
UNIVERSITI SAINS MALAYSIA

First Semester Examination
Academic Session 2008/2009

November 2008

EAD 514/4 – River Ecosystem

Duration: 3 hours

Please check that this examination paper consists of **ONE (1)** pages of printed material before you begin the examination.

Instructions: Answer **FOUR (4)** questions. All questions carry the same marks.

You may answer the question either in Bahasa Malaysia or English.

All questions **MUST BE** answered on a new sheet.

Write the answered question numbers on the cover sheet of the answer script.

1. The destruction of niches and habitats due to the logging activities has resulted in reduction of fish species. Explain in detail how to restore the river ecosystems in order to safe guard these species from the danger of extinction.

[25 marks]

2. Describe with the help of diagrams the food webs of stable river ecosystems based on ecological concepts.

[25 marks]

3. Write short notes on **THREE (3)** of the following concepts:
 - (i) River Continuum Concept
 - (ii) River Corridor Vegetation
 - (iii) Biological Indicators of River Water Quality
 - (iv) Algal Bloom
 - (v) River Basin Development Planning and Management (RBDPM)

[25 marks]

4. Using any developing country as a suitable example, discuss the major challenges in river management towards sustainable development.

[25 marks]

5. (a) Discuss from source to estuary, the various classes (under the Department of Environment's river classification) of the Pinang River in Penang and explain what does each class mean.

[10 marks]

(b) Using suitable examples, discuss how the Pinang River can be restored.

[15 marks]