



**ELIZADE UNIVERSITY,
ILARA-MOKIN, NIGERIA**

FACULTY: BASIC & APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

SECOND SEMESTER EXAMINATION

2018/2019 ACADEMIC SESSION

COURSE CODE: MCB 408

COURSE TITLE: SOIL MICROBIOLOGY

COURSE UNIT: 2

DURATION: 2 HOURS

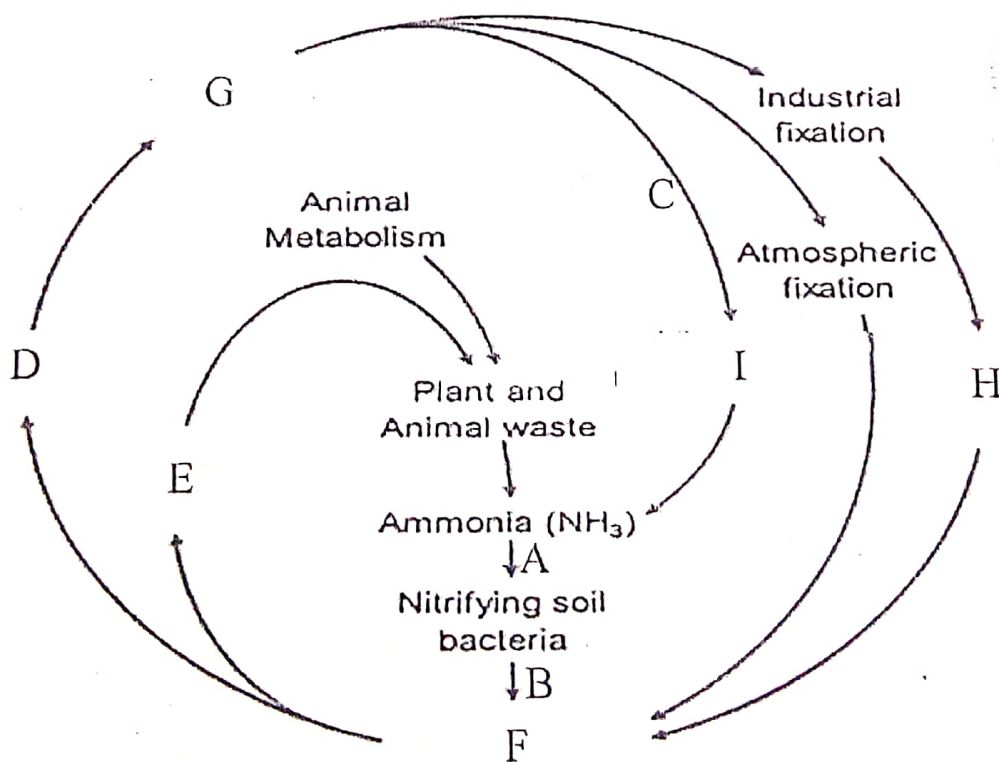
HOD's SIGNATURE

NAME:.....

MAT. No:.....

INSTRUCTION: ANSWER ANY 3 QUESTIONS.

1. (a) What is soil microbiology?
 (b) Mention 3 specific effects of named pesticides on microbial diversity in the soil.
 (c) What is mineralization?
 (d) State three (3) heterotrophic bacteria in soil that are often involved in oil degradation.
2. (a) Define the following soil microorganisms based on their nutrient and energy requirements.
 i) Photoautotrophs ii) Photoheterotrophs iii) Chemoautotrophs
 iv) Chemoheterotrophs
 (b) Mention three (3) characteristics of soil bacteria.
 (c) Give five (5) examples of bacterial inhabitants of the soil.
3. (a) List five (5) groups of soil microflora.
 (b) Explain briefly five (5) activities of Actinomycetes in the soil.
 (c) What is immobilisation in soil microbiology?
4. Study the cycle below carefully and answer the following questions.



- (a) What suitable title can you give to the cycle above?
- (b) Mention one (1) genus of soil microorganisms involved in the processes of A, B and C.
- (c) Fill in the gaps represented by D, E, F, G, H and I.
5. Draw a detailed cycle showing microbial transformation of sulphur in nature and give examples of soil microorganisms involved the cycle.