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**RAJARATA UNIVERSITY OF SRI LANKA  
FACULTY OF APPLIED SCIENCES**

**B.Sc. (Special) Degree in Applied Biology  
Fourth year – Semester I Examination – October / November 2017**

**ZOO 4310 – POST HARVEST TECHNIQUES IN FISHERIES**

**Time: Three (03) hours**

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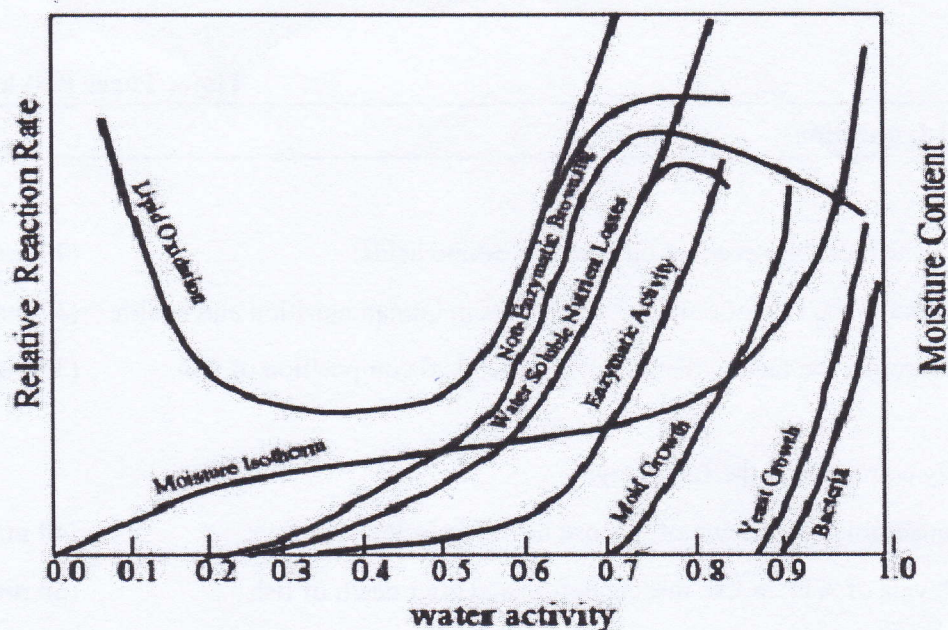
**Answer ALL questions.**

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1.
  - a) Write a concise account on essential amino acids. (40 marks)
  - b) Discuss the role of omega-3 fatty acids in human nutrition and health. (30 marks)
  - c) Describe the factors that affect the chemical composition of fish. (30 marks)
  
2. Briefly comment on the following;
  - a) anaerobic breakdown of glucose in fish muscle (40 marks)
  - b) levels of ATP in fish muscle before and after death of fish (30 marks)
  - c) effect of filleting before and after rigor mortis. (30 marks)
  
3.
  - a) Histamine method is not a reliable method for the measuring the quality of some fish and fishery products. Review the above statement. (30 marks)
  - b) Describe the mechanisms of formation of Putrescine and Cadaverine from their precursors. (40 marks)
  - c) How could histamine be destroyed after formation? (30 marks)
  
4. Discuss the following topics.
  - a) Application of CSW (Chilled Sea Water) in fish industry. (30 marks)
  - b) Effect of the rate of freezing on the quality of fish (30 marks)
  - c) “How to make a good quality fish product” (40 marks)



5. a) Explain the procedure of production of high quality dried fish. (30 marks)
- b) Describe the different methods that could be adopted in utilization of fish waste. (40 marks)
- c) Using the graph below, discuss the deterioration rate of fish, in relation to water activity. (30 marks)



Water activity map. (Reprinted from Labuza, 1970)

6. a) Describe briefly the seven (07) principles of HACCP. (30 marks)
- b) Discuss the occurrence of Diarrhetic Shellfish Poisoning (DSP). (40 marks)
- c) Give a brief account on biological hazards in fish processing industry. (30 marks)

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