

Code No: 07A31102

**R07**

**Set No. 2**

**II B.Tech I Semester Examinations, MAY 2011  
BIOELECTRICITY AND ELECTRODES  
Bio-Medical Engineering**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. What is the effect of Galvanism (constant current) on nerve or Muscle? Explain the term depolarization. [16]
2. Write a note on "Physiotherapy instruments". [16]
3. What is all or none principle? Explain how action potentials are recorded. [16]
4. (a) What are precordial leads. Explain with neat circuit diagram.  
(b) Interpret the ECG as a case of Cardiac transmission waveform. [8+8]
5. (a) Drawing their equivalent circuits, neatly explain the properties of needle electrode and microelectrode?  
(b) Give two applications of above two electrodes. [10+6]
6. Explain the 10-20 electrode system used in the measurement of EEG. Plot the different brain waves and give its frequency and amplitude ranges. [16]
7. (a) How are EPP and MEPP generated in skeletal muscle? Explain.  
(b) Discuss about electrical activity of skeletal muscles in detail? [8+8]
8. Describe the origin for generating bio-electricity at the cellular and sub-cellular level. [16]

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**R07**

**Set No. 4**

**II B.Tech I Semester Examinations, MAY 2011  
BIOELECTRICITY AND ELECTRODES  
Bio-Medical Engineering**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions  
All Questions carry equal marks**

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2. (a) What are precordial leads. Explain with neat circuit diagram.  
(b) Interpret the ECG as a case of Cardiac transmission waveform. [8+8]
3. (a) How are EPP and MEPP generated in skeletal muscle? Explain.  
(b) Discuss about electrical activity of skeletal muscles in detail? [8+8]
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(b) Give two applications of above two electrodes. [10+6]
5. Write a note on "Physiotherapy instruments". [16]
6. What is all or none principle? Explain how action potentials are recorded. [16]
7. Describe the origin for generating bio-electricity at the cellular and sub-cellular level. [16]
8. Explain the 10-20 electrode system used in the measurement of EEG. Plot the different brain waves and give its frequency and amplitude ranges. [16]

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**R07****Set No. 1**

**II B.Tech I Semester Examinations, MAY 2011**  
**BIOELECTRICITY AND ELECTRODES**  
**Bio-Medical Engineering**

**Time: 3 hours****Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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(b) Give two applications of above two electrodes. [10+6]
2. (a) How are EPP and MEPP generated in skeletal muscle? Explain.  
(b) Discuss about electrical activity of skeletal muscles in detail? [8+8]
3. (a) What are precordial leads. Explain with neat circuit diagram.  
(b) Interpret the ECG as a case of Cardiac transmission waveform. [8+8]
4. What is the effect of Galvanism (constant current) on nerve or Muscle? Explain the term depolarization. [16]
5. Explain the 10-20 electrode system used in the measurement of EEG. Plot the different brain waves and give its frequency and amplitude ranges. [16]
6. Write a note on "Physiotherapy instruments". [16]
7. Describe the origin for generating bio-electricity at the cellular and sub-cellular level. [16]
8. What is all or none principle? Explain how action potentials are recorded. [16]

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Code No: 07A31102

**R07**

**Set No. 3**

**II B.Tech I Semester Examinations, MAY 2011  
BIOELECTRICITY AND ELECTRODES  
Bio-Medical Engineering**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. What is all or none principle? Explain how action potentials are recorded. [16]
2. Describe the origin for generating bio-electricity at the cellular and sub-cellular level. [16]
3. Write a note on "Physiotherapy instruments". [16]
4. (a) What are precordial leads. Explain with neat circuit diagram.  
(b) Interpret the ECG as a case of Cardiac transmission waveform. [8+8]
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