

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: EEE**

**SEMESTER: VII
SESSION : MO/2018**

SUBJECT : EE7215 BIOELECTRONICS INSTRUMENTATION

TIME: 1.5 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
 2. Candidates may attempt for all 30 marks.
 3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. The missing data, if any, may be assumed suitably.
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- Q1 (a) Draw and label the anatomical structure of respiratory system. [2]
(b) Explain the physiology of heart in brief. [3]
- Q2 (a) Write a short note on control of respiration. [2]
(b) In a spirogram, show different volumes and capacities of lung. [3]
- Q3 (a) Draw the structure of special junctional tissues of heart. [2]
(b) Explain, how heart muscles maintain their rhythmicity involuntarily? [3]
- Q4 (a) What do you mean by depolarization and repolarization of a cell? [2]
(b) How action potential is generated in large nerve or muscle fiber? Explain. [3]
- Q5 (a) Draw the structure of needle electrodes used for the recording of EMG. [2]
(b) Illustrate the electronic analogy of electrode-electrolyte-skin interface. [3]
- Q6 (a) Differentiate active and passive transducers. [2]
(b) Explain the monopolar and bipolar arrangements for biopotential recording. [3]

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