

DIRECTORATE OF DISTANCE EDUCATION
GURU JAMBHESHWAR UNIVERSITY OF SCIENCE AND TECHNOLOGY, HISAR



POST GRADUATE DIPLOMA IN BAKERY SCIENCE AND TECHNOLOGY
(PGDBST)

ASSIGNMENTS

SESSION 2016-17

PREPARED

BY

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PGDBST-01: WHEAT GRAIN STRUCTURE, QUALITY AND MILLING

ASSIGNMENT – I

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Define wheat quality. Classify wheat species and indicate their importance.
2. Explain basis of wheat variety hardness/softness. How grain hardness can be determined?
3. Ash content is considered an index of flour quality. Justify the statement.

ASSIGNMENT – II

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Explain major functions of tempering. Differentiate between tempering and conditioning of wheat.
2. What do you understand by the term extraction rate? How it influences the composition of wheat flour?
3. How automation of milling machinery helps in improving milling operation?

**PGDBST-02: FUNCTIONALITY OF WHEAT FLOUR COMPONENTS &
BAKERY INGREDIENTS**

ASSIGNMENT – I

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Discuss the importance of wheat protein composition with respect to the bread quality.
2. Describe manufacturing techniques, uses and functionality of wheat gluten.
3. Give a brief account of classification of wheat proteins by Osborne and Shewry.

ASSIGNMENT – II

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Give brief accounts of the functions of milk & milk products, malt, surfactants and anti-microbial agents in bakery products.
2. What do you understand by the term dough improvers/conditioners? How oxidizing & reducing agents help to improve the quality of bakery products.
3. Give classification of wheat lipids. Discuss the role of lipids in bakery products.

PGDBST – 03: QUALITY TESTING OF WHEAT FLOUR AND BAKERY PRODUCTS

ASSIGNMENT – I

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Describe the method and principle of estimation of gluten quantity.
2. Explain the importance of gluten quantity and quality in biscuit making.
3. Which rheological measurements are recorded using viscoamylograph and what is the importance of these measurements in assessing flour quality?

ASSIGNMENT – II

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Discuss application of viscoamylograph in assessing dough properties.
2. Explain the importance of BIS/PFA standards for bakery ingredients and products. Specify standards for maida and protein rich flour.
3. Which instruments are known as recording dough mixers? How these instruments are different from other category of instruments?

PGDBST – 04: RHEOLOGY AND CHEMISTRY OF DOUGH

ASSIGNMENT – I

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Discuss the influence of enzymes on the rheological behaviour of the wheat dough.
2. Define oscillatory measurement and discuss the importance of rheological parameters.
3. Define the term 'Empirical testing'. Differentiate between empirical and fundamental testing and discuss the importance of empirical and fundamental dough testing.

ASSIGNMENT – II

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Explain how gluten proteins influence the mixing characteristics of wheat flours.
2. Explain the importance of wheat gluten viscoelasticity in gas retention and bread making. Also explain how dough is transformed from foam structure to sponge structure during bread baking?
3. Give a brief account of the role of following in dough rheology:
a) Water b) Redox agents c) Sugars d) Emulsifiers

PGDBST – 05: BREAD INDUSTRY AND PROCESSES

ASSIGNMENT – I

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Discuss major constraints of baking industry?
2. Discuss different types of mixing machine used in bread industry.
3. Explain, why bread dough is subjected to moulding, dividing and proving operations?

ASSIGNMENT – II

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Classify major bread making processes and indicate main differentiation between them.
2. How dough is developed in Chorleywood Bread Process? What are the special features of this method of bread making?
3. Why variety breads are required? Which grains are most suited for multigrain breads? What is their importance?

PGDBST – 06: SOFT WHEAT PRODUCTS AND PROCESSES

ASSIGNMENT – I

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Describe manufacturing process of sweet and semi-sweet biscuits
2. Classify cakes, given their formulations and explain each category in brief.
3. Give a brief account of unit operations used in the processing of cakes.

ASSIGNMENT – II

Note: Attempt all three questions from the assignment given below. Each question carries 5 marks.

1. Discuss general process of cookie production.
2. Why cookies are baked in different zones maintaining different temperature profiles?
3. Classify biscuits and give a brief account of hard dough biscuits