

Bharatiya Vidya Bhavan's Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India (Autonomous College Affiliated to University of Mumbai)

Electronics and Telecommunication Department

MTech. Program

PROPOSED-Program Outcomes -Competencies - Performance Indicators

PO1: Independently carry out research /investigation and development work to solve practical problems. **Indicators Competency** Synthesize engineering requirements from a Demonstrate an ability to conduct 1.1.1 1.1 investigations of technical issues review of the state-of-the-art. Articulate problem statements and identify 1.1.2 consistent with their level of objectives. knowledge and understanding. 1.1.3 Determine design objectives, functional requirements and arrive at specifications. 1.1.4 Establish a relationship between measured data and underlying physical principles. Appropriately justify and apply suitable 1.1.4 methodology. 1.1.5 Adhere to the timeline. Apply formal idea generation tools to 1.2 Demonstrate an ability to select 1.2.1 optimal design scheme for further develop multiple engineering design development. solutions. Build models/prototypes to develop diverse 1.2.2 set of design solutions. 1.2.3 Apply formal decision making tools to select optimal engineering design solutions for further development. Consult with domain experts to select 1.2.4 candidate engineering design solution for further development. 1.2.5 Adhere to the timeline. 1.3 Demonstrate an ability to select Identify the strengths and limitations of 1.3.1 and evaluate the suitability and tools for (i) acquiring information, (ii) modelling and simulating, (iii) monitoring limitations of discipline specific tools, techniques and resources system performance, and (iv) creating used to solve an engineering engineering designs.

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	problem.	1.3.2	Demonstrate proficiency in using discipline
			specific tools.
		1.3.3	Discuss limitations and validate tools,
			techniques and resources.
		1.3.4	Verify the credibility of results from tool use
			with reference to the performance metrics
			and limitations.
		1.3.5	Validate the credibility of the result by
			publishing the original work.
1.4	Demonstrate an ability to analyze	1.4.1	Refine a conceptual design into a detailed
	data and reach a valid conclusion.		design within the existing constraints (of the
			resources).
		1.4.2	Generate information through appropriate
			tests and modifications to improve or revise
			design.
		1.4.3	Analyze data for trends and correlations,
			stating possible errors and limitations
		1.4.4	Represent data (in tabular and/or graphical
			forms) so as to facilitate analysis and
			explanation of the data, and drawing of
			conclusions.
		1.4.5	Synthesize information and knowledge
			about the problem from the raw data to
			reach appropriate conclusions.
		1.4.6	Adhere to the timeline.
PO2	: Write and present a substantial tech	mical re	
2.1	Competency	2 1 1	Indicators
2.1	Demonstrate an ability to	2.1.1	Read, understand and interpret technical and
	comprehend technical literature	0.4.2	non-technical information.
	and document project work.	2.1.2	Produce clear, well-constructed, and well
		0.4.2	supported written engineering documents.
		2.1.3	Create flow in a document or presentation -
			a logical progression of ideas so that the
			main point is clear.
2.2	Demonstrate competence in	2.2.1	Listen to and comprehend information,

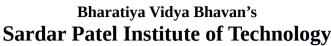


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	listening,	speak	ing,	and		instructions, and viewpoints of others.
	presentation.					
	1					
					2.2.2	Deliver effective oral presentations to
						technical and nontechnical audiences.
					2.2.3	Voice Clarity and fluency in speaking.
					2.2.4	Body language during presentation.
2.3	Demonstrate	the	ability	to	2.3.1	Create engineering-standard figures, reports
	integrate dif	ferent	modes	of		and drawings to complement writing and
	communicatio	n.				presentations.
					2.3.2	Use a variety of media effectively to convey
						a message in a document or a presentation.
2.4	Demonstrate	the	ability	to	2.4.1	To exhibit proficiency in using scientific
	document tech	nnical v	vork.			report writing tools such as Latex.
					2.4.2	Create technical papers as per the standards
						specified by various professional bodies
						(IEEE, ACM, Elsevier etc.)
					2.4.3	Contribute to original research work.
					2.4.4	Organizing the content into chapters.
					2.4.5	Use correct standard grammar, punctuation
						and spelling.

PO3: Demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

Competency				Indicators		
3.1	Ability to	demonstrate	3.1.1	Apply theory and principles of Electronics		
	comprehensive	knowledge in		and Telecommunication engineering to		
	specific domain.			solve an engineering problem.		
			3.1.2	Identify engineering systems, variables, and		
				parameters to solve the problems.		
			3.1.3	Compare and contrast alternative solution/		
				processes to select the best process.		
			3.1.4	Extract desired understanding and		
				concludes.		
3.2	Ability to	demonstrate	3.2.1	Apply the domain specific knowledge to		
	competence in	mathematical/		solve problems.		



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	system/ process modelling in	3.2.2	To exhibit proficiency in applying methods
	specific domain.		and tools in specialized domain.
	-	3.2.3	Evaluate and analyse results acquired
			through methods and tools.
		3.2.4	To develop critical thinking in multiple
			proficiency in specific domain.
3.3	Demonstrate an ability to	3.3.1	Combine scientific principles and
	formulate and interpret a model.		engineering concepts to formulate model/s
			(mathematical or otherwise) of a system/
			process that is appropriate in terms of
			applicability and required performance
			metrics.
		3.3.2	Identify assumptions (mathematical and
			physical) necessary to allow modelling of a
			system/process at the level of performance
			metrics required.
		3.3.3	Examine and analyse the relevant methods,
			tools and techniques in specific domain.
		3.3.4	Validate methods/ model/ techniques in
			specific domain.