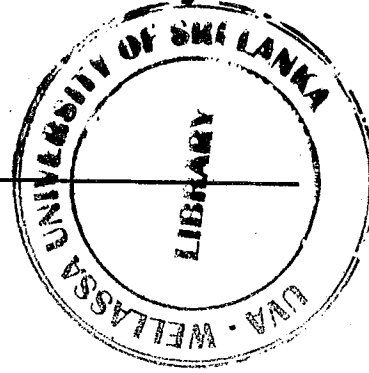


Uva Wellassa University of Sri Lanka
Faculty of Animal Science & Export Agriculture
BSc in Aquatic Resources Technology
Year IV Semester I



End Semester Examination – March / April 2013

AQT 412 -1 Fisheries Economics
Essay Questions



Instructions

Answer all questions.

No. of questions : Two (02)

No. of pages : Two (02)

Time : One hour (01 hr)

Total marks allocated : 100%

01. Consider the following linear equation:

$$CPUE = 2680 - 10 E \quad [Where E represents number of boats]$$

Assume that the short term catch equation is linear in stock biomass and fishing effort:

$$H(E) = qEX \quad [q is constant (catchability co-efficient) and X represents the stock biomass]$$

- i) What is the equilibrium harvest equation for the fishery? **(05 marks)**
- ii) Find the maximum sustainable yield and the corresponding number of boats in this fishery. **(10 marks)**
- iii) Clearly show the level of Efforts at MSY, MEY, and Open access equilibrium in the surplus yield curve. **(15 marks)**

Assume a constant unit cost of effort equal to 3200 and a constant unit price of harvest equals to 4.

- iv) Calculate the net revenue at the MSY. (10 marks)
- v) Calculate the open access effort level and the harvest level. (10 marks)
- vi) Calculate the maximum resource rent produced by the fishery. (20 marks)
- vii) The catchability co-efficient q is 0.001. Estimate the stock biomass in the fishery at the maximum resource rent. (05 marks)

(Total = 75 marks)

02. Briefly explain the role of any five of the following tools used in fisheries management.

- i. Gear regulations
- ii. Time regulations
- iii. Licence / permits
- iv. Taxes
- v. Subsidies
- vi. Total Allowable Catch (TAC)
- vii. Individual Transferable Quota (ITQ)
- viii. MPAs

(Total (05 X 05) = 25 marks)

[End of section]