**Reg. No. :** | | | | | | | | | | | | |

**Question Paper Code:U3901**

M.E. DEGREE EXAMINATION, APRIL 2024

COMPUTER SCINECE AND ENGINEERING

21PCS901- SOFTCOMPUTING

(Regulations 2021)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

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|---|---|---|---|---|
| 1. | (a) | Appraise with an example how an machine learning algorithm works. | CO1- U | (20) |
| | | Or | | |
| | (b) | (i) Differentiate the features of hard and soft computing. (ii) Explain in detail about artificial neural networks with its activation function.. | CO1- U | (20) |
| 2. | (a) | Discuss the different types of membership function used in fuzzification process. | CO1- U | (20) |
| | | Or | | |
| | (b) | Explain the types of Fuzzy Inference System (FIS) with relevant diagram. | CO1- U | (20) |
| 3. | (a) | Draw the architecture of Radial basis function network. Discuss the training algorithm for radial basis function network with fixed centers. | CO1- U | (20) |
| | | Or | | |
| | (b) | Explain adaptive resonance theory with an example. | CO1- U | (20) |
| 4. | (a) | Explain the genetic operators and fitness functions in respect of evolutionary computing. | CO1- U | (20) |
| | | Or | | |
| | (b) | Explain the various phases of GA to control a nonlinear time delay system. | CO1- U | (20) |

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|---|---|---|---|---|
| 5. | (a) | How Fuzzy logic controller is implemented using Fuzzy logic Matlab tool box. | CO1- U | (20) |
| | | Or | | |
| | (b) | Discuss about the python files and its operations with suitable example. | CO1- U | (20) |