



AC-1371

M. Sc. (Tech.) - I (Instrumentation) (Sem. II) Examination
April / May – 2015
Paper - IV (INS - 24) - Biomedical &
Environmental Instrumentation

Time : 3 Hours]

[Total Marks : 70

Instruction :

नीचे दृशावेव निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
M. SC. (TECH.) - I (INSTRUMENTATION) (SEM. II)

Name of the Subject :
P. - 4 (INS - 24) : BIO. & ENV. INST.

Subject Code No. : 1 3 7 1 Section No. (1, 2,.....): Nil

Seat No. :

Student's Signature

Q. I	Attempt any TWO:	Marks
1	Draw a block Diagram of Bio-medical Instrument System And Explain each basic components of it?	7
2	Explain the Generation of Bio-Electric Potential in the living cell	7
3	What are transducer and explain – - Piezoelectric effect in active transducer - Magnetic induction effect in active transducer	7
Q. II Attempt any TWO:		
1	Explain the origin of electrocardiogram (ECG) waveform	7
2	Discuss the time interval, polarity and amplitudes of ECG	7
3	Give the electrode and lead used to measure ECG	7
Q. III Attempt any TWO:		
1	Explain briefly the variety of electrodes used to measure bioelectric events	7
2	Describe the reference electrodes used as biochemical transducer	7
3	What is pH? Explain pH electrode in detail	7
Q. IV Attempt any TWO:		
1	Correlate electrical events of ECG with heart sound	7
2	Explain the block diagram of ECG recorder	7
3	What is the role of mean arterial pressure (MAP)? Explain oscillometric method to determine it	7
Q. V Answer the following:		
1	What is turbidity? Give causes and treatment	6
2	What is combustion process? Give the list of products formed by it	4
3	What is opacity? Give the principles for measurement of it.	4