



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2014/2015

DIGITAL SCHOOL OF VIRTUAL & OPEN LEARNING

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF
SCIENCE IN AGRONOMY**

KST 813: AGRICULTURAL BIOTECHNOLOGY

DATE: SATURDAY 2ND MAY 2015

TIME: 9.00 A.M. – 12.00 P.M.

INSTRUCTIONS

ANSWER ANY FOUR QUESTIONS

1. Discuss the factors that increase the demand for food and the role of biotechnology
(25 marks)
2. Suppose stock solutions have been prepared as follows:
 - a) BA is 20 mg per 200ml
 - b) NAA is 40 mg per 400 mlCalculate volume of stock solutions to make 20 litres medium with 10 mg per litre BA and 0.4 mg per litre NAA.
(25 marks)
3. Briefly discuss: (each 5 marks)
 - i) Cybrids versus heterokaryons
 - ii) Primary versus secondary metabolites
 - iii) Types of mutations
 - iv) In vitro germplasm trade
 - v) Purines and pyrimidine with respect to the DNA bases.
4. Distinguish between cDNA and genomic DNA indicating the procedures for DNA amplification using the PCR.
(25 marks)
5. Discuss characteristics of good DNA markers.
(25 marks)