



CRAWFORD UNIVERSITY

FAITH CITY, IGBESA, OGUN STATE

2024/2025 HARMATTAN SEMESTER EXAMINATIONS

COLLEGE: NATURAL AND APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES PROGRAMME: MICROBIOLOGY

COURSE CODE: MCB 429 TITLE: ENVIRONMENTAL MICROBIOLOGY UNIT: 2

INSTRUCTION: ANSWER ANY FOUR QUESTIONS TIME ALLOWED: 2 HRS

1. What is Environmental Microbiology? (1mk)
- 1b. Write short note on any seven (7) of the following: (i) Ecosystem (ii) Community (iii) Population (iv) Individual (v) Habitat (vi) Niche (vii) Recalcitrants (viii) DDT (ix) Biofilms (x) Xenobiotics (14mks)
2. Discuss five(5) factors affecting microbial growth in the soil (15mks)
3. What is Aero-Microbiology? (2mks)
- 3b. Write a short note on the three stages involved in the dispersal of air borne particles (6mks)
- 3c. List and briefly explain three factors affecting concentration of Microorganisms in the atmosphere (7mks)
4. What are indicator organisms? (2mks)
- 4b. Highlight six (6) criteria for identifying ideal bacterial indicators of faecal pollution (6mks)
- 4c. Discuss the freshwater microbial communities and highlight the roles they play in fresh water. (7mks)
5. What are water-borne pathogens? (3mks)
- 5b. Describe five of these pathogenic water-borne bacterial species: (a) *Campylobacter* (b) *E.coli* 0157 (c) *Salmonella* (d) *Shigella* (e) *Yersinia* (f) *Vibrio* (12mks)
6. Describe domestic waste water. (2mks)
- 6b. What are the three major tests used to assess the amount of organic matter in waste water? (3mks)
- 6c. Explain all the major tests highlighted in (b) above (6mks)
- d. Briefly discuss "Modern Wastewater Treatment". (4mks)