

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

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

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2019**

**Subject Code: 2151406**

**Date: 06/06/2019**

**Subject Name: Technology of Grains**

**Time: 02:30 PM TO 05:00 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) Draw the morphological structure of wheat and state the possible utilization of each part. **03**
- (b) What is scalping? State the significance of scalping in milling of grains. **04**
- (c) Explain the significance of : **07**
- i) Determination of physico-chemical properties of food grains
  - ii) Supply chain of food grains

- Q.2** (a) Explain the working of ‘Screw Press’ used for extraction of oil from oilseeds. **03**
- (b) Explain the sella process of parboiling. **04**
- (c) State the principle involved in cracking of rice and explain the remedial measures to avoid the cracking of rice during milling. **07**

**OR**

- (c) State the importance of rice polishing and explain the working mechanism of cone polisher with neat labeled diagram. **07**
- Q.3** (a) What are the advantages of milling of pulses? **03**
- (b) Comment on ‘hydrogenation of oil’ **04**
- (c) Define the term ‘Milling of pulses’ and explain the dry and wet method of pulse milling. **07**

**OR**

- Q.3** (a) Explain the important features of Modern methods of pulse milling over traditional methods. **03**
- (b) Explain the various factors affecting milling characteristics of pulses **04**
- (c) Explain the flow diagram of CFTRI method of milling of pulses. **07**

- Q.4** (a) Define parboiling of paddy and state the advantages of parboiling of paddy. **03**  
(b) Briefly explain the principle involved in separation of paddy by tray separator. **04**  
(c) Enlist the groups of impurities present in crude oil and describe the steps involved for their removal. **07**

**OR**

- Q.4** (a) Distinguish between whole wheat flour and refined wheat flour. **03**  
(b) Discuss in detail the nutritional value of cereals and pulses. **04**  
(c) Write a short notes on: **07**  
    i) Soybean processing  
    ii) Utilization of defatted oilseed cake

- Q.5** (a) Enlist the different species of wheat with their importance. **03**  
(b) Explain the working mechanism of beall degermer with neat labelled diagram. **04**  
(c) Explain the wet milling process for the extraction of corn starch. **07**

**OR**

- Q.5** (a) Enlist the by-products of wheat milling industry and state its utilization. **03**  
(b) Discuss the different applications of corn and its products. **04**  
(c) Write short notes on: **07**  
    1. Bleaching of wheat flour  
    2. Enrichment of wheat flour

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