

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

**CLASS: B.TECH  
BRANCH: ALL**

**SEMESTER: V  
SESSION: MO/2022**

**SUBJECT: BE319 BIOELECTRONICS CONCEPT AND INSTRUMENTATION**

**TIME: 2 HOURS**

**FULL MARKS: 25**

**INSTRUCTIONS:**

1. The total marks of the questions are 25.
  2. Candidates attempt for all 25 marks.
  3. Before attempting the question paper, be sure that you have got the correct question paper.
  4. The missing data, if any, may be assumed suitably.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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			CO	BL
Q1	(a) Draw the anatomical outline of the heart and label its components.	[2]	CO1	Remember
Q1	(b) Correlate and discuss the electrical, hemodynamic, and acoustic components of cardiac cycle.	[3]	CO2,CO5	Analyze
Q2	(a) Discuss the mechanical mechanism of respiration.	[2]	CO1	Understand
Q2	(b) What is spirogram and what clinical information this carries?	[3]	CO2	Analyze
Q3	(a) Draw and label the structure of a neuron.	[2]	CO1	Remember
Q3	(b) Write a note on the functions of human nervous system with illustration.	[3]	CO1	Understand
Q4	(a) With a suitable example, suggest the properties of quasistatic biomedical signal.	[2]	CO1	Understand
Q4	(b) Draw three biosignals of electrical origin and write their signal characteristics.	[3]	CO2	Understand
Q5	(a) Draw the components of an action potential.	[2]	CO1	Remember
Q5	(b) Discuss the mechanism of generation of action potential and write the equation(s) used for its calculation.	[3]	CO2,CO5	Apply

::: 30/09/2022 :::M