Paper ID [CS452]

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B.Tech. (Sem. - 7th /8th)

FUZZY LOGICS AND SYSTEMS (CS - 452)

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Two** questions from Section - C.

Section - A

(10 x 2 = 20)

Q1)

a) Differentiate between probability and fuzzy logic?

b) What is fuzzy expert system?

c) What is adaptive fuzzy system?

d) What are conditions for neural net applications?

e) What is possibility theory?

f) What is fuzzy modeling?

g) What is perception?

h) Explain properties of fuzzy sets with example.

i) Comment on "Improving human decision making through Case-Based decision aiding".

j) What are fuzzy set operations?

Section - B

(4 x 5 = 20)

Q2) What is the relationship between fuzzy truth with values and probabilities?

Q3) Identify five learning tasks that apply the use of Neural Nets.

Q4) Explain various strengths and weaknesses of neural nets and Fuzzy Logic.

Q5) Illustrate fuzzy logic on Distributed Process Control Systems.

Q6) Show that the inference rule $[(A \rightarrow B) \wedge (B \rightarrow C)] \rightarrow (A \rightarrow C)$ is a quasi-tautology for fuzzy sets.

Section - C

(2 x 10 = 20)

Q7) Explain intelligent solution for "Pattern Recognition for finger prints" using Fuzzy logic.

Q8) Compare various defuzzification methods.

Q9) Discuss various Neuro-fuzzy signal analyses for washing machines.