



SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE, HORTICULTURE, FOOD NUTRITION & DIETETICS AND BACHELOR OF EDUCATION

SBL 305: PRINCIPLES OF GENETICS

DATE: 06TH DECEMBER, 2017

TIME: 4.00 -6.00 PM

Instructions: ANSWER ALL QUESTIONS IN SECTION A
ANSWER ANY TWO QUESTIONS IN SECTION B

Time: 2 hours

SECTION A (30 marks):

- 1) Describe the cell structure (10 marks)
- 2) Discuss five main properties of polygenic inheritance (10 marks)
- 3) Discuss five exceptions to Mendel's principles of inheritance (10 marks)

SECTION B (40 marks):

- 4) Discuss five types of gene actions (20 marks)
- 5) Describe chromosome abnormalities under the following topics:
 - a) Structural chromosomal changes (10 marks)
 - b) Variations in chromosomal numbers (10 marks)
- 6) Discuss ten differences between DNA and RNA (20 marks)