



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. Box 972-60200 – Meru-Kenya

Tel: +254(0) 799 529 958, +254(0) 799 529 959, + 254 (0) 712 524 293,

Website: info@must.ac.ke Email: info@must.ac.ke

University Examinations 2024/2025

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE AND NATURAL RESOURCE MANAGEMENT

SEG 3201: INTRODUCTION TO EARTH SYSTEMS

DATE: DECEMBER 2024

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (30 MARKS)

- a) Define biodiversity (2 marks)
- b) List the importance of the atmosphere as a sub earth system (3 marks)
- c) Discuss with the help of a diagram the Lithosphere (5 marks)
- d) Describe the storage reservoirs of carbon (5 marks)
- e) With the help of a chemical equation describe the process of photosynthesis (5 marks)
- f) Discuss the hydrological cycle with help of a diagram (6 marks)
- g) What primarily drives the surface ocean currents? (2 marks)
- h) Highlight the determinants of the patterns of surface currents (2 marks)

QUESTION TWO (20 MARKS)

- a) Discuss with the help of a diagram the carbon cycle (10 marks)
- b) Illustrate the importance of greenhouses gases to the warming of the planet earth (10 marks)

QUESTION THREE (20 MARKS)

Discuss the impacts of global warming on the biodiversity (20 marks)

QUESTION FOUR (20 MARKS)

- a) Illustrate the earth radiation budget on the earth surface (10 marks)
- b) Examine the nitrogen cycle (10 marks)