Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **18CS3085** | **Duration :** | **3hrs** |
| **Sub. Name :** | **SOFT COMPUTING** | **Max. marks :** | **100** |

**ANSWER ANY FIVE QUESTIONS (5 x 16 = 80 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Write the characteristic of neural network. | CO1 | 6 |
| b. | Define soft computing?  Distinguish between soft computing and hard computing. | CO1 | 10 |
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| 2. | a. | Give the model of artificial neuron along withn its activations functions. | CO2 | 6 |
| b. | Draw the structure of simple perceptron model .  Explain the method of applyng simple perceptron model for linearsaparability problem. | CO3 | 10 |
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| 3. | a. | Define vector quantification. Explain | CO3 | 6 |
| b. | Explain the architecture of Radial Basis Function network along with its training algorithm. | CO2 | 10 |
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| 4. | a. | What is associative memory model?  Give its types and advantages of associative memory. | CO4 | 6 |
| b. | Draw the architecture of associative network. | CO5 | 10 |
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| 5. | a. | What is fuzzy set? Write its properties. | CO5 | 6 |
| b. | Describe the fuzzy set operation using venn diagram | CO5 | 10 |
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| 6. | a. | Define expert system. How is fuzzy expert system formed? | CO6 | 6 |
| b. | What fuzzy inference system?  Explain the working principle of fuzzy inference system with neat diagram. | CO6 | 10 |
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| 7. | a. | List out and explain various types of cross over operations. | CO5 | 6 |
| b. | Explain ANFIS architecture with neat diagram. | CO6 | 10 |
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| **COMPULSORY QUESTION (1 x 20 = 20 Marks)** | | | | |
| 8. | a. | What is deep learning? Explain. | CO1 | 6 |
| b. | Explain the working of Recurrent Neural Networks. | CO2 | 10 |