

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
DEPARTMENT OF BIOMEDICAL TECHNOLOGY

2012/2013: Harmattan Semester Examination

BMT: 531 Biomedical Telemetry **Time Allowed: 2 Hours**

Instruction: Answer four (4) Questions only

- 1a. Define Biomedical Telemetry
 - b. Mention four (4) components of Biomedical telemetry
 - c. Write short notes on any two (2) components mentioned in 'b' above
- 2a. Mention two (2) advantages of telemetry in health care delivery
 - b. Explain the term modulation as it applies to Biomedical telemetry
 - c. Draw a block diagram of ECG transmitter
- 3a. Briefly explain how telemetry could be employed in transmission of physiologic data.
 - b. Distinguish between single channel and multi-channel Biotelemetry.
 - c. Draw a block diagram of a named single channel Biomedical telemetry.
- 4a. Explain the term demodulation as it applies to Biomedical telemetry.
 - b. Write short notes on the following:
 - i). AM modulation (ii) radio-frequency carrier wave
 - iii). Receiver (iv) UHF
- 5a. Briefly explain what is meant by multiplexing
 - b. Distinguish between frequency-division multiplexing and time-division multiplexing.
 - c. Briefly explain why multi-channel telemetry is particularly useful in athletic training.
- 6a. Mention five (5) monitored parameter capabilities with biotelemetry.
 - b. Explain three (3) ways Wireless Medical Telemetry Services (WMTS) is relevant in the hospital.
 - c. Explain how telemetry is relevant in ambulatory services.