

Total No. of Questions - 4

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G.R. No.	
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OCTOBER 2018 / IN - SEM (T1)

F. Y. M. TECH. (E&TC) (SEMESTER -I)

COURSE NAME: Biomedical Signal Processing

COURSE CODE: ETPA11183C

(PATTERN 2018)

Time: [1 Hour]

[Max. Marks: 20]

(*) Instructions to candidates:

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

Q.1) i) Explain different types of Bio-medical signals and its sources of origin. [6 marks]

ii) Explain how a bio-potential is generated in human body. With reference to cellular potential explain the following terms action potential, resting potential, polarization, repolarization and depolarization [4 marks]

OR

Q.2) Draw and explain the lead configurations in ECG acquisition system [10 marks]

Q.3) i) Explain Skin contact Impedance and Motion artifacts with respect to Bio-signal acquisition [6marks]

ii) Explain how a bio-electrode is a transducers .Draw equivalent circuit of Electrode-electrolyte interface [4 marks]

OR

Q.4) List the various typed of electrodes used in ECG, EEG, EMG signal acquisition. Explain them in detail [10 marks]