NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Sciences
Department of Pure and Applied Sciences
SEPTEMBER 2020_1 EXAMINATION

COURSE CODE: BIO416
COURSE TITLE: INDUSTRIAL MICROBIOLOGY
CREDIT: 3 units
TIME ALLOWED: 2½ Hours
INTRUCTION: Answer question ONE (1) and any other FOUR (4) questions

1a. Describe the nature of industrial microbiology (4 mks)
b. State three characteristics of a suitable microorganism for industrial uses (3 mks)
c. Define the term bioprospecting **(1½** mks**)**
d. Give four examples of microbial cultures sourced from natural materials (2 marks)
e. Explain the term culture media (3½ mks)
f. Discuss different types of media (8mks)

2a. Discuss three different methods of plate technique (9mks)
b. List three examples of mutagen (3mks)

3a. What is lyophilisation? (1mk)
b. Explain lyophilisation technique (3mks)
c. List and explain three methods of microbial culture storage at reduced temperature (8mks)

4a. What is Recombinant DNA Technology? (1mks)
b. State 8 conditions for producing a genetically engineered bacterium (8mks)
c. Describe Genetic Manipulation of Microorganisms (3mks)

5a. State any five features of the top fermenting yeasts (5mks)
b. Explain the malting process (4mks)
c. Explain briefly kelming (3mks)

6a. Discuss the term Wine (5mks)
b. Explain the term spirit (4mks)
c. Explain the production of sufu (3mks)