

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-V EXAMINATION – WINTER 2015

Subject Code: 2151408**Date: 10/12/2015****Subject Name: Technology of Cereals Pulses and Oil Seeds****Time: 10:30am to 1:00pm****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) Define parboiling. Enlist different methods of parboiling of paddy. Explain any one in detail with diagram citing critical parameters. **07**
- (b) State India's standing in food grain production. Critically analyze the present position of storage and supply chain management of food grains in India. Describe the supply and distribution channels for any one food grain in India. **07**
- Q.2** (a) Describe the working principle and methodology of paddy de-husking by a Disk Sheller with a neat diagram. **07**
- (b) What is the working principle of oil extraction from oil seeds by mechanical extractors? Explain the working of Screw Press with the help of a neat labelled diagram. **07**
- OR**
- (b) Write explanatory notes on the following: **07**
- (i) Hydrogenation of oils and fats.
 - (ii) Utilization of defatted meal
 - (iii) Refined oils
- Q.3** (a) Differentiate between coarse and refined wheat flour on the basis of key characteristics and state applications of both for preparation of various processed foods. **07**
- (b) Write notes on the following: **07**
- (i) Polishing of rice
 - (ii) Thermal properties of grain
 - (iii) Angle of repose
- Q.3** (a) Explain in detail the process of extraction of starch from corn. **07**
- (b) Write brief notes on the following: **07**
- (i) Sieve shakers
 - (ii) Cyclone separators
 - (iii) Winnowing
- Q.4** (a) List various methods of pulse milling in India. Give flow diagram for wet milling and dry milling of pulses. Which one is preferred and why? Give highlights of modern CFTRI method of pulse milling. **07**

- (b) Explain corn milling, processing and generation of Co-products. **07**
- OR**
- Q.4 (a)** What is milling of pulses? Mention the need for pre-milling treatments. State different types of pulse milling processes. Explain commercial scale milling of pulses. **07**
- (b) Write notes on the following: **07**
- (i) Flint and flour corn
 - (ii) Sweet corn and field corn
 - (iii) Primary and secondary applications of corn
- Q.5 (a)** Describe the following w.r.t. paddy processing: **07**
- (i) Threshing
 - (ii) Drying
 - (iii) Hulling
 - (iv) Milling
 - (v) Enriching
- Discuss the by-products and waste generated during paddy processing
- (b) Enlist different classes of wheat and state their applications. What is “Flour Quality” vis-à-vis wheat? **07**
- OR**
- Q.5 (a)** Write brief notes on the following: **07**
- (i) DDGS
 - (ii) Utilization of defatted meal
 - (iii) Corn Condensed Distillers Solubles
 - (iv) Condensed Corn Fermented Extractives
 - (v) Application of Edible Oils
 - (vi) Solvent extraction
 - (vii) Types Pulse milling equipment
- (b) Write brief notes on the following: **07**
- (i) Bleached wheat flour
 - (ii) Flour treatment agents
 - (iii) Enriched flour
 - (iv) Gluten
 - (v) Malt
 - (vi) Photo-oxidation of oils
 - (vii) Vanaspati
