SEMESTER EXAMINATION-2021
MCA – III SEMESTER
MCA-E309: SOFT COMPUTING

Time: 3 hour   **Max. Marks: 70**
                                                                                 Min. Pass: 40%

Note: Question Paper is divided into two sections: **A and B.** Attempt both the sections as per given instructions.

SECTION-A (SHORT ANSWER TYPE QUESTIONS)

Instructions: Answer any five questions in about 150 words   (5 X 6 = 30 Marks)
each. Each question carries six marks.

Question-1: What do you understand by soft computing? Explain its characteristics.
Question-2: Compare hard computing with soft computing.
Question-3: Explain the architecture of biological neuron.
Question-4: Discuss major areas of soft computing.
Question-5: Differentiate supervised and unsupervised learning.
Question-6: Compare feed forward and feedback networks.
Question-7: Write a short note on fuzzy sets and its operations.
Question-8: Write a short note on defuzzification.
Question-9: Explain bit-wise operation in genetic algorithm.
Question-10: Write a short note on history of genetic algorithm.

SECTION-B (LONG ANSWER TYPE QUESTIONS)

Instructions: Answer any FOUR questions in detail. Each   (4 X 10 = 40 Marks)
question carries 10 marks.

Question-11: What do you understand by artificial neural networks? Explain some of its important applications.
Question-12: Explain various applications of genetic algorithm.
Question-13: What do you understand by error back propagation? Explain the back-propagation network in detail.
Question-14: What do you understand by self-organizing maps? Explain it in detail using real life example.
Question-15: Write a short note on applications of soft computing.
Question-16: Give the meaning of adaptive resonance theory network. Moreover, explain ART1 network in detail using any example.
Question-17: Explain fuzzy control systems in detail.
Question-18: Explain various genetic algorithm operators using examples.