

UNIVERSITY OF RUHUNA
Bachelor of Science in Fisheries & Marine Sciences Degree Examination
Level III - Semester II, Dec. 2016/ Jan. 2017

FAQ 3211 – Advanced Molecular Genetics Applicable to Fisheries and Aquaculture

Time - 01 hour

Answer two (02) questions. Give diagrams where needed

1. What is a DNA marker? Give examples. Giving examples, write a brief account on the application of molecular markers in the fisheries industry.

(50 marks)

2. Compare and contrast the following

(a) Restriction Enzyme Vs Taq Polymerase Enzyme

(10 marks)

(b) Spread plate Vs. Streak Plate

(10 marks)

(c) cDNA library Vs Genomic DNA library

(15 marks)

(d) CaCl₂/Heat shock Vs Electroporation

(15 marks)

3. **Either**

Explain how the scientists have made use of the function of lac operon to facilitate screening in recombinant DNA technology?

(50 marks)

Or

What is sequencing? Explain Sanger Sequencing and its advantages and disadvantages

(50 marks)

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