



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

MASTER OF SCIENCE IN BIOTECHNOLOGY

ABT 5107 ENVIRONMENTAL BIOTECHNOLOGY

SPECIAL/ SUPPLEMENTARY EXAMINATIONS

SERIES: SEPTEMBER 2018

TIME: 3 HOURS

DATE: Sep 2018

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of six questions. Attempt any four questions

Do not write on the question paper.

Question ONE

- Describe the key characteristics of performant bio-indicators (15 mks)
- Describe the quantification of atmospheric dust removal by plants (10 mks)

Question TWO

- Discuss the future of biosorbents in the removal of heavy metal contamination (10 mks)
- Describe different forms of bioremediation (15 mks)

Question THREE

Discuss the following industrial leaching processes

- Heap leaching (8 mks)
- Dump leaching (8 mks)
- Underground leaching (9 mks)

Question FOUR

Discuss the treatment and disposal of biomedical waste (25 mks)

Question FIVE

- a) Discuss the benefits associated with bioremediation technology in controlling environmental pollution (15 mks)
- b) Outline the role of Lichens as bio-indicators of air pollution (10 mks)

Question SIX

- a) Discuss the significance of Arsenic biomethylation (9 mks)
- b) Explain the significance of biofilms under chemical stress (16 mks)