EMBU UNIVERSITY COLLEGE

(A Constituent College of the University of Nairobi)

2015/2016 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

EXAMINATION FOR DIPLOMA IN CROP PROTECTION

ACP 017: APPLICATION OF BIOTECHNOLOGY IN CROP PROTECTION

DATE: APRIL 12, 2016 **TIME: 11:00-1:00**

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions

QUESTION ONE

a) Name the **FOUR** main components of a PCR reaction (4 Marks)

b) Differentiate between nucleosides and nucleotides and give the components of each (5 Marks)

c) List **FIVE** applications of biotechnology in disease diagnosis (5 Marks)

d) Briefly explain how eukaryotes overcome the problem of replication at the end of chromosomes and name the ezyme(s) involved (5 Marks)

e) Give reasons for gene cloning (5 Marks)

f) Differentiate between:

i) Purines and Pyrimidines (3 Marks)

ii) RNA and DNA (3 Marks

QUESTION TWO

A group of physics students wonder how proteins are made, having recently covered this in your class; how would you systematically explain to them the process involved in protein synthesis?

(20 Marks)

QUESTION THREE

Discuss the process of DNA replication (20 Marks)

QUESTION FOUR

Discuss the structure of DNA in eukarycites. (20 Marks)

QUESTION FIVE

i) Define mutations (2 Marks)

ii) Discuss the different types of DNA mutations (18 Marks)

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