

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
DEPARTMENT OF PLANT BIOLOGY
FIRST SEMESTER BTECH. EXAMINATION, 2017/2018 SESSION

COURSE CODE: PLB 514

COURSE TITLE: INDUSTRIAL AND MICROBIAL BIOTECHNOLOGY

COURSE UNIT: 3

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS IN ALL.

1. a. Highlight the characteristics of microbes used in industrial Biotechnology
b. i. Writes succinctly on techniques used for the development of new noble strains of microorganisms.
ii. State the factors that influence microbial growth
2. a. i. What is fermentation?
ii. Differentiate between primary and secondary metabolites.
b. How is Vitamin B₁₂ produced?
3. a. Explain any five important components of culture media
b. Describe the procedures involved in mushroom production technology.
4. a. i. What is Single Cell Protein (SCP)?
ii. List the factors affecting Biomass production
b. Describe how algae are produced on waste water and used as single cell protein.
5. a. What are diazotrophs?
b. Describe non- symbiotic N₂ fixation
6. a. Write notes on any three of the following:
i. Microbial inoculants ii. Biofertilizer iii Biopesticide iv. Enzyme production