

III B. Tech II Semester Supplementary Examinations, November - 2018

BIO-MEDICAL ENGINEERING

(Electronics and Communication Engineering & Electronics and Computer Engineering)

Time: 3 hours

Maximum Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answering the question in **Part-A** is compulsory3. Answer any **THREE** Questions from **Part-B**

PART -A

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|---|----|---|------|
| 1 | a) | What is the use of bioamplifier? | [4M] |
| | b) | Write the Nernst equation. | [4M] |
| | c) | What are the different bio-chemical electrodes? | [3M] |
| | d) | Draw reference electrode basic configuration. | [4M] |
| | e) | What is the use of de- fibrillator? | [3M] |
| | f) | What is macro shock? | [4M] |

PART -B

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|---|----|--|------|
| 2 | a) | What is a man-instrument system? Explain. | [8M] |
| | b) | Discuss the Bioelectric potentials of EMG | [8M] |
| 3 | a) | Explain the basic transducer principle with an example | [8M] |
| | b) | Give the comparison of internal and external bio-potential electrodes. | [8M] |
| 4 | a) | Explain various tests and instrumentation for breathing. | [8M] |
| | b) | Explain the measurement process of lung function. | [8M] |
| 5 | a) | What are the elements of intensive-care unit? Explain. | [8M] |
| | b) | Discuss about the clinical laboratory instruments | [8M] |
| 6 | a) | What is the use of telemetry for ECG measurements? Explain. | [8M] |
| | b) | Write notes on CAT. | [8M] |
| 7 | a) | What is the need for isolated power distribution system? Explain. | [8M] |
| | b) | What are the different types of recorders? Explain. | [8M] |

