

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

CLASS: PrePhD/MTech
BRANCH: ALL

SEMESTER : I/III
SESSION : MO/2023

SUBJECT: BE518 BIOMEDICAL INSTRUMENTATION

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.
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Q.1(a)	Explain the cardiac conduction activity with a neat and labeled diagram.	[5]	1 1
Q.1(b)	Describe the generation and propagation of action potentials.	[5]	1 2
Q.2(a)	Describe the schematic of the man-instrument system in recording the biosignals.	[5]	2 3
Q.2(b)	Explain the 10-20 system of electrode placement in the recording of the brain's electrical activity.	[5]	2 4
Q.3(a)	Describe the operation of the anesthesia machine with a neat and labeled diagram.	[5]	3 2
Q.3(b)	Describe the classification of pacemakers.	[5]	3 3
Q.4(a)	Differentiate between the stationary and rotating X-ray tube in the generation of X-rays.	[5]	2 4
Q.4(b)	Explain different generations of the CT-Scan.	[5]	2 2
Q.5(a)	What is sterilization? Describe different methods of sterilization.	[5]	4 3
Q.5(b)	Describe the role of a radiation measuring device in radiation protection.	[5]	4 4

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