



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**Plot 91, CADASTRAL ZONE, NNAMDI AZIKWE EXPRESSWAY, JABI, ABUJA**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE**  
**2025\_2 EXAMINATIONS.**

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**COURSE CODE: EHS308**

**COURSE TITLE: BIOTECHNOLOGY**

**COURSE UNITS: 2 CREDIT UNITS**

**TIME ALLOWED: 1 ½ HOURS**

**TOTAL SCORE: 70 MARKS**

**INSTRUCTION: ANSWER ALL QUESTIONS**

- 1 (a) Discuss biotechnology in conformity with United Nations Convention on Biological Diversity **5 Marks**  
(b) Discuss any five (5) importance of biotechnology **15 marks**  
(c) Write short note on policy and institutional arrangements for biotechnology development in Nigeria **5 Marks**
  
- 2 (a) Write short notes on any three (3) of the following classification of biotechnology **15 Marks**
  - (i) Application-based classification
  - (ii) Red biotechnology
  - (iii) White biotechnology
  - (iv) Green biotechnology
  - (v) Bioinformatics  
(b) Highlight five (5) advantages of Microbial Insecticides **5 marks**  
(c) Preserving food extends its shelf-life, whilst ensuring its safety and quality. Discuss. **5 marks**
  
- 3 (a) Differentiate between microbial fermentation and biological nitrogen fixation **10 marks**  
(b) Give any five (5) examples of free-living nitrogen-fixing bacteria **5 marks**  
(c) List one source from each for the following for land pollution **5 marks**
  - i. Agriculture
  - ii. Mining and quarrying
  - iii. Sewage sludge
  - iv. Household
  - v. Industrial