



UK FLOUR  
MILLERS

## Question Paper

<b>Module 3:</b>	<b>Mill Processes and Performance</b>	
Date: <b>5 May 2022</b>	Time: <b>09:30 – 12:30</b>	Duration: <b>3 hours</b>

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

All questions carry equal marks. The maximum marks for each section within a question are shown. Answer **ALL TEN** questions, starting each question (1-10) on a **new** page of the answer book.

1. Describe how the **THREE** auto feed roll adjusters listed below control stock levels in a rollermill:
  - a) Load cell; (4 marks)
  - b) Christmas tree; (4 marks)
  - c) Capacitive sensors. (4 marks)
  
2.
  - a) Describe **FOUR** flour quality advantages gained by using a debranner. (8 marks)
  - b) Explain how purifiers are set differently in a:
    - i) Flour mill; (2 marks)
    - ii) Semolina mill. (2 marks)
  
3.
  - a) With the aid of a sketch, describe the method of operation of a drum detacher. (6 marks)
  - b) List **TWO** reasons why weighers are used in the milling process. (2 marks)
  - c) Describe **ONE** type of conventional cleaner used for cleaning **EACH** of the following:
    - i) Sifter tray; (2 marks)
    - ii) Sifter sieve. (2 marks)
  
4.
  - a) List **FOUR** advantages and **FOUR** disadvantages of using roll water cooling. (8 marks)
  - b) Explain the main aim of flour dressing. (2 marks)
  - c) List **TWO** disadvantages of using a disc mill in the mill flow. (2 marks)

5. a) Outline THREE reasons why break releases may vary between mills. (6 marks)  
b) Describe briefly the main objective of the break system. (3 marks)  
c) Describe briefly the main objective of the reduction system. (3 marks)
6. a) List SIX adjustments that can be made to increase flour protein. (6 marks)  
b) Describe briefly the THREE main separations produced by a milling sifter. (6 marks)
7. a) Sketch and label a typical flour process section for a mill with THREE flour streams. (9 marks)  
b) List THREE disadvantages of pelleting wheatfeed. (3 marks)
8. a) With the aid of a labelled sketch, describe how germ is extracted using a germ separator. (9 marks)  
b) List the THREE main types of bran, and state their size in microns. (3 marks)
9. a) Describe briefly the THREE methods of calculating extraction, to monitor mill performance. (9 marks)  
b) List THREE wheat factors that affect extraction. (3 marks)
10. Outline SIX operational factors that can affect mill performance. (12 marks)