GA Based Backpropagation Network

* Explain GA based weight determination.

=) Genetic Algorithm are used for weight determination in neural networks problems.

In weight determination problems, each solutions is represented as a chromosome

A population of chromosome is randomly generated or initialized.

Each chromosome's fitness is evaluated based on a fitness function

Fitness Function is measures how chromosome performs the given task using corresponding set of weights.

Selected chromosome goes into crossover or recombination to create new offstring chromosome.

Crossover points are randomly chosen and genetic material is exchanged between parent chromosome.

Offstring chromosome goes into mutation where random changes are introduced in their weight values.

Mutation explore new population for solution space.

The new population replaces the old population based on e certain criteria.

The process continues for a specified number of generation until termination is met.

The best chromosome from the final population is selected as the solution to the weight determination problem.

=> Advantages:

1 They can handles large search space effectively.

2 They are capable of Finding global optima in complex and non linear problem

3 They provide Flexiable Framework for optimization.