



Question Paper

Module 3:	Mill Processes and Performance	
Date: 9 May 2019	Time: 09:30 – 12:30	Duration: 3 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 TEN** questions, starting each question (1-10) on a **new** page of the answer book.

1.
 - a) Explain the main aims of the break system. (5 marks)
 - b) Explain the main aims of the reduction system. (5 marks)
 - c) State the purpose of bran finishing. (2 marks)

2.
 - a) Explain why roller mills are more efficient than stones. (4 marks)
 - b)
 - i) State the FIVE conditions that must be met for efficient purification. (5 marks)
 - ii) Explain in detail ONE of these conditions. (3 marks)

3.
 - a) List SIX roller mill details that should be included in a mill flowsheet. (6 marks)
 - b) Explain the terms:
 - i) Mill performance; (3 marks)
 - ii) Mill balance. (3 marks)

4.
 - a) State the FIVE main components of a pin mill. (5 marks)
 - b) Describe the operation of a pin mill. (2 marks)
 - c) State the main reason pin mills are used in the mill flow. (1 marks)
 - d) Describe the operation of a drum detacher. (2 marks)
 - e) State where a drum detacher would be positioned in the mill flow. (2 marks)

5. Explain the FOUR basic elements used in the PeriTec debranning system. (12 marks)

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6. a) State SIX reasons why stainless steel wire is not commonly used in a milling plansifter. (6 marks)
- b) State the SIX layers of product achieved by stratification in a purifier. (6 marks)
7. a) Explain how a blowline pressure switch works. (4 marks)
- b) With the aid of a sketch, describe how mill flour streams are processed to finished flour storage. (8 marks)
8. a) i) State SIX advantages of pelleting wheatfeed. (6 marks)
- ii) State THREE disadvantages of pelleting wheatfeed. (3 marks)
- b) List the THREE nutrients lost from flour during the milling process. (3 marks)
9. Describe in detail the machine adjustments required when changing from a hard grist to a soft grist. (12 marks)
10. Describe SIX factors relating to wheat quality that can affect mill performance. (12 marks)