UNIVERSITY OF RUHUNA

BACHELOR OF SCIENCE IN FISHERIES AND MARINE SCIENCES DEGREE

Level II Semester I

OCG 2122 – Biological Oceanography

July/August 2016

Time: 2 hours

Answer only <u>Four (04)</u> Questions

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1. a) Describe the ecological role of the microbial loop in marine food chain.

    (15 marks)

    b) The primary productivity of a coastal area is 250 g C m^{-2} yr^{-1} and herrings which feed on zooplankton form the principal fishery. The average ecological efficiency of this system is 10%.

    i.   Calculate the potential annual maximum yield of herring in terms of g C m^{-2}.
    ii. Assuming that Carbon makes up 20% of the wet weight of fish, calculate the wet weight of herring production in terms of kg per hectare per year. (Note: 1 hectare = 10,000 m^2)

    (10 marks)

2. a) Briefly explain the latitudinal changes of primary productivity in the ocean relative to the seasons.

    (15 marks)

    b) Write an account on methods of determining zooplankton biomass.

    (10 marks)

3. Describe the human syndromes that are caused due to consumption of seafood contaminated by algal toxins

    (25 marks)

4. "Hydrothermal vent environment is harsh, toxic and unforgiving, but they provide living habitats for some marine organisms." Justify this statement.

    (25 marks)

5. Write an account on rocky shore zonation   (25 marks)

6. Write notes on the followings
    a) Coccolithophores   (8 marks)
    b) ^{14}C method   (8 marks)
    c) Marine holoplankton   (9marks)