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MANIPAL INSTITUTE OF TECHNOLOGY

(A Constituent Institute of MAHE – Deemed University)

Manipal – 576 104



THIRD SEMESTER B.E. DEGREE MAKE-UP EXAMINATIONS – JANUARY 2007

SUBJECT: BIOMEDICAL INSTRUMENTATION (BME 205)

(REVISED CREDIT SYSTEM)

Thursday January 11, 2007 9.00 a.m.- 12.00 noon

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

1. Answer any FIVE full questions.
2. Draw labeled diagram wherever necessary

1. (a) Explain the photomultiplier tube in detail. 10
(b) What is gauge factor? Explain the bonded type of strain gauge. 10
2. (a) Explain the bipolar limb lead configuration for the measurement of ECG with neat figures. 10
(b) Explain the instrument used to measure the heart sounds. 10
3. (a) What is fibrillation? Explain the capacitive discharge DC defibrillator. 10
(b) What are surface electrodes? Explain the different types. 10
4. (a) Explain the principle and block diagram of ultrasonic Doppler shift blood flowmeter. 10
(b) Explain the indirect method of blood pressure measurement. 10
5. (a) Give the working of He-Ne laser. 10
(b) Explain the physics of laser action 10
6. (a) Explain the physiological effects of micro and macro shock on the human body. 10
(b) Mention the types of recorders. Explain any one in detail. 10

