MAASAI MARA UNIVERSITY
UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR
THIRD YEAR SECOND SEMESTER
SCHOOL OF TOURISM AND NATURAL RESOURCE MANAGEMENT
MASTERS IN ENVIRONMENTAL PLANNING AND MANAGEMENT

COURSE CODE:    SES 805
COURSE TITLE:    ENVIRONMENTAL IMPACT ASSESSMENT AND AUDIT

DATE:       23/04/2019
TIME: 8.30 -11.30 AM

INSTRUCTIONS TO CANDIDATES
Section A is compulsory
Answer any THREE questions in section B
This paper consists of 2 printed pages. Please turn over
SECTION A: ANSWER ALL QUESTIONS (25 marks)

1. Write short notes on:
   a) Consumption & pollution audit. [2 marks]
   b) Matrices method of impact assessment. [2 marks]
   c) Pre and post audit activities [2 marks]

2. Describe and explain why the following steps are needed as part of the EIA process:
   a. Screening [3 marks]
   b. Scoping [2 marks]
   c. Mitigation [2 marks]
   d. Environmental management plan [3 marks]
   e. EIA report/ Statement [2 marks]

3. Explain the role of the following in EIA process:
   a. Public participation [2 marks]
   b. Project proponent [2 marks]
   c. NEMA [2 marks]
   d. Interviews [2 marks]
   e. EIA experts [2 marks]
SECTION B: ANSWER ANY THREE QUESTIONS (45 marks)

Question 4

a) Discuss the importance of Environmental Impact Assessment (EIA) in sustainable environmental management and highlight any five characteristics of EIA best practice [7 marks]
b) Discuss any four widely recognized deficiencies of Strategic Environmental Assessment (SEA) and EIA as tools used for environmental assessment [8 marks]

Question 5

a) Explain the rationale and importance of consultation and public participation (CPP) in environmental management [7 marks]
b) Discuss any four methods you would use to undertake CPP during the EIA process and indicate the strengths and limitations of each of the methods [8 marks]

Question 6

a) Using a named proposed project of your choice, describe the key potential impacts that would result from the implementation of the project [7 marks]
b) Describe any four methods used for impact analysis clearly indicating the strengths and limitations of each of the methods [8 marks]

QUESTION 7

a) Discuss the key principles and criteria used by a Regulatory Authority to make informed decisions regarding the environmental viability of a proposed project based on the EIA Report [7 marks]
b) For a proposed tea processing plant in Kericho County, describe the socio-economic impacts that will be associated with the implementation of the project and develop an appropriate social impact assessment management plan (SIAMP) to ensure proper mitigation of the adverse impacts [8 marks]
SECTION B (CHOOSE THREE QUESTION ONLY)

11. a) With the aid of a well labeled diagram explain the main features of a typical infrared photometer used in detection of CO in the air and mention any two inherent molecules in this analysis [ 5 marks]

b) In your own words , briefly explain the following terms

- Phytoremediation [1.5 marks]
- BOD [1.5 marks]
- Water hardness [1.5 marks]
- Acid rain [1.5 marks]
- Fuel cell [1.5 marks]
- Environmental chemistry [1 marks]
- Photochemical Smog [1.5 marks]

12. Explain the various methods of secondary treatment of sewage , and explain the purpose of each secondary treatment stage [ 15 marks]

13. Discuss the following physical-chemical component / indicator of water quality with explanations how they are measured

(a) Turbidity[ 3 marks]

(b) Dissolved oxygen[ 3 marks]

(c) Electrical Conductivity(EC) [ 3 marks] (d) Chemical Oxygen
Demand [ 3 marks] (e) Total dissolved solids (TDS) [ 3 marks]
14. The COD of a water sample is 25mg of O2 per litre. What volume of 0.0010mol L\(^{-1}\) 
\(\text{Na}_2\text{Cr}_2\text{O}_7\) solution is required to titrate a 40 mL sample to end-point?

{Hint: The dichromate ion oxidizes 1.5 times the material that molecular oxygen does}  [15 marks]