PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
MSc(SS) DEGREE EXAMINATION MAY 2023
(Sixth Semester)

Branch – SOFTWARE SYSTEMS
(Five year integrated)

DISCIPLINE SPECIFIC ELECTIVE – II SOFT COMPUTING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks

(10 x 1 = 10)

1   What does FAM stand for?
   i) Fuzzy Association Memory   ii) Fuzzy Associative Memory
   iii)Fuzzy Assist Memory   iv) None of the above

2   What are some of desirable characteristics of associative memories?
   i) Ability to store large number of patterns
   ii) Fault tolerance
   iii) Able to recall, even for input pattern is noisy
   iv) All of the mentioned

3   What does ART stand for?
   i) Automatic resonance theory   ii) Adaptive resonance theory
   iii) Artificial resonance theory   iv) None of the mentioned

4   What type of inputs does ART – 1 receives?
   i) Bipolar   ii) Both Bipolar And Binary
   iii) Binary   iv) None Of The Mentioned

5   What is Fuzzy Logic?
   i) A method of reasoning that resembles human reasoning.
   ii) A Method of question that resembles human answer.
   iii) A method of giving answer that resembles human answer.
   iv) None of the above

6   How many parts are there in Fuzzy Logic Systems Architecture?
   i) 3   ii) 4   iii) 5   iv) 6

7   _____ Mimic the principle of natural genetics.
   i) Genetic Programming   ii) Genetic Evolution
   iii) Genetic Algorithm   iv) None of the above.

8   Which is not a suitable problems for genetic algorithms?
   i) Dynamic Process Control
   ii) Pattern recognition with complex patterns
   iii) Simulation of biological models
   iv) Simple optimization with few variables

9   _____ is a process in which a given bit pattern is transformed into
   another bit pattern by means of logical bit-wise operation.
   i) Inversion   ii) Masking
   iii) Conversion   iv) Segregation

10 The _____ Causes all the bits in the first operand to the shifted to the left
   by the number of positions indicated by the second operand.
   i) Shift Right   ii) Shift both Operator
   iii) Shift Left   iv) None of the above

SECTION - B (25 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks   (5 x 5 = 25)

11 a. Explain about Auto correlators.

OR

   b.   List the Applications of Associative memory.

12 a.   Discuss about Simplified ART Architecture with diagram.

OR

   b. Mention about Applications of ART.

13 a.   What is Fuzzy Logic and list its importance.

OR

   b. Enumerate predicate Logic in Fuzzy Systems.

14 a.   List the applications of Genetic Algorithms.

OR

   b. Elucidate the working principle Genetic Algorithms.

15 a. Discuss about Mutation operator in Genetic Modelling.

OR

   b.   Discuss about Bit wise operators in Genetic Modelling.

SECTION -C (40 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks   (5 x 8 = 40)
Question no. 16 is compulsory

16.   Discuss about Hetero correlators and Associative Memory for Real Coded Patterns.

17   a. Discuss about Architecture of ART 1 with diagram.

OR

   b. Discuss about Architecture of ART 2 with diagram.

18   a. Compare and contrast Fuzzy versus Crisp sets.

OR

   b. Enumerate Fuzzy Rule Based System.

19   a. Discuss about Creation of offspring in Genetic Algorithm.

OR

   b. List the fundamentals of Genetic Algorithm.

20   a. Explain inversion and deletion in Genetic Algorithm.

OR

   b. Discuss about Generational Cycle in Genetic Algorithms.

Z-Z-Z   END