FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SCHOOL OF LIFE SCIENCES

DEPARTMENT OF MICROBIOLOGY

FIRST SEMESTER EXAMINATION 2016/2017 SESSION

COURSE CODE: MCB 413

COURSE TITLE: INDUSTRIAL MICROBIOLOGY (3 UNITS)

CLASS: 400 LEVEL

TIME: 2 HOURS

Instruction: Answer Two Questions Only from Section A and answer All Questions in Section (B) by filling in the correct answers in the blank spaces provided

SECTION A

1. (a) Outline the procedures for the isolation of amylolytic bacteria from a natural environment.

   (b) Discuss any two (2) methods of culture preservation in a dehydrated form.

2. (a) What is strain improvement?

   (b) How could an industrial microbiologist maximize its profit through strain improvement?

3. Write a comprehensive essay on how microorganisms could be used to enhance the economy growth of a nation.

SECTION B

Matriculation Number: _____

1. The major brewing materials used in the brewery industry include:
   (1) a _____ (b) _____ (c) _____
   (d) _____and (e)_____.

2. (2)_____(3)_____(4)_____

   (5)_____(6)_____(7) _____

(8) _____ (9) ⟶ ethanol.

The end-product of the above pathway is ethanol. Fill in the correct answers in the blank spaces provided.

3. The dried, pre-sprouted grain that is soaked to activate enzymes for beer production is called (10) _____.

4. Hops are dried female flowers of the hops plant called (11)_____ and (12)_____.

5. The tannins of hops helps to (13) _____during the boiling of wort.

6. Some wine makers allow natural yeasts to dominate, but many wineries inoculate the must with a special strain of (14) _____.

7. The length of fermentation in wine production varies from (15) a _____days at temperatures varying between (b) _____ in (c) _____ and from (d) _____ days in (e) _____.

8. Bottom yeasts produce beer with a pH of (16) a _____ and requiring (b)_____ days of fermentation at temperature of (c) _____ with their alcohol content of (d) _____.

9. Top yeasts are used to produce the higher alcohol content of (17) _____.