



**FEDERAL UNIVERSITY OF TECHNOLOGY,
MINNA**

**DEPARTMENT OF MICROBIOLOGY
FIRST SEMESTER EXAMINATIONS, 2017/2018
SESSION**

COURSE TITLE: GENERAL TOXICOLOGY

COURSE CODE: MCB 513 (3 UNITS)

Instruction: Answer five questions, at least two in each section

Time: 2½ Hours

SECTION A

1. Write short notes on the following microorganisms:

- (i) *Escherichia coli*
- (ii) *Shigella dysenteriae*
- (iii) *Staphylococcus aureus*
- (iv) *Streptococcus pyogenes*.

2. Describe the following:

- (i) Pyrrophyceae (ii) Aflatoxins (iii) Trichothecenes
- (iv) *Corynebacterium diphtheria* (v) Sterigmatocystin.

3. (a) Explain the mechanism of drug resistance

(b) In a tabular form differentiate between exotoxins and endotoxins

SECTION B

4. (a) As an HSE officer, a report was brought to you on a sudden discharge of Arsenic in soil near to your locality. Describe two methods you will use to carry out *ex situ* or *in situ* bioremediation of the pollutant.
(b) State two advantages and two limitations of the use of bioremediation technology.
5. (a) Describe two approaches in phytoremediation
(b) State two advantages and two limitations of the use of this technique
6. (a) List four routes by which a toxic substances can enter the body
(b) Giving relevant example each, differentiate between: (i) Biosorption and Bioaccumulation (ii) Food intoxication and food infection (iii) Biostimulation and bioaugmentation
7. Discuss five (5) effects of pesticides on soil microflora