

COEP Technological University Pune

(A Unitary Public University of Govt. of Maharashtra)

NEP 2020 Compliant

Proposed Curriculum Structure

M. Tech.

Electronics – AI in Signal Processing

(Effective from: A.Y. 2025-26)

PG Program [M. Tech. Electronics – AI in Signal Processing]

Proposed Curriculum Structure

w. e. f AY 2025-26

List of Abbreviations

Abbreviation	Title	No. of Courses	Credits	% of Credits
PSMC	Program Specific Mathematics Course	1	4	5.88 %
PSBC	Program Specific Bridge Course	1	4	5.88 %
PCC	Program Core Course	5	15	22.06 %
PEC	Program Specific Elective Course	3	9	13.24 %
LC	Laboratory Course	5	7	10.29 %
VSEC	Vocational and Skill Enhancement Course	2	18	26.47 %
OE	Open Elective	1	3	4.41 %
SLC	Self-Learning Course	2	6	8.82 %
AEC	Ability Enhancement Course	1	1	1.47 %
MLC	Mandatory Learning Course	2	--	--
CCA	Co-curricular & Extracurricular Activities	1	1	1.47 %
Total		25	68	100%

PG Program [M. Tech. Electronics – AI in Signal Processing]

Proposed Curriculum Structure

Semester - I

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1	PSM	PSMC-01	Applied Mathematics	3	1	--	1	4
2	PSBC	PSBC-01	DSP Algorithms	3	--	2	2	4
3	PCC	PCC-01	Machine Learning for signal processing	3	--	--	--	3
4	PCC	PCC-02	Audio Signal Processing	3	--	--	--	3
5	LC	LC-01	Machine Learning for Signal Processing Lab	--	--	3	2	2
6	LC	LC-02	Audio signal Processing Lab	--	--	3	2	2
7	AEC	AEC-01	Seminar	--	--	2	2	1
8	PEC	PEC-01	Program Specific Elective –I a) Embedded System Design b) Signal Security c) Optimization techniques for Signal Processing	3	--	--	1	3
9	MLC	MLC-01	Research Methodology and Intellectual Property Rights	--	--	--	2	--
10	MLC	MLC-02	Effective Technical Communication Skills	--	--	--	1	--
Total				15	1	10	13	22

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Semester - II

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1	OE	OE-01	Open Elective	3	--	--	1	3
			Interdisciplinary Open Course					
2	PCC	PCC-03	AI for Signal Processing	3	--	--	--	3
3	PCC	PCC-04	Natural Language Processing	3	--	--	--	3
4	PCC	PCC-05	Digital Image and Video Processing	2	1	--	--	3
5	LC	LC-03	AI for Signal Processing Lab	--	--	2	2	1
6	LC	LC-04	Natural Language Processing Lab	--	--	2	2	1
7	LC	LC-05	Digital Image and Video Processing Lab	--	--	2	2	1
8	PEC	PEC-02	Program Specific Elective –II	3	--	--	1	3
			a) Computational Intelligence b) Cloud Computing c) Edge Computing					
9	PEC	PEC-03	Program Specific Elective –III	3	--	--	1	3
			a) AI in Connected devices b) Smart Biosensors and Healthcare system c) Blockchain in AI					
10	CCA	CCA-01	Ethics in AI	--	--	2	2	1
Total				17	1	8	11	22

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Semester - III

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1	VSEC	VSEC-01	Dissertation Phase – I	--	--	18	12	9
2	SLC	SLC-01	Massive Open Online Course –I	3	--	--	3	3
Total				3	--	18	15	12

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Proposed Curriculum Structure

Semester – IV

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1	VSEC	VSEC-02	Dissertation Phase – II	--	--	18	12	9
2	SLC	SLC-02	Massive Open Online Course –II	3	--	--	3	3
Total				3	--	18	15	12

