

MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY
BSC PUBLIC HEALTH AND BSC. COMMUNITY HEALTH AND
DEVELOPMENT
HPP 3121: BIOCHEMISTRY
HPC 3121: MEDICAL BIOCHEMISTRY MAIN EXAM

INSTRUCTIONS

Answer question one and any other two questions

Question 1

(30 marks)

1. Outline four enzymes involved in DNA replication and their roles (4 marks)
2. Explain DNA transcription process (5 marks)
3. Describe the difference between saturated and non-saturated fatty acids (5 marks)
4. Draw the chemical structure of a dipeptide (4 marks)
5. Describe the structural difference between glycogen and cellulose (4 marks)
6. Explain the reactions in Krebs cycle that produce NADH (4 marks)
7. State four differences between RNA and DNA (4 marks)
8. List four lipid soluble vitamins and their functions (4 marks)

Question 2

(20 marks)

Discuss the glycolysis pathway

Question 3

(20 marks)

- a) Discuss the classification of enzymes (10 marks)
- b) Discuss the models for enzyme substrate interaction (10 marks)

Question 4

(20 marks)

- a) Discuss the sources of damage to DNA (10 marks)
- b) Discuss the processes that repair DNA damage (10 marks)