



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF CROP AND SOIL SCIENCES
SEPTEMBER 2020_1 EXAMINATION

COURSE TITLE: BIOTECHNOLOGY IN CROP/ PEST MANAGEMENT

COURSE CODE: CSP401

CREDIT UNITS: 3

TOTAL SCORE: 70 MARKS

TIME ALLOWED: 1hour 30minutes

INSTRUCTIONS: *Answer four questions in all*

Question 1 is compulsory (30marks) and any three questions (10marks each)

Q1

- What is Biotechnology? (5marks)
- Briefly explain any five Basic techniques, which stimulate the progress of modern biotechnology. (10marks)
- List any two basic gene delivery systems and explain. (7marks)
- State any four advantages of micro propagation. (8marks)

Q2

- Explain the meaning of mutations. (3marks)
- Discuss constraint on crop production and the overcoming impact of biotechnology. (7marks)

Q3

- Briefly discuss two (2) approaches to controlling plant viruses. (4marks)
- Highlight the three major genetic traits that are used in breeding programmes: (6marks)

Q4

- Discuss the concept of BACTERIAL PATHOGENS in biotechnology of Agriculture. (5marks)
- State five ways Herbicide resistance can be prevented or delayed. (5marks)

Q5

- Outline the concerns associated with the emergence of herbicide resistant cultivars. (5marks)
- Explain in brief the process of Nitrogen fixation by cyanobacteria. (5marks)

Q6

- What are five benefits from using bio fertilizers? (5marks)
- define nitrification and denitrification. (5marks)

Q7

- Define nitrogen fixation. (3marks)
- Briefly explain the process of micro propagation. (7marks)