



End Term Examination (December 2019)

School: School of Engineering

Program: B.Tech Biomedical Engineering

Course: Biomedical Signal Processing

Course Code: BME304

Semester: V

Max Marks: 40

Duration (mins): 90

Q.1 Write short notes. (Any FIVE)

[10]

(Each question carries 2 marks)

- a) Einthoven's triangle
- b) Action potential
- c) Cross correlation
- d) Data reduction techniques
- e) Turning point algorithm
- f) Sampling theorem

Answer any THREE questions.

(Each question carries 10 marks)

[30]

Q.2 a) Find the Fourier transform of $f(t) = e^{-at} \cos bt$

[6]

b) What is up sampling and down sampling?

[4]

Q.3 Determine the IDFT of $X(k) = \{3, (2+j), 1, (2-j)\}$

Q.4 Illustrate the reduced dataset by using Huffman coding from the given data points.

$\{1,1,1,1,1,1,1,2,2,2,2,2,3,3,3,3,3,4,4,4,4,5,5,5,6,6,7\}$

Q.5 Describe any two types of QRS detection algorithm.

Q.6 Given $x(n) = \{0, 1, 2, 3\}$, Find $X(K)$ using DIT FFT algorithm.
