



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2023/2024 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER

SCHOOL OF NATURAL RESOURCES

ENVIRONMENTAL STUDIES AND AGRICULTURE

BACHELOR OF SCIENCE

(WILDLIFE)

COURSE CODE:AHP 1104-1

COURSE CODE: BIOCHEMISTRY

DATE: 2/2/2024

TIME: 1100-1400 HRS

Instructions

A. Answer ANY TEN (10) questions.

B. Illustrate your answers with diagrams and give examples where appropriate.

ANSWER ANY TEN (10) QUESTIONS (50 MARKS)

1. Explain the functions of the following organelles in an animal cell.
 - a) Ribosomes. (1 Mark)
 - b) Nucleus. (1 Mark)
 - c) Lysosome. (1 Mark)
 - d) Mitochondria. (1 Mark)
 - e) Cytoplasm. (1 Mark)
2. Explain the chemical components of a cell. (5 Marks)
3. Classify carbohydrates and give examples of each class. (5 Marks)
4. Write about the structure of a cell membrane. (5 Marks)
5. Classify proteins based on their shapes. (5 Marks)
6. Name the main types of RNA and explain their functions. (5 Marks)
7. Explain the significance of glycolysis. (5 Marks)
8. Outline the similarities between lipogenesis and lipolysis. (5 Marks)
9. Illustrate the acid-base balance homeostasis. (5 Marks)
10. Outline the steps involved in DNA transcription. (5 Marks)
11. Describe how muscle obtains ATP by converting glycogen to glucose-6-phosphate. (5 Marks)
12. Write the significance of hexose monophosphate shunt pathway. (5 Marks)
13. Using a diagram describe the structure of an enzyme. (5 Marks)
14. Draw the structures of glucose and ribose. (5 Marks)
15. State the properties of water that makes it a vital compound in the body. (5 Marks)

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