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Printed Pages: 2

EC - 021

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

PAPER ID: 3052 Roll 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?

V-3052

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 $5 \times 4 = 20$

- 3 Attempt any four parts:
 - (a) How direct measurement of blood pressure is done?
 - Differentiate Thermocouple and Thermistor. (b)
 - Explain Neuronal firing measurements. (c)
 - (d) How Lub Dub sounds are produced?
 - (e) What are Korotkoff sounds?
- 4 Attempt any two parts:
 - $10 \times 2 = 20$
 - (a) Draw DC Defibrillators Circuit and explain.
 - With the help of block diagram explain internal (b) pace maker.
 - With diagram elaborate Tonometer for eye (c) pressure measurements.
- 5 Attempt any two parts:
 - What do you mean by radiation therapy? (a) Explain with diagram.
 - (b) Explain EMG, ERG, EOG, EEG, Ink Jet records and electro sensitive paper.
 - How laser are used in biomedical applications? (c) Justify with diagrams.

 $10 \times 2 = 20$