

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester : 2

Interdisciplinary Electives Offered by

Applied Mechanics Department

Civil Engineering (Computer Aided Structural Analysis & Design)

Subject Name Advanced Computing In Engineering (Interdisciplinary Elective - II)

Sr. No	Course content
1.	Visual C++ Programming : Introduction of Microsoft foundation classes, use of Application Wizard options, Fundamentals of Developers Studio, creation of workspace for windows based application, file view, resource view & class view, building window based application using dialog box & view commands controls.
2.	Artificial Intelligence: Introduction, Over view of AI's major topics.
3.	Expert system: Overview, knowledge acquisition, knowledge representations, expert system development tools.
4.	Artificial Neural Network: Introduction, various learning algorithms, training, testing of network, network topology, network parameters, suitability of ANN for various engineering problems.
5.	Introductions and basic concepts of fuzzy logic and genetic algorithms
6.	CAD packages and their applications.

Reference Books :

1. Practical VC++ 6.0 - Bates & Tompkins
2. Introduction of Artificial Intelligence & expert system - Patterson D. W.
3. Artificial Intelligence - Rich E.
4. Genetic Algorithm in search, optimization & machine learning - Goldberg D. E.
5. Fuzzy sets & systems - Zadeh L. A.
6. Artificial Neural Network - Rao & Rao
7. Formax configuration processing in Structural Engineering - Nooshin H.