

No. of Printed Pages : 03

Roll No.

CC-202

M. Tech EXAMINATION, May 2017

(Third Semester)

(Re-appear Only)

(BME)

BME-603

SOFT COMPUTING METHODS IN
BIOMEDICAL ENGINEERING

Time : 3 Hours]

[Maximum Marks : 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. All questions carry equal marks.

(3-16/17)M-CC-202

P.T.O.

1. Explain the various functions that can be performed by the following toolboxes :
 - (a) Fuzzy logic toolbox 5
 - (b) Optimization toolbox 5
 - (c) Simulink. 10
2. Discuss in detail, the comparative analysis of MATLAB and LABVIEW for biomedical field. 20
3. Explain the Mamdani's fuzzy logic controller. 20
4. Explain the analogy of neural networks with brain. Discuss the applications of neural networks in classification of bio-signals. 20
5. (a) Explain the following :
 - (i) Composition of Fuzzy Relations 5
 - (ii) Fuzzy Reasoning 5
 (b) Explain the arithmetic operations on fuzzy sets. 10
6. Explain the error back propagation algorithm in detail. 20
7. What is the foundation of genetic algorithms ? Explain the various methods of crossover in Genetic Algorithms. 20
8. What are the various sources of EMI ? Discuss the EMI suppression techniques. 20