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Bengaluru

Mid Term Examinations - October 2026

Date: 08/10/2026 **Time:** 11:45 AM - 01:15 PM

Course Code: CSI2505 **Course Name:** Soft Computing

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	46	44

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Define Soft Computing. Differentiate between Soft Computing and Hard Computing.	2	CO1	BT1
2	List any four characteristics of Soft Computing.	2	CO1	BT1
3	What is a Fuzzy Set? How does it differ from a Crisp Set?	2	CO2	BT1
4	Define Membership Function in the context of Fuzzy Logic.	2	CO2	BT1
5	Name any three applications of Soft Computing techniques.	2	CO1	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Explain the different components of Soft Computing – Artificial Intelligence systems, Neural Networks, Fuzzy Logic and Genetic Algorithms – with suitable examples.	10	CO1	BT2
7	Discuss the various real-world applications of Soft Computing techniques. Illustrate with at least four distinct application domains.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Describe the concept of computing systems. Explain in detail the characteristics of Soft Computing that distinguish it from traditional Hard Computing approaches.	10	CO1	BT2
9	Give a detailed overview of Soft Computing. Explain how Artificial Intelligence, Neural Networks, Fuzzy Logic and Genetic Algorithms complement each other in solving complex problems.	10	CO1	BT2

PART D: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
10	Explain Fuzzy sets and membership functions in detail. Illustrate different types of membership functions with neat diagrams/examples.	10	CO2	BT2
11	Describe the basic operations on Fuzzy sets (Union, Intersection, Complement, etc.) with mathematical definitions and suitable examples.	10	CO2	BT2

PART E: Answer Any 1 Following Questions. 10 M

PTO (Please Turn Over)

Q.N.	Questions	M	CO	BT
12	Explain Fuzzy relations, Fuzzy rules, Fuzzy propositions, implications and inferences with suitable examples.	10	CO2	BT2
13	Discuss various Defuzzification techniques and explain the design steps of a Fuzzy Logic Controller with a suitable real-world example.	10	CO2	BT2