

UvaWellassa University, Sri Lanka
Faculty of Science and Technology
Science and Technology Degree program
End Semester Examination – March/ April 2013
SCT 427-2 Seminar



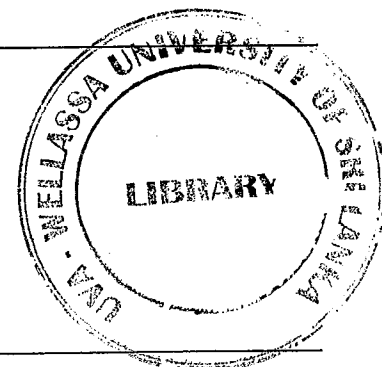
Instructions to candidates

Answer Five (05) questions only

Number of questions: Ten (10)

Time allocation: Two (02) hours

Total marks allocated: 100



1.

- (i) What is LD₅₀? (02 marks)
- (ii) Discuss the importance of isolation of naturally occurring compounds for insecticidal activity. (10 marks)
- (iii) State the major experimental steps involved in extracting the crude compound. (08 marks)

2.

- (i) Why biotechnologists use japonica rice varieties for another culture rather than using *indica* rice varieties? (02 marks)
- (ii) Briefly explain how *in vitro* haploid rice plants can be generated. (08 marks)
- (iii) Briefly explain the benefits of haploids in rice breeding. (10 marks)

3.

- (i) What are lignocellulosic microorganisms? Give two examples. (04 marks)
- (ii) Briefly explain the cellulosic ethanol production process. (10 marks)

- (iii) Briefly explain the advantages and disadvantages of cellulosic ethanol production. (06 marks)

4.

- (i) Why the fresh cut products are so popular round the world. (04 marks)
(ii) Explain the key factors that assure the final quality of fresh cut products. (16 marks)

5.

- (i) What is Lyophilization? (04 marks)
(ii) Discuss the advantages and disadvantages of using naturally occurring bio polymers in food packaging industry. (16 marks)

6.

- (i) Name two catastrophic environmental impacts due to untreated textile waste water. (02 marks)
(ii) Discuss the advantages and disadvantages of bioremediation compared to the existing chemical treatment methods. (08 marks)
(iii) Very briefly explain how you could isolate bacteria colonizing in a textile waste water sample? (06 marks)
(iv) State two methods other than bioremediation that can use to treat textile waste water. (04 marks)

7.

- (i) Explain the antioxidant activity of *Centella asiatica* with the increment of temperature. (10 marks)
- (ii) What are the factors that can affect to destroy the antioxidant activity of *Centella asiatica* extract (05 marks)
- (iii) Discuss the extraction methods that can be used to obtain plant extracts. (05 marks)

8.

- (i) What are dietary supplements? (05 marks)
- (ii) Briefly explain the importance of mineral dietary supplements. (10 marks)
- (iii) How people could obtain dietary supplements? (05 marks)

9.

- (i) What are polyols? (05 marks)
- (ii) Discuss the physiochemical properties of polyols. (05 marks)
- (iii) Briefly explain the applications of polyols in food industry. (10 marks)

10.

- (i) Briefly explain the importance of higher alcohol and their esters in beverage industry. (10 marks)
- (ii) Discuss the factors that influence the production of higher alcohols during fermentation process. (10 marks)