



ELIZADE UNIVERSITY,  
ILARA-MOKIN, NIGERIA

FACULTY: BASIC & APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

FIRST SEMESTER EXAMINATION

2020/2021 ACADEMIC SESSION

COURSE CODE: MCB 201/203

COURSE TITLE: GENERAL MICROBIOLOGY I

COURSE UNIT: 3 UNITS

DURATION: 2 HOURS

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HOD's SIGNATURE

NAME:.....

MAT. No:.....

INSTRUCTIONS    Answer any two questions from each section

## Section A

1a. 0.1ml of a sample is inoculated into a culture broth that favors the growth of microbes that are found in small numbers. This medium has a pH of 5.0, 1% salt concentration, placed in the incubator at temperature of 27°C and turbidity was observed after 24 hours. Classify this growing organism based on its physical, chemical and culture media requirements for its growth and reproduction.

1b. List three (3) fields each of Pure and Applied microbiology (15 Marks)

2a State five (5) common examples of spontaneous generation

2b Define the following terms:

- (i) Agar
- (ii) Microbiology
- (iii) Selective medium
- (iv) Pure culture
- (v) Petri dishes

2c Draw the bacterial growth curve (15 Marks)

3a Discuss Francesco Redi's work that disproves the Law of spontaneous generation.

3b State the Koch's postulate of germ theory.

3c Highlight five (5) important concepts of history and development of microbiology

(15 Marks)

## Section B

1a. Define the following terms:

- a. Generation time
- b. Batch Culture
- c. Total bacterial count
- d. Continuous culture
- e. Viable bacterial Count

b. Mention five (5) environmental factors that influence bacterial growth

0.1g of cocoa powder sample is added to 0.9 ml of sterile diluent to make a suspension. From the suspension, five serial dilutions were made and 1ml is plated onto nutrient agar plate from the second serial dilution tube. After incubation, 580 colonies were counted on the plate. Calculate the colony forming unit/gram of the sample. (15 Marks)

2a Write short notes on culture medium

b. Distinguish between the following; citing examples where necessary:

- i. Enriched and Enrichment culture media
- ii. Transport and Storage culture media
- iii. Selective and Differential culture media

(15 Marks)

3a Define Sterilization?

b. Write concisely on the following:

- i. Autoclaving
- ii. Filtration
- iii. Disinfection

c. State four (4) ways by which microorganisms are beneficial to us.

(15 Marks)