Name: **Enrolment No:**	

UPES

End Semester Examination, December 2023

Course: Soft Computing & Optimization Technique — **Semester: VII**

Program: B. Tech. (CSE) LL. B (Cyber Law) — **Time : 03 hrs.**

Course Code: CSEG4027 — **Max. Marks: 100**

Instructions:

	SECTION A **(5Qx2M=10Marks)**		
Q1.	Define the role of soft computing.	**2**	**CO1**
Q2.	Define crossover in GA.	**2**	**CO2**
Q3.	Define Defuzzification.	**2**	**CO1**
Q4.	Define fuzzification.	**2**	**CO1**
Q5.	Define agent in PSO.	**2**	**CO2**
	SECTION B **(4Qx5M= 20 Marks)**		
Q6.	Explain merits and demerits soft computing and hard computing.	**5**	**CO3**
Q7.	Explain the term fuzziness along with different operations on fuzzy set.	**5**	**CO2**
Q8.	Discuss different types of membership function.	**5**	**CO2**
Q9.	Write short note on Swarm Intelligence problem.	**5**	**CO1**
	SECTION-C **(2Qx10M=20 Marks)**		
Q10.	Explain neural network along with its characteristics. Also discuss how it differ from digital computer.	**10**	**CO3**
Q11.	Justify the difference and similarities between evolutionary and genetic algorithms. Also explain their real time applications.	**10**	**CO4**
	SECTION-D **(2Qx25M=50 Marks)**		
Q12.	Justify how Fuzzy Inference system can aid us in mapping real time scenarios in digital world. For justification, please discuss working of one type of fuzzy inference system by mapping real world problem.	**25**	**CO4**
Q13.	Explain the difference between genetic algorithms and traditional methods. Also list the applications of genetic algorithms. Is it advisable to apply genetic algorithms for all kinds of optimization problems? Justify	**25**	**CO4**