



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2009/2010

**FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE IN ENVIRONMENTAL PLANNING AND MANAGEMENT**

EPM 144: PLANNING FOR URBAN PUBLIC UTILITIES

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DATE: Friday 30th JULY 2010

TIME: 11.00 A.M. - 1.00 P.M.

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INSTRUCTIONS

ANSWER THREE QUESTIONS. QUESTION ONE IS COMPULSORY

1. a) Describe the synoptic planning method as applied in public utilities.
[14 marks]
- b) Using examples discuss how stabilization ponds can be used in waste
water treatment. [10 marks]
- c) Explain the advantages and disadvantages of trickling filter method of
water waster treatment. [6 marks]
2. a) Describe the factors to consider when designing the following urban
public utilities.
 - i) Road net works [5 marks]
 - ii) Waster disposal site [5 marks]
3. Discuss the strategic elements in water supply and sanitation services in urban
low income areas. [20 marks]
4. Discuss the main characteristics that one should look at when analyzing the
factors to be considered in planning for urban public utilities. [20 marks]
5. a) Using Mombasa Municipal Council as your case study, describe how you
can manage its surface water drainage. [10 marks]
- b) Explain the role of public utilities planning in development.[10 marks]