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

CLASS: BE **SEMESTER: VII/ADD**
BRANCH: EEE **SESSION : MO/2019**

SUBJECT : EE7215 BIO-ELECTRONICS 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.

Q1 (a) Write the names and functions of cardiac valves. [2]
(b) Correlate the hemodynamic and electrophysiological functions of heart. [3]

Q2 (a) Draw and label the structure of the functional unit of respiratory system. [2]
(b) Explain the gaseous exchange and transport physiology of respiratory system. [3]

Q3 (a) What is the meaning of depolarization and repolarization of large muscle fiber? [2]
(b) How the resting potential of a cell or tissue is calculated? Explain. [3]

Q4 (a) Write the amplitude and frequency bandwidth of ECG, EOG, pulse and EEG signals. [2]
(b) Draw the basic blocks of a system for recording of ECG signals and explain the function of the machine. [3]

Q5 (a) What are the meanings of man-machine interaction system? [2]
(b) Illustrate the electromagnetic system of measurement of blood flow. [3]

Q6 (a) Draw the components of special junctional tissues of heart. [2]
(b) What is the meaning of 10 electrode 12 lead recording system for vector electrocardiography? [3]

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