

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION SP/2025)

CLASS: BTECH  
BRANCH: EEE

SEMESTER : IV  
SESSION : SP/2025

SUBJECT: EE415 BIOINSTRUMENTATION AND CONCEPT

TIME: 02 Hours

FULL MARKS: 25

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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		CO	BL
Q.1(a)	What is the need of bioinstrumentation, why it is important?	[2]	1 2
Q.1(b)	What is the basic difference between conventional instrumentation and bio medical instrumentation?	[3]	2 2
Q.2(a)	Explain the generation and propagation of action potential within the cell.	[2]	2 2
Q.2(b)	What is polarization and Depolarization of the tissue.	[3]	1 2
Q.3(a)	Explain the SA node and electrical conduction pathway of heart.	[2]	2 3
Q.3(b)	With the help of block diagram explain the recording of ECG.	[3]	2 3
Q.4(a)	What is EEG? Where we need it.	[2]	1 2
Q.4(b)	Draw the schematic diagram of EEG recorder.	[3]	2 2
Q.5(a)	What is EMG? Why cannot we record EMG in paper?	[2]	1 2
Q.5(b)	What are the different parameter we record in PFT.	[3]	1 2

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