



FACULTY OF MANAGEMENT AND ADMINISTRATION

MEC 404 EXAM: RESOURCE AND ENVIRONMENTAL ECONOMICS

END OF SECOND SEMESTER EXAMINATIONS

APRIL/MAY 2017

LECTURER: G. MANDEWO

DURATION: (3 HRS)

INSTRUCTIONS

Answer **Question number 1** and **ANY** other three questions. Total possible mark is 100.

Start **each** question on a new page in your answer booklet.

The marks allocated to **each** question are shown at the end of the question.

Show **all** your workings.

Credit will be awarded for logical, systematic and neat presentations.

1. (a) Sustainable use of environmental resources is a key concept when dealing with environmental issues explicitly demonstrate an understanding of the following concepts
 - (i) Sustainability as non-declining well-being **[4 marks]**
 - (ii) Sustainability as non declining value of natural capital **[4 marks]**
 - (iii) Sustainability as non declining physical service flows from selected resources **[4 marks]**
 (b) The view about resource use is summarised by two model
 - (i) Basic pessimistic model **[6 marks]**
 - (ii) Basic optimistic model **[6 marks]**
 Critically discuss each's contribution to the debate
 (c) The discussion on toxic substances centres on the following key thematic areas
 - (i) Toxicity **[4 marks]**
 - (ii) Effects **[4 marks]**
 - (iii) Policy issues **[4 marks]**
 - (iv) Market allocations **[4 marks]**
2. (a) Relate emission load to pollutant accumulation ,absorptive capacity **[5 Marks]**
 - (b) Trace pollutant taxonomy **[5 Marks]**
 - (c) Discuss the efficient allocation of pollution in both static and dynamic model **[5 Marks]**
 - (d) Suggest ways which can effectively redress the problem of pollution **[5 Marks]**
3. (a) There are deleterious effects of global air pollutants.
 - (i) Discuss the evidence of ozone depletion and that of global warming. **[6 Marks]**
 - (ii) Discuss practical methods that can be used to redress Climate change. **[6Marks]**
 (b)
 - (i) Explicitly define the cartel problem **[4 marks]**
 - (ii) Critically demonstrate the national security problem **[4 marks]**
4. (a) Distinguish between point and non-point sources of pollution**[6 Marks]**
 - (b) What are the effects of water pollution? **[6 Marks]**
 - (c) Suggest practical solutions to the problem of water pollution**[8 Marks]**
5. (a) Discuss pollutant taxonomy**[10 Marks]**
 - (b) Explain in detail cost effective policies for non uniformly mixed surface pollutants. **[10 Marks]**
6. (a) In a static model, explain why private ownership of a fishery would produce an optimal allocation of such a renewable resource. **[7 Marks]**

- (b) Explain why open access resource may be extinct[7 Marks]
 - (c) Define the following terms, in each case providing TWO examples:
 - i. Renewable resource[2 Marks]
 - ii. non renewable resource[2 Marks]
 - iii. recyclable resource[2 Marks]
7. (a) Distinguish between point and non-point sources of pollution[6 Marks]
- (b) What are the effects of water pollution? [6 Marks]
 - (c) Suggest practical solutions to the problem of water pollution[8 Marks]
8. (a) Efficient allocation of surface water is not necessarily the same as the efficient allocation of ground water. Explain and give detailed illustrations. [12 Marks]
- (b) Discuss the following sources of inefficiency in the allocation of water
 - i. water pricing[4 Marks]
 - ii. restrictions of transfer[4 Marks]

End of paper