



UNIVERSITY OF KABIANGA

UNIVERSITY EXAMINATIONS 2016/2017 ACADEMIC YEAR THIRD YEAR SECOND SEMESTER EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL STUDIES

COURSE CODE: EPM 310

**COURSE TITLE: WATER RESOURCES PLANNING &
MANAGEMENT**

DATE: 19TH JUNE, 2017 TIME: 9.00 A.M. - 12.00 NOON

INSTRUCTIONS TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF (2) PRINTED PAGES

PLEASE TURN OVER

MAIN CAMPUS

140800c

UNIVERSITY OF KABIANGA

University Examinations 2016/2017

**THIRD YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF ENVIRONMENTAL STUDIES**

EPM 310: WATER RESOURCES PLANNING AND MANAGEMENT

(MAIN PAPER)

INSTRUCTIONS:

Answer ALL Questions in Section A & any other TWO Questions in Section B

Section A (Compulsory)

1. Explain the global water budget. **(6 marks)**
2. Differentiate between Bergeron and Collision-coalescence processes of precipitation. **(6 marks)**
3. Explain the difference between large-scale irrigation and self-supplied industries in water consumption. **(6 marks)**
4. Explain the models used to estimate missing rainfall data of a specified rain gauge station. **(6 marks)**
5. If rainfall recorded by Gauge X, Y and Z are 12mm, 10mm and 9mm and the corresponding polygon areas are 4.8km^2 , 6.5km^2 and 5.0km^2 , estimate the catchment's average rainfall. **(6 marks)**

Section B:

6. Explain the applicability of the principle of 'Riparian Rights' in managing conflicts that may arise with the use of River water. **(20 marks)**
7. Discuss the importance of adoption of water conservation in households as a viable option to extending piped water supply in rural areas. **(20 marks)**
8. (a). Using a well labeled illustration, describe the hydro-geological conditions necessary for both flowing artesian well and water table well to be dug in the same catchment. **(14 marks)**
- (b). Describe the methods of monitoring water parameters of a borehole whose depth is 200 feet. **(6 marks)**