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

CLASS: BTECH **SEMESTER :VI**
BRANCH: EEE **SESSION : SP/2025**

SUBJECT: EE415 BIOINSTRUMENTATION AND CONCEPTS

TIME: 3 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Explain the Source of Bio medical signal.	[5]	1	2
Q.1(b)	What are the General constraint in designing of medical Instrumentation system	[5]	1	23
Q.2(a)	How we capture the EMG signal	[5]	1,2	234
Q.2(b)	What is Spirometry?	[5]	1,2,3	12
Q.3(a)	With the Help of schematic diagram explain the anesthesia Machin and patient breathing circuit.	[5]	1,2,4	123
Q.3(b)	What is cardiac defibrillation ? Drow the block diagram of defibrillator machine.	[5]	1,23	234
Q.4(a)	Explain with block Diagram, working of a solid -state Diathermy.	[5]	12	23
Q.4(b)	Drow the electrical circuitry of X-Ray machine tube and control .	[5]	134	123
Q.5(a)	What are the different mode of Ultrasound scanning	[5]	123	23
Q.5(b)	Explain the principal of image construction of MRI.	[5]	123	23

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