

**FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI**  
**SCHOOL OF HEALTH TECHNOLOGY**  
**DEPARTMENT OF BIOMEDICAL TECHNOLOGY**  
**2014/2015 HARMATTAN SEMESTER EXAMINATION**  
**BMT 531 (BIOMEDICAL TELEMETRY) 2 UNITS**

**TIME: 2HRS**

**10<sup>TH</sup> APRIL 2015**

**INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS**

- 1a. Explain the term modulation as it applies to Biomedical Telemetry (5mks)
- (b) Draw a block diagram of ECG Transmitter (7mks)
- (c) Discuss how Telemetry helps to speed up patient treatment (6mks)
- 2a. Discuss four basic components of a Biotelemetry system (9mks)
- (b) Explain in details how Telemetry could be employed in transmission of Physiologic data. (6mks)
- (c) Mention two (2) monitored parameter capabilities with Biotelemetry (3mks)
- 3a. Explain Wireless Medical Telemetry Services (WMTS) (6mks)
- (b) Discuss three ways WMTS is relevant in the hospital (9mks)

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- (c) Mention two (2) advantages of Telemetry in health care delivery (3mks)
- 4a. What is multiplexing? (5mks)
- (b) Distinguish between Frequency – Division Multiplexing and Time – Division Multiplexing (9mks)
- (c) Explain one advantage of Satellite Transmitter over radio transmitter (4mks)
- 5a. Discuss the stages of Biotelemetry system development (10mks)
- (b) Draw a diagram of Single Channel Physiologic Telemetry System (8mks)
- 6a. Explain the term Demodulation as it applies to Biotelemetry System (6mks)
- (b) Explain the relevance of Biotelemetry in monitoring the following; (12mks)
- i. Inpatients
  - ii. Out – patients
  - iii. Ambulatory patients