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| Module Code | MA4042 | Title | Neural Network and Fuzzy Logic | | | |
| Credits | 03 | Hours/Week | Lectures | 02 | Pre-requisites | MA1012 |
| | | | Lab/Tutorials | - | | |
| <u>Learning Objectives</u> | | | | | | |
| <ul style="list-style-type: none"> • To provide the concepts of of neural network and fuzzy logic with examples and applications • To understand the linkage between neural networks and fuzzy logic | | | | | | |
| <u>Learning Outcomes</u> | | | | | | |
| <ul style="list-style-type: none"> • To understand the learning in Artificial Neural Networks (ANN) • To understand Artificial Neural Network Topologies • To understand Learning Algorithms • To understand various Neural Network Paradigms • To Understand Fuzzy rule generation • To Understand Defuzzification of fuzzy logic • To Understand Temporal Fuzzy logic(TFL) • To Apply TFL in Communication systems • To understand Fuzzy Neural Networks • To apply in Signal processing , Communication systems and optimization systems | | | | | | |
| <u>Outline Syllabus</u> | | | | | | |
| <p>Neuron Physiology, Artificial Neural Networks(ANN) concepts: Topologies, Learning Algorithms; Neural Network Paradigms: McCulloch-Pitts Model, ADALINE and MADALINE Models, Hopfield Model, Competitive Learning Model, Real-time Model, Probabilistic Neural Network (PNN).</p> <p>Fuzzy Logic, Temporal Fuzzy Logic, Fuzzy Neural Networks, Application.</p> | | | | | | |