B. Tech.
(SEM. VIII) EXAMINATION. 2006 – 07
BIO-MEDICAL INSTRUMENTATION

Time : 3 Hours] [Total Marks : 100

Note : Attempt all the questions.

1 Attempt any four parts : 5 \times 4
   (a) What is cell potential genesis?
   (b) Write the EEG frequency bands.
   (c) For what purpose body surface electrodes are used?
   (d) Write properties of bio-materials.
   (e) What are active and passive transducers?

2 Attempt any four parts : 5 \times 4
   (a) Explain terms EPSP and IPSP.
   (b) What does 10-20 ECG mean?
   (c) How Bekesy audio meter works?
   (d) Differentiate single channel and 3-channel records?
   (e) Name various types of papers which are used for keeping the record of signals?

V-3052] 1 [Contd...
3 Attempt any **four** parts :  
(a) How direct measurement of blood pressure is done? 
(b) Differentiate Thermocouple and Thermistor. 
(c) Explain Neuronal firing measurements. 
(d) How Lub Dub sounds are produced? 
(e) What are Korotkoff sounds?

4 Attempt any **two** parts :  
(a) Draw DC Defibrillators Circuit and explain. 
(b) With the help of block diagram explain internal pace maker. 
(c) With diagram elaborate Tonometer for eye pressure measurements.

5 Attempt any **two** parts :  
(a) What do you mean by radiation therapy? Explain with diagram. 
(b) Explain EMG, ERG, EOG, EEG, Ink Jet records and electro sensitive paper. 
(c) How laser are used in biomedical applications? Justify with diagrams.