Day : Wednesday

Date : 22-06-2022

S-13407-2022

Time : 02:30 PM-05:30 PM

Max. Marks : 60

N. B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagrams **WHEREVER** necessary.

Q.1   Write different types of membership functions.   **(10)**

OR

Q.1   Compare Fuzzy relation and Crisp relation. Define max-min composition.   **(10)**

Q.2   Discuss Mamdani fuzzy model in detail.   **(10)**

OR

Q.2   Implement two input single output FIS Mamdani model.   **(10)**

Q.3   Write down assumptions in fuzzy control system design.   **(10)**

OR

Q.3   Compare Fuzzy logic controller with traditional PID controller.   **(10)**

Q.4   Define threshold, weights, bias, activation functions in ANN.   **(10)**

OR

Q.4   Compare following learning paradigms :   **(10)**
  i)   Supervised
  ii)   Unsupervised
  iii)   Reinforcement

Q.5   Write Back propagation algorithm in detail.   **(10)**

OR

Q.5   Define learning vector quantization.   **(10)**

Q.6   Compare ANFIS & CANFIS architecture.   **(10)**

OR

Q.6   Write advantages and limitations of ANFIS. Also compare ANFIS with   **(10)**
           Mamdani fuzzy model.

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