



Question Paper

Module 5:	Flour	
Date: 12 May 2015	Time: 09:30 – 12:00	Duration: 2½ hours

You should have the following for this examination: **one answer book; pencil, pen, and ruler.**

All questions carry equal marks. The maximum marks for each section within a question are shown. Answer **ALL SEVEN** questions, starting each new question (1-7) on a **new** page of the answer book.

1.
 - a) Describe briefly how a divide flour is made in an automatic mill. (3 marks)
 - b) State how **THREE** groups of flour can be defined on the basis of protein quality and quantity. (3 marks)
 - c) Describe what a flour specification is and what factors should be considered when setting the specification. (6 marks)

2.
 - a) In the form of a table, show a basic testing plan for a flour mill, including stage of process, tests and frequency, and reasons for conducting each test. (6 marks)
 - b) Describe a wheat intake screenings test, what it measures and its significance. (4 marks)
 - c) Explain why reference methods are not used frequently and what has replaced them. (2 marks)

3.
 - a) Describe fully the Rapid Visco Analyser (RVA), its method of operation and what it measures. (6 marks)
 - b)
 - i) State what is measured by the Single Kernel Characterisation System (SKCS) test. (1 mark)
 - ii) Describe briefly how the SKCS test is carried out. (2 marks)
 - c) Describe how the protein content of flour can be affected by the milling process. (3 marks)

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4. a) Describe a moisture reference test for wheat. (4 marks)
- b) i) State what is meant by the term “crude fibre”. (1 mark)
 ii) Describe how the test to measure crude fibre is carried out. (3 marks)
- c) State TWO reasons why wheat variety identification is important to the miller. (2 marks)
- d) Explain why a sieve test for particle size would be carried out on:
 i) white flour;
 ii) wholemeal flour. (2 marks)
5. a) Explain why laboratory test milling is carried out on wheat, and what it can determine. (4 marks)
- b) i) Explain how ‘starch damage’ occurs. (1 mark)
 ii) Explain the effect of starch damage on the flour. (1 mark)
- c) List THREE vitamins found to be naturally occurring in flour. (3 marks)
- d) Explain why oxidants are used in the breadmaking process. (3 marks)
6. a) Describe briefly the FOUR main stages of the breadmaking process. (4 marks)
- b) Describe what happens during mixing and development in the manufacture of bread products. (4 marks)
- c) Within the breadmaking process, state the cause of:
 i) High/dark crust colour;
 ii) Low/pale crust colour. (2 marks)
- d) List the possible causes of sharp edges on bread. (2 marks)
7. a) List the ingredients of a semi sweet biscuit (Rich Tea type), indicating the weight of EACH as a percentage of flour weight. (4 marks)
- b) State what happens when high protein flour is used in the manufacture of biscuits. (1 mark)
- c) i) State the type of flour normally used in the brewing process.
 ii) Describe briefly why this type of flour is used. (2 marks)
- d) State the typical fat content of puff pastry. (1 mark)
- e) Describe why fruit can sink in a fruited cake and what can be done to prevent the sinking. (4 marks)