ELIZADE UNIVERSITY, ILARA-MOKIN, NIGERIA

FACULTY: BASIC & APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

FIRST SEMESTER EXAMINATION

2020/2021 ACADEMIC SESSION

COURSE CODE: MCB 411

COURSE TITLE: INDUSTRIAL MICROBIOLOGY

COURSE UNIT: 3 UNITS

DURATION: 2 HOURS

HOD's SIGNATURE

NAME:.....

MAT. No:.....

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS

1a. What are the requirements for the multiplication of microbes in fermenters

b. Draw and label a simple fermenter

c. Highlight the roles of a Microbiologist in industrial microbiology

d. Outline the stages of operation that you will follow to carry out your duty in the laboratory for any industrial microbiological process **15 Marks**

2(a). Classify fermented foods. In each case give **TWO** examples each

(b). Follow your classification in 2a above, use flow charts to describe the local method of preparation of **4 (four) local named fermented foods** (one from each class above) and the microorganisms involved.

c. Explain the health benefits of fermented foods **15 Marks**

3. Prepare a paper on the topic "Microorganisms as alternative source of protein'. The lecture should take care of the following;

(i) What is single cell protein?

(ii) Explain the advantages that single cell protein has over plant and animal protein

(iii) Briefly discuss the microorganisms that can be used in single cell protein production

(iv) Drawbacks of single cell protein technology and remedy **15 Marks**

4a. What are the advantages and disadvantages of using enzymes

b. What do you understand by enzyme immobilization? Enumerate the advantages.

c. Using a table, compare the extra and intracellular enzymes synthesized by microorganisms

d. Explain what you understand by 'down-streaming process' in industrial microbiology **15 Marks**

5a. List some raw materials that you can use in compounding industrial media

b. Enumerate the criteria for the choice of raw materials used in industrial media

c. Discuss the various methods you can employ to preserve microbial cultures **15 Marks**

6. You have been invited by a secondary school to educate the pupils on contribution of microbiology to the industry. Prepare your presentation by discussing in details **ANY 2 of the following;**

i) Organic acids by microorganisms

ii) Fermentative production of amino acids

iii) Microbial enzymes in food industry **15 Marks**