QP CODE: 24000575

Reg No :

B.Sc / BCA DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, MARCH 2024

Sixth Semester

CHOICE BASED CORE COURSE - CS6CBT03 - SOFT COMPUTING TECHNIQUES

Common for B.Sc Information Technology Model III, Bachelor of Computer Applications & B.Sc Computer Applications Model III Triple Main

2017 Admission Onwards

B4090440

Time: 3 Hours

Part A

Answer any ten questions.

Each question carries 2 marks.

- 1. What is called stochastic learning?
- 2. What are linearly separable tasks?
- 3. Define backpropagation.
- 4. Define learning rules.
- 5. What are the advantages of back propagatoion algorithm?
- 6. Define power of a fuzzy set.
- 7. Define cartesian product of two sets in fuzzyset theory.
- 8. Verify whether ((P=>Q)^(Q=>P)=(P=Q) is a tautology or not.
- 9. Explain the term Generalized Modus Ponens.
- 10. Explain Mean of Maxima for defuzzification.
- 11. State boltzmann selection used in genetic algorithms.
- 12. Explain benefits of genetic algorithm.

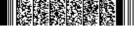
(10×2=20)

Answer any **six** questions. Each question carries **5** marks.

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Part B

- 13. Differentiate between soft computing and hard computing.
- 14. Explain the model of an articial neuron with a diagram.







Max. Marks : 80



- 15. Explain model of multilayer perceptron.
- 16. Explain the concept of backpropagation learning.
- 17. What is fuzzy set?Explain with an example?
- 18. Explain the common operations over crisp relations.
- 19. Write predicate logic statement for 'Ram likes all kinds of food'.
- 20. What are the advantages of genetic algorithms?
- 21. Explain the concept of convergence of genetic algorithms.

(6×5=30)

Part C

Answer any **two** questions. Each question carries **15** marks.

- 22. Define artificial neural networks and explain different classes of them.
- 23. What do you mean by crisp sets? Explain the operations and characteristics of crisp set theory.
- 24. Let X={a,b,c,d}, Y={1,2,3,4} and A={(a,0)(b,0.8)(c,0.6),(d,1)} B={(1,0.2)(2,1)(3,0.8)(4,0)}
 C={(1,0)(2,0.4)(3,1)(4,0.8)} Determine the implication relations (i) IF x is A THEN y is B. (ii) IF x is A THEN y is B ELSE y is C.
- 25. Explain the different types of cross over techniques in genetic algorithms.

(2×15=30)