

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- V (New) EXAMINATION – WINTER 2019

**Subject Code: 2151406**

**Date: 25/11/2019**

**Subject Name: Technology of Grains**

**Time: 10:30 AM TO 01:00 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
- (a) Explain the morphological structure of paddy grain. **03**
- (b) What is return paddy? State the measures to minimize the quantity of return paddy. **04**
- (c) Explain in detail about the air classification of wheat speciality flours. **07**

- Q.2**
- (a) Write the objectives of hydrothermal treatment to grains. **03**
- (b) Define conditioning of wheat and state its objectives. **04**
- (c) Explain the various pre-treatments required to oilseeds prior to oil extraction. **07**

**OR**

- (c) Why crude oil is not suitable for consumption? Explain the process of refining of crude oil. **07**

- Q.3**
- (a) State the uses of hard and soft wheat. **03**
- (b) Enlist the equipment involved in milling of pulses and state their importance. **04**
- (c) Briefly discuss the benefits of modern methods of milling of pulses over traditional methods and explain the CFTRI method of pulse milling. **07**

**OR**

- Q.3**
- (a) Enlist the post milling operations carried out on wheat flour. **03**
- (b) Explain the home scale traditional methods of pulse milling. **04**
- (c) Explain the various factors affecting milling characteristics of pulses. **07**
- Q.4**
- (a) Distinguish between the modern and conventional milling of paddy. **03**
- (b) Explain in brief about the different rollers used in wheat milling. **04**
- (c) Explain the most appropriate drying process of paddy before storage and milling. **07**

**OR**

- Q.4**
- (a) State the difference between floury and horny endosperm of corn. **03**
- (b) Briefly describe the dry milling process of corn starch extraction. **04**
- (c) Enlist and explain the ideal wheat flour properties. **07**
- Q.5**
- (a) State the different methods of dhal polishing. **03**
- (b) Write the principle involved in extraction of oil by Mechanical and Solvent Extraction Method. Explain the solvent extraction method oil extraction. **04**

- (c) What do you understand by the term 'Supply Chain'? Explain the supply chain of any one staple cereal cultivated in India. **07**

**OR**

- Q.5** (a) Define/explain the terms: **03**  
i) Carborandum ii) Antinutritional factors iii) Aspiration
- (b) What is protein isolate? Give the flow chart of preparation of protein isolate. **04**
- (c) Write short notes on: **07**  
i) Steeping of corn  
ii) Types of corn

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