



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
SCIENCE /SNE WITH IT
2ND YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR
MAIN CAMPUS - REGULAR

COURSE CODE: SZL 204

COURSE TITLE: INTRODUCTORY BIOCHEMISTRY AND GENETICS

EXAM VENUE: LAB 10

STREAM: (BED)

DATE: 22/04/16

EXAM SESSION: 2.00 – 4.00 PM

TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in Section A and Any two questions in Section B**
 - 2. Candidates are advised not to write on question paper**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

1. Briefly describe the structure of DNA. (3 marks)
2. DNA and RNA are all genetic material of an organism, state three distinctive features between them. (3 marks)
3. Make a sketch of a chromosome and label the parts, on the diagram, clearly indicate the point of chiasma formation. (3 marks)
4. State three types of RNA and give the role of each RNA. (3 marks)
5. Work out the genotypic and phenotypic ration when two heterozygous tall plants are selfed. Use appropriate letters to show your working. (3 marks)
6. Describe the sequence of DNA replication. (3 marks)
7. Make sketches of two forms of secondary structure of RNA. (3 marks)
8. Describe the properties of colloidal systems. (3 marks)
9. State two classifications of amino acids, and give example of each. (3 marks)
10. Living organisms have two types of cells with distinctive roles. State the two categories of cells and their genetic composition. (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

11. Discuss various forms of classification of proteins and nature of proteins. (20 marks)
12. Describe the structure of DNA. Use a simple diagram to explain the replication process of DNA. (20 marks)
13. DNA can be classified in various ways, describe the various forms on which DNA is classified. (20 marks)
14. Explain the occurrence and classification of carbohydrates. (20 marks)