Uva Wellassa University, Sri Lanka
Faculty of Science and Technology
Science and Technology Degree Programme
1st Semester Examination – March/April 2013

Uva Wellassa University

SCT 314-3 Cereal Science and Technology

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Instructions to candidates

Total number of questions: Four (04)

Answer all the questions

Time allocation: Three (03) hours

Total marks allocated: 100

1.

a. Parboiled polished rice is nutritionally richer than the raw polished rice. Explain.

b. Explain why the domestic way of parboiling process of rice is not suitable for a market oriented product.

c. What shortcomings could arise if a steel huller is used to de-husk parboiled paddy and polish the brown rice?

d. Suggest methods to overcome the shortcomings you have given in (1b).

e. 1000 kg of raw paddy with 13% initial moisture content was parboiled and dried to achieve a final moisture content of 14%. If paddy contains 24% husk and 9% rice bran, calculate the outturn of the finished product. Assume a 70% bran removal during polishing of parboiled rice.

(25 marks)

Q1

2. A Kurakkan flour producer found that his products developed a bad smell and a sour taste after three months from packaging. Consequently he encountered heavy market returns of his products.

a. What factors are responsible for the development of bad smell and sour taste? Explain the quality deterioration process.

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b. What can be done to overcome these problems?

(25 marks)

3. A bakery owner found that his bread has a poor bread-crumb structure, high bulk density, poor crust color, sour taste and cavities in the loaf. He found that these changes are after introduction of a new brand of wheat flour to his product.

   a. Name two factors each for the above shortcomings.

   b. Suggest methods to rectify the shortcomings you have given in (3a).

   c. Explain the suitability of wheat flour in bakery industry and limiting factors of rice flour.

(25 marks)

4. Write short notes on the following.

   a. Importance of moisture meter calibration in paddy post harvest technology.

   b. Suitability of using 1000 grain weight as a quality parameter in paddy post harvest technology.

(25 marks)