

BML 800 Research Techniques in Biomedical Engineering

Minor I (1st Semester 2016-17)

Time: 1 Hr

Max. Marks: 20

Attempt all questions. Each question carries five marks.

Q.1 Discuss the major limitation of Fourier Transform with reference to time-frequency resolution. Briefly comment on Heisenberg uncertainty in time-frequency plane.

Q.2 Discuss the genesis of biosignals at cellular level and briefly explain the transduction process of biopotential electrodes to measure biosignals like Electrocardiogram (ECG).

Q.3 Explain the Nuclear Magnetic Resonance (NMR) principle in Magnetic Resonance Imaging (MRI). How is Larmor (precession) frequency related to applied Radio Frequency (RF) Field?

Q.4 Mention an innovative idea as per your academic background to evolve devices in healthcare.