



# MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-(AI&ML) 2266673 SOFT COMPUTING LAB

B. Tech.III Year-II Sem

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### COURSE OUTCOMES - CO'S

**C328.1** Identify and describe soft computing techniques and their roles in building intelligent machines.

**C328.2** Apply Neural networks to solve problems.

**C328.3** Apply fuzzy logic and reasoning to handle uncertainty and solve various engineering problems..

**C328.4** Apply genetic algorithms to combinatorial optimization problems.

**C328.5** Evaluate and compare solutions by various soft computing approaches for a given problem.

### LIST OF EXPERIMENTS:

1. Create a perceptron with appropriate number of inputs and outputs. Train it using fixed increment learning algorithm until no change in weights is required. Output the final weights.
2. Write a program to implement Hebb's rule
3. Write a program to implement Delta rule.
4. Write a program to implement artificial neural network without back propagation.
5. Write a program to implement artificial neural network with back propagation.
6. Implement linear regression and multi-regression for a set of data points.
7. Write a program to implement logic gates.
8. Implement Union, Intersection, Complement and Difference operations on fuzzy sets. Also create fuzzy relation by Cartesian product of any two fuzzy sets and perform max-min composition on any two fuzzy relations
9. Implement SVM classification by Fuzzy concepts
10. Implement travelling sales person problem (TSP) using genetic algorithms.