2063
## M.E. Electrical Engineering (Power System)
### First Semester
### EE-8106: Artificial Intelligence Techniques for Power System Optimization

Time allowed: 3 Hours

Max. Marks: 50

*NOTE: Attempt any five questions. All questions carry equal marks.*

x-x-x

I.  a) What do you mean by AI? Explain contribution of AI in various fields.

b) Write the predicate logic for the following:

i) Everyone is loyal to someone

ii) Sumit likes cricket

iii) All animals have skin and can move

iv) Any person who is respected by everyone is a king.

II.  a) Illustrate mapping representation between fact and knowledge with approaches.

b) Give the difference between procedural and inferential knowledge with examples.

III.  Explain, in detail, a defuzzification method.

IV.  Draw a multilayer feed forward network with a configuration of I- $m_1$- $m_2$- n. What does I, $m_1$, $m_2$, n represent. Also give the function of hidden layers in these networks.

V.  Describe the classification of neural network system with respect to learning methods and architecture types.

VI.  Show and explain the integration of neural network, fuzzy logic and genetic algorithm technologies using diagrams.

VII.  What are genetic algorithms? Explain the neuro genetics hybrid technology in detail.

VIII.  Explain the application of load forecasting using AI techniques.

x-x-x