

III B. Tech II Semester Supplementary Examinations, November/December - 2016
BIO-MEDICAL ENGINEERING
(Electronics and Communication 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 compulsory
 3. Answer any **THREE** Questions from **Part-B**

PART -A

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|---|----|---|------|
| 1 | a) | What is action potential? What is resting potential? | [4M] |
| | b) | Write the nearest equation for membrane resting potential. | [3M] |
| | c) | What is spirometer? Explain the principle of operation of it. | [4M] |
| | d) | Write short notes on catheterization lab. | [4M] |
| | e) | List and discuss various types of ultrasonic imaging display modes. | [3M] |
| | f) | Differentiate between micro shock and macro shock. | [4M] |

PART -B

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|---|----|--|-------|
| 2 | a) | What are the various problems encountered in measuring a living system? | [6M] |
| | b) | Explain briefly various physiological systems of the body. | [6M] |
| | c) | With neat waveform explain briefly about ECG. | [4M] |
| 3 | a) | Explain different types of electrodes for measuring bioelectric potentials. | [9M] |
| | b) | List and discuss briefly various types of transducers for biomedical applications. | [7M] |
| 4 | a) | What is the importance of blood flow? Discuss any two methods used to measure blood flow. | [10M] |
| | b) | Explain the physiology of respiratory system. | [6M] |
| 5 | a) | What is fibrillation? How you correct it? Draw and explain d.c defibrillator. | [8M] |
| | b) | Explain the following i) electroretinogram ii) electrooculogram | [8M] |
| 6 | a) | Explain how telemetry can be done for ECG measurement during exercise. List the advantages of telemetry. | [8M] |
| | b) | Explain the working principle of CT scan with block diagram. | [8M] |
| 7 | a) | Discuss strip chart recorders and galvanometric recorders with suitable diagrams. | [8M] |
| | b) | Explain various methods of accident prevention with diagrams. | [8M] |

