



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF CROP AND SOIL SCIENCES
2020_2 EXAMINATION

COURSE TITLE: BIOTECHNOLOGY IN CROP/ PEST MANAGEMENT (3CU)

COURSE CODE: CSP401

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

- a. Give any definition of Biotechnology? (5marks)
- b. Describe five fundamental methods that stimulate the development of modern biotechnology. (10marks)
- c. State any two basic gene delivery systems. (6marks)
- d. Outline any four advantages of micro propagation. (9marks)

Q2

- a. Briefly define mutations. (3marks)
- b. Converse about the challenges on crop production and the overcoming effect of modern biotechnology. (7marks)

Q3

- a. Describe briefly any two (2) approaches to controlling plant viruses. (4marks)
- b. List major genetic traits used in breeding programmes: (6marks)

Q4

- a. State the bacterial pathogens concepts crop production in biotechnology. (5marks)
- b. Highlight five preventive ways of Herbicide resistance. (5marks)

Q5

- a. Sketch out the problems linked with the usage of herbicide resistant cultivars. (5marks)
- b. Discuss in brief the concept of Nitrogen fixation by cyanobacteria. (5marks)

Q6

- a. Outline benefits derived from using bio fertilizers? (5marks)
- b. Briefly explain the meaning of nitrification and denitrification. (5marks)

Q7

- a. What is nitrogen fixation? (3marks)
- b. Elaborately describe the formation of micro propagation. (7marks)