

OBAFEMI AWOLowo UNIVERSITY, ILE – IFE, NIGERIA.
FACULTY OF SCIENCE
DEPARTMENT OF MICROBIOLOGY

UNIVERSITY LIBRARY
RESERVED

B.Sc. (Microbiology) Degree Examination.

SEMESTER: Harmattan 2010/2011 Session

Date: July 20, 2011

COURSE CODE: MCB 407

Time allowed: 3 Hrs.

COURSE TITLE: Industrial Microbiology

INSTRUCTION: Answer all questions with each section in a separate booklet.

SECTION A

- 1a Briefly describe the various steps involved in the production of lager beer from barley grains.
- b Enumerate the possible defects and diseases of beer, stating their causes, characteristics and control.

- 2a Write briefly on the industrial production and applications of lactic acid.
 - b(i) What is single – cell protein (SCP)?
 - (ii) Comment briefly on the microorganisms used as sources of SCP
 - (iii) Outline the raw materials used as substrate for SCP production.
 - (iv) What are the advantages and possible set back of the use of SCP.

UNIVERSITY LIBRARY
RESERVED

SECTION B

- 1(a) Nearly all food fermentations are the result of more than one microorganism, either working together or in a sequence. What is the general trend and give reasons for the trend?
- (b) List 5 fermented traditional foods.
- (c) Mention 5 problems which may affect Starter cultures.
- (d) Differentiate between probiotics and prebiotics, giving an example in each case.

2. Cheese making can simply be viewed as a concentration process, in which the water portion, or whey, is removed and the solids are concentrated. Give a **stepwise** description of cheese production mentioning the microorganisms involved in the process.

SECTION C

1. (a) In not more than 10 lines distinguish clearly between "Wild Type" and "Industrial" strains of microorganisms. (5 Marks)

- (b). Recombinant DNA technology can be used to obtain microorganisms with unique characteristics for industrial processes.
 - i. Briefly but succinctly, outline the protocol you would use to construct a bacterial cell for industrial production of a named animal protein. (15 Marks)
 - ii. Comment in not more than a page the general concept of public opinion on genetically modified organisms. (5 Marks)

UNIVERSITY LIBRARY
RESERVED