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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR
SECOND YEAR, FIRST SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF EDUCATION(ARTS)
KGE 2205 PHYSICAL GEOGRAPHY

Date: 12th August 2024
Time: 2.30pm-4.30pm

INSTRUCTIONS TO CANDIDATES:

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Explain the following terms:
- i) Denudation. (2 marks)
 - ii) Diastrophism. (2 marks)
- b) i) Using a suitable equation, describe the water balance concept, highlighting all the parameters. (6 marks)
- ii) State the application of the water balance concept in crop farming. (2 marks)
- c) Describe the Davisian Cycle of erosion in landscape development. (6 marks)
- d) Distinguish between recharge and discharge of ground water. (6 marks)
- e) The table below shows the global distribution of water. Use it to answer the following questions:

	Area(10^6 km ²)	Volume (km ³)	% Total	Residence Times
Oceans	361.3	1338000000	96.5	2000-4000yrs
Ground water	269.6	23400000	1.69	300yrs
Soil moisture	82.0	16500	0.0012	2weeks-1year
Polar ice	16.0	24023500	1.7	~1000years
Lakes	2.0	176400	0.013	~10years
Rivers	148.8	2120	0.0002	~2weeks
Atmospheric water	—	12900	0.001	10days
Total water	510.0	—	100	

- i) Account for the high variability of residence time for soil moisture. (2 marks)
- ii) Calculate the total volume of water. (2 marks)
- iii) Explain why the residence time for atmospheric water is the least. (2 marks)

QUESTION TWO (20 MARKS)

- a) With the aid of a labelled diagram, explain the global hydrological cycle. (10 marks)
- b) Explain **five** human activities that may disrupt the hydrological cycle. (10 marks)

QUESTION THREE (20 MARKS)

- a) Draw a labelled diagram illustrating the location of an aquifer. (4 marks)
- b) Examine **four** sources of groundwater. (8 marks)
- c) Explain **four** roles of groundwater. (8 marks)

QUESTION FOUR (20 MARKS)

Using labelled diagrams, describe the formation of the following features:

- a) Rock pedestals. (5 marks)
- b) Mushroom block. (5 marks)
- c) Zeugens. (5 marks)
- d) Yardangs. (5 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the hydrological significance of vegetation in any region. (10 marks)
- b) Explain **five** geomorphic agents that facilitate erosion. (10 marks)