



UK FLOUR  
MILLERS

## Question Paper

<b>Module 2:</b>	<b>Wheat and the Screenroom</b>	
Date: <b>5 May 2021</b>	Time: <b>09:30 – 11:30</b>	Duration: <b>2 hours</b>

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

All questions carry equal marks. The maximum marks for each section within a question are shown. Answer **ALL EIGHT** questions, starting each new question (1-8) on a **new** page of the answer book.

1.
  - a) **Sketch and label a diagram of a wheat spikelet.** (5 marks)
  - b) **Describe briefly the germination of wheat.** (4 marks)
  - c) **List FOUR factors that affect the growth of the wheat plant.** (2 marks)
  - d) **State why wheat is tested for Hagberg Falling Number at intake.** (1 mark)
  
2.
  - a) **Explain the differences between the following:**
    - i) **Winter and Spring wheat:** (3 marks)
    - ii) **Hard and Soft wheat;** (3 marks)
    - iii) **Strong and Weak wheat.** (3 marks)
  - b) **List the TWO factors that determine the relative strength of wheat.** (1 mark)
  - c) **List FOUR factors a farmer should consider when deciding the type of wheat to grow.** (2 marks)
  
3.
  - a)
    - i) **Outline the standards required by the UK's Red Tractor scheme, to assure the quality of wheat delivered from farms.** (3 marks)
    - ii) **Describe the benefits Red Tractor provides to the consumer.** (3 marks)
  - b) **State the specific emphasis of EACH of the Leaf Marque and Soil Association assurance schemes.** (2 marks)
  - c) **Outline the information shown on a post-harvest declaration form.** (4 marks)

*continued overleaf*

4. a) List TEN tests that should be carried out on a load of wheat in accordance with the nabim code of practice. (5 marks)
- b) With the aid of a sketch, describe briefly the operation of a drum sieve at intake. (6 marks)
- c) Define the term 'specific weight'. (1 mark)
- 5 a) State the formula used to determine the power (in kilowatts) taken by an elevator. (2 marks)
- b) Calculate the approximate power (ignoring frictional losses) taken by an elevator, 30 metres high with a capacity of 75 tonnes per hour. (5 marks)  
*(Show all workings.)*
- c) Explain why the head pulley of an intake elevator might be twice as large as the pulley in the boot. (5 marks)
6. a) With the aid of a sketch, describe the method of operation of an aspirating leg. (6 marks)
- b) Draw and label a flow diagram of a typical screenings grinding plant. (6 marks)
7. For EACH of the machines listed below, outline the regular preventative maintenance inspections that should be carried out to ensure correct operation.
- a) Milling separator; (4 marks)
- b) Dry stoner; (2 marks)
- c) Scourer; (2 marks)
- d) Dust collector; (2 marks)
- e) Magnet; (1 mark)
- f) Damping system. (1 mark)
8. a) With the aid of a labelled sketch, describe the method of operation of a grain tempering mixer. (6 marks)
- b) Describe briefly the THREE types of water usually found in grain. (6 marks)