BB-202

M. Tech. EXAMINATION, Dec. 2017

(Second Semester)

(B. Scheme) (Re-appear Only)

(BME)

BME-504

ADVANCED BIOMEDICAL SIGNAL
PROCESSING

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.

1. Define a Bio-signal. Discuss it types, characteristics, measurement and analysis with suitable examples. **20**

2. Explain the FFT Algorithms and Digital filter Design parameters in detail. **20**

3. Explain the following :
   (a) Vector Quantization **10**
   (b) Pattern Recognition. **20**

4. Write technical notes on the following :
   (a) SHARC **10**
   (b) Speech Recognition. **10**

5. Explain the various data reduction techniques with examples. **20**

6. Explain sampling theorem and the various DACs. **20**

7. Differentiate between : **5×4**
   (a) Auto-correlation and cross-correlation
   (b) Causal and Non-causal Systems

   (c) Time varying and Time-invariant systems
   (d) Linear and Non-linear prediction of biosignals.

8. Write short notes on the following : **5×4**
   (a) Speech Recognition
   (b) Motor Control
   (c) Matlab signal processing toolbox
   (d) DSP for elderly/disabled people.