

CODE NO : M12423

2006 CALICUT UNIVERSITY
B.TECH ELECTRICAL AND ELECTRONICS ENGINEERING
BIO MEDICAL INSTRUMENTATIONS

AUGUST 2006

TIME::3 HOUR
MARK:100

ANSWER ALL QUESTIONS

1.a) differentiate between polarisable and nonpolarisable electrodes.

b) briefly explain electro encephelogram.

c) explain the principle of electromagnetic blood flowmeter.

d) describe the principle of operation of impedance plethysmography.

e) write a short note on blood pump.

f) briefly describe cardiac pace maker.

g) what is a PH value? how can it be measured?

h) write a short note on electrical macroshock.

[MARKS 8*5=40]

2.a) explain in detail with figures any 2 body surface recording electrodes. [marks 15]

OR

b) compare in detail ECG, EMG, ENG.

3.a i) with neat diagram explain any one indirect method of blood pressure measurement.

ii) how heart sound are measured? explain briefly.

OR

b) describe the harmonic analysis of blood pressure waveforms.

4.a i) what are the requirements of an infant incubator? explain in detail.

ii) write a short note on defibrillators.

OR

b) describe some of the therapeutic applications of laser.

5.a) explain about the technique used for measurement of blood PCO₂ and blood PO₂

OR

b) describe the physiological effects of electricity.

[MARKS 4*15=60]