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EC - 021

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 3052Roll No. **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 : **5×4**

- (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 : **5×4**

- (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?

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- 3 Attempt any **four** parts : **5×4=20**
- (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 : **10×2=20**
- (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 : **10×2=20**
- (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.
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