Energy Management System (CBCS Pattern) M.Tech. Third Semester

PEM32X - Elective-III : Neural Network & Fuzzy Logic

P. Pages : 1 **GUG/W/18/11053**

Time : Three Hours * 3 1 7 2 * Max. Marks : 70

Notes : 1. All questions carry equal marks.
2. Answer **any five** questions.
3. Due credit will be given to neatness and adequate dimensions.
4. Assume suitable data wherever necessary.
5. Illustrate your answers wherever necessary with the help of neat sketches.
6. Use of non programmable calculator is permitted.

1. a) Discuss the essential differences between supervised and unsupervised learning in neural nets. **7**

b) Draw and explain the Basic model of neural network. **7**

2. Explain the term with respect to Neural Network. **14**
i) Stability.
ii) Plasticity.
iii) Learning.
iv) Architecture.

3. a) Describe back propagation and features of back propagation. **7**

b) What are the limitations of back propagation learning? Explain in detail. **7**

4. a) Where are radial bias function networks preferred in ANN? **7**

b) 'Multi layer network with linear activation function has same experience power as that of single layer network' elaborate and justify the statement. **7**

5. a) Explain the architecture and training algorithms of Recurrent neural network. **7**

b) List out the uses of hop field networks. **7**

6. a) Discuss varies properties and operations on crisp relation. **7**

b) Explain the concept of fuzzy set with suitable examples. **7**

7. a) Explain min-max method of implication with a suitable example. **7**

b) Write about classical predicate logic. **7**

8. a) Discuss the various special features of the membership function. **7**

b) State two assumptions in fuzzy control system design. **7**

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