



ELIZADE UNIVERSITY, ILARA-MOKIN, ONDO STATE.

FACULTY: BASIC & APPLIED SCIENCES

**DEPARTMENT: BIOLOGICAL SCIENCES
(MICROBIOLOGY UNIT)**

**FIRST SEMESTER EXAMINATION
2018/2019 ACADEMIC SESSION**

COURSE CODE: MCB 201

COURSE TITLE: GENERAL MMICROBIOLOGY I

DURATION: 2 hour

HOD's SIGNATURE

INSTRUCTIONS:

NAME:.....

MAT. No:.....

Answer question ONE and any other TWO

1. Five ml of bacterial culture is added to 45 ml of sterile diluent. From this suspension, three serial, 1/100 dilutions are made, and 0.1 ml is plated onto plate count agar from the last dilution. After incubation, 237 colonies are counted on the plate. Calculate the following.
 - a) Dilution at ALL the stages of serial dilutions
 - b) Dilution factor at ALL the stages of serial dilutions
 - c) CFU/mL of the original sample
 - d) Amount of sterile diluent that was used at the three serial dilution stages
 - e) State 2 methods of enumerating ONLY living microbial cells

2.
 - a). Classify the following organisms under the old **FIVE** kingdoms and the new **THREE** domain respectively.

Streptococcus spp, *Aspergillus* spp, *Candida Albicans*, *Escherichia coli*, *Paramecium* spp, *Methanococcus* spp, *Manihot* spp, *Zea mays*, *Homo sapiens*, *Plasmodium* spp.
 - b). State the contribution(s) of the following scientist to microbiology
 - i. Robert Hook
 - ii. Anthony Van Leeuwenhoek
 - iii. Francesco Stelluti
 - iv. Louis Pasteur
 - c). With the aid of a suitable diagram contrast between the following
 - i. Lytic cycle and Lysogenic cycle
 - ii. Prokaryotes and Eukaryotes

3.
 - a). Mention and explain the different stages of the microbial growth curve
 - b). Briefly explain the following terms:
 - i.) Obligate anaerobes
 - ii.) Facultative anaerobes
 - iii.) Aerotolerant anaerobes
 - iv.) Microaerophiles
 - c). With the aid of a suitable diagram explain the following processes in bacteria
 - i.) Binary fission,
 - ii.) Formation of endospores

4.
 - a). What is sterilization?
 - b). Explain briefly ANY TWO of the following methods of sterilization
 - i) Use of dry heat or moist heat
 - ii) Use of radiation
 - iii) Use of membrane filters
 - iv) Use of chemicals
 - c). Mention 4 factors affecting the effectiveness of sterilization using chemical compounds