

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER • 2014****Subject Code: 160305****Date: 26-05-2014****Subject Name: Biomedical Signal Processing****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) List various types of signals with examples. **07**
(b) Explain the energy and power of signal using suitable examples. **07**
- Q.2** (a) Explain the magnitude and phase for frequency response rational system functions. **07**
(b) Write short note on; All pass system. **07**
- OR**
- (b) Write short note on; Maximum phase system. **07**
- Q.3** (a) Explain the basic structures of IIR systems. **07**
(b) Explain the effect of round off noise in digital filters. **07**
- OR**
- Q.3** (a) Explain FIR equiripple approximation. **07**
(b) List various windowing techniques for filter design. Explain any one with example. **07**
- Q.4** (a) How representation of periodic signals can be done using discrete Fourier transforms. **07**
(b) With suitable example explain linear convolution using DFT. **07**
- OR**
- Q.4** (a) What are the applications of Goertzel algorithm in signal processing? Explain. **07**
(b) With example explain decimation-in-time FFT. **07**
- Q.5** (a) Compare DSP processor with microprocessor. Explain the applications of DSP processors. **07**
(b) Explain the architecture of DSP processor. **07**
- OR**
- Q.5** (a) Explain the method of EMG signal Analysis. **07**
(b) What are the various methods for QRS detections? Explain any one in detail. **07**
