

2008 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY**III B.TECH SUPPLEMENTARY EXAMINATIONS
BIO-MEDICAL SIGNAL PROCESSING
(BIO-MEDICAL ENGINEERING)**

AUG/SEP 2008

TIME: 3 HOURS
MAX MARKS: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain the relation among the probability, probability cumulative distribution function and probability density function of a continuous random variable.
2. Explain briefly the correlation in time domain. Explain the significance of crosscorrelation of respiratory signals recorded simultaneously.
3. (a) Classify data compression techniques and list the features of each technique.
(b) Discuss any one type of lossy data compression technique with an example.
4. (a) How do you identify ST segment and how is it analysed? Draw a flow chart?
(b) Discuss an algorithm to determine the various amplitudes and durations of ECG wave form.
5. Explain the multiple reference noise canceller used in fetal ECG enhancement with neat waveforms and block diagram.
6. (a) Draw the first order correlation canceller and explain its transfer function.
(b) Explain the 5th order Y-W equations.
7. (a) Describe the characteristics of different stages of sleep in terms of frequency, voltage levels.
(b) Explain the EEG rhythms and transients with waveforms.
8. (a) Explain the method for modeling the signals with exponential components.
(b) Write the different types of signal modeling techniques.