



# TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

## UNIVERSITY EXAMINATION FOR:

DIPLOMA IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY

: ABT2211: BIOCHEMICAL TECHNIQUES AND INSTRUMENTATION

SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES: SEPTEMBER 2018**

**TIME: 2HOURS**

**DATE: Pick 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 **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

### Question ONE

- a) State the principle of centrifugation (5mks)
- b) Differentiate between preparative and analytical centrifugation (5mks)
- c) Name any four types of centrifuges stating their uses (12mks)
- d) Name any three media used in electrophoresis (3mks)
- e) What do you understand by the term refractometry (5mks)

### Question TWO

Discuss Protein precipitation techniques (15mks)

### Question THREE

- a) Give the principles of molecular exclusion techniques (5mks)
- b) Give five applications of gel filtration chromatography (10mks)

### Question FOUR

- a) State the principle of electrophoresis (5mks)

- b) Discuss polyacrylamide gel electrophoresis (6mks)
- c) State the applications of polyacrylamide gel electrophoresis (4mks)

**Question FIVE**

- a) Discuss the basis of flame photometry (9mks)
- b) Give the advantages and disadvantages of flame photometry (6mks)