

*** indicates workload for one batch (08 students)**