UNIT 1

1) Compare and contrast the MP-model, Perceptron model and ADALINE model.
b) What is the fitness function? What is on-line learning and off-line learning? Explain recall with example.
Explain the different terminologies used in Artificial neural networks

What is learning? Explain its different types with example
Which type of problems can be solved by Perceptron model? Explain.

What are the different types of networks?
Define Artificial Neural Network. Explain the different types of network architectures.
How the problems that are not solved by Perceptron model can be solved?

a)What are the hard problems? How to solve the Hard problems? 06

a) What is pattern Environment storage? Explain the Architecture of Boltzmann machine. 06

a) Define the false minima problem. What the different types of networks? Explain. 06

Explain the selection of various tuning parameters in Back propagation Network.

What is Linear separability and inseparability? Give the Solution to XOR problem. 06

Compare and contrast the pattern association, pattern classification and pattern mapping.

What is fitness function? Explain different Hybrid Systems.
b) Write a note on LR type fuzzy numbers.
a) What is a hybrid system? Explain different Hybrid Systems.
b) Explain the fuzzy Back propagation architecture.

) a) What is fuzzification and defuzzification? Explain the different methods for defuzzification with example 06
b) Define fuzzy relation and fuzzy composition. Consider any two fuzzy sets and find their relation and composite relation.
A) What is partition and Covering for crisp sets? Explain with examples. 06
B) The task is to recognize English alphabetical characters (F, E, X, Y, I, T) in an image processing system. Define two fuzzy sets $\tilde{I}$ and $\tilde{F}$ to represent the identification of characters I and F.

$\tilde{I}$ = {(F, 0.4),(E,0.3),(X,0.1),(Y,0.1),(I,0.9),(T,0.8)}

$\tilde{F}$ = {(F, 0.99),(E,0.8),(X,0.1),(Y,0.2),(I,0.5),(T,0.5)}

Find the following

a)i) $\tilde{I} \cup \tilde{F}$ ii) $(\tilde{I} - \tilde{F})$ iii) $\tilde{F} \cup \tilde{F}^c$

b) verify De Morgan's Law $(I \cup F)^c = I^c \cap F^c$

Explain briefly the terms axons, dendrites, cell body, synapses and neuron with reference to biological neuron and also explain it's working.

What is topology? Explain the type of it with suitable diagrams.

Explain the perceptron model with example.

Calculate output s performed by the following networks with MP neurons given in figure