

Total number of printed pages – 4 **B. Tech**
CPBM 8307

Sixth Semester Examination – 2008

BIOMEDICAL EQUIPMENT

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory
and any **five** from the rest.*

*The figures in the right-hand margin
indicate marks.*



1. Answer the following questions : 2 × 10
- (a) What are transducers ? Give an example.
- (b) What is meant by Accuracy of an Instrument ?

- (c) What is a Piezo-electric transducer ?
Where is it applied ?
- (d) Define ventricular fibrillation.
- (e) What are the different types of electrodes used in recording of ECG ?
- (f) What is a Heart lung machine ? When is it used ?
- (g) Define Beer Lamberts' law.
- (h) What are the different parts of a Blood Glucose Sensor ?
- (i) What is meant by 10-20-EEG electrode system ?
- (j) What is a Spirometer ?

2. What are the different types of transducers used for measuring body temperature ? Explain in detail the working principles of thermocouples. 10

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Contd.

3. What is a D.C. Defibrillator ? Explain its working principles along with its circuit diagram.

10

4. What is a spectrophotometer ? What are its various components ? Explain each one of them in detail.

10

5. What is an Electrosurgery machine ? Describe its basic principle and the Spark-Gap RF generator.

10

6. What is Fiber-Optic technology ? Explain in brief at least eight types of losses in this system.

10

7. What is ICCU ? What are the essential medical Instruments used in ICCU ? Explain bedside and central monitoring systems.

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8. What are the physiological effects of Electricity ? Explain different types and sources of leakage currents.

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