Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) - EXAMINATION - SUMMER 2017

Subject Code: 2181710 Date: 04/05/2017 Subject Name: Soft Computing in Control(Departmental Elective - III)

Time: 10:30 AM to 01:00 PM Total Marks: 70

Instructions:

Plant

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

Q.1	(a)	Define uncertainty and vagueness. Explain concept of fuzziness and membership function.	07
	(b) (c)	State the features of membership functions Explain in detail Fuzzy Bayesian Decision Method.	02 05
Q.2	(a) (b)	State and explain various methods of de-fuzzification With the help of block diagram explain working of conventional control system OR	07 07
	(b)	With the help of block diagram explain working of fuzzy logic control system	07
Q.3	(a) (b)	Compare between fuzzy logic control and PID Control Explain the concept of learning and state various modes of learning. Explain in detail various laws of learning in detail. OR	05 09
Q.3	(a) (b)	Explain steps involved in simple designing of fuzzy control system. Explain Adaptive Resonance Theory (ART) Networks, along with its 4 phases in detail.	05 09
Q.4	(a)	Explain in detail optimization of Water treatment system using fuzzy logic. OR	14
Q.4	(a)	Explain in detail application of fuzzy control for optimal operation of Complex Chilling Systems	14
Q.5	(a)	Explain in detail implementation of fuzzy logic control in control of AC induction motor.	14
		OR	
0.5	(a)	Explain in detail implementation of fuzzy logic control in control of Power	14
