



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations 2015/2016

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF AGRIBUSINESS MANAGEMENT

FIRST SEMESTER EXAMINATION FOR DEGREE IN BACHELOR OF SCIENCE IN
ENVIRONMENTAL STUDIES (COMMUNITY DEVELOPMENT)

EMP 244: WASTE MANAGEMENT PLANNING

Date:

Time:

INSTRUCTIONS

1. This exam comprises five [5] questions
 2. Answer question one (1) and any other two (2) questions
 3. All answers should be written in the answer booklet provided
 4. Use relevant illustrations, examples and diagrams to illustrate your answer where applicable
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1. (a) Explain the following terminologies as used in Municipal Solid Waste Management Planning
 - i) Solid Waste (2 marks)
 - ii) Effluent (2 marks)
 - iii) Sanitary Land-fill (2 marks)

 - b)
 - i) Using relevant examples distinguish, between Biodegradable and Non-Biodegradable solid waste. (6 marks)
 - ii) Explain three [3] major challenges facing the management of Municipal Solid Waste in developing countries. (6 marks)

 - c)
 - i) Explain three chemical components of Municipal Solid Waste. (6 marks)
 - ii) Explain the three goals of Municipal Solid Waste Management. (6 marks)

SECTION B: ANSWER ANY OTHER TWO QUESTION

2. (a) Describe two [2] physical characteristics of Municipal Solid Waste and show the importance of each in developing a successful Municipal Solid Waste Management Strategy (10 marks)
- (b) Using relevant examples, explain five [5] negative environmental effects of plastic waste when not disposed of properly (10 marks)
3. (a) Explain the meaning of the term Solid Waste Management (5 marks)
- (b) Outline the process of Urban Sewage Treatment [UST] (15 marks)
4. (a) Describe the process of incineration as it takes place in modern incinerator (10 marks)
- (b) Septic tanks serve an effective role in bringing the “toilet into the house” in rural Kenya. Describe the working of the septic tank. (10 marks)
5. The Solid Waste Management Department of your County Government has engaged the services of a consultant in the waste Management and Planning sector. The task ahead of the consultant is to draw a five year strategic municipal solid waste management plan for the county head quarters. Explain the critical areas that must be considered by the consultant in the report. (20 marks)