

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2021

Subject Code:3151406

Date:13/09/2021

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.**
- 4. Simple and non-programmable scientific calculators are allowed.**

- Q.1**
- (a) Enlist the specific difference(s) between brown rice and white rice. **03**
- (b) Write a short note on 'refining of crude oil'. **04**
- (c) Explain the rice grain cracking mechanism during drying and suggest the remedial measures. **07**

- Q.2**
- (a) State the industrial applications of corn and its derived products. **03**
- (b) Distinguish between whole mill flour and straight run flour. **04**
- (c) Explain the working mechanism of Beall Degermer with neat sketch and mention its application. **07**

OR

- (c) Explain the various factors affecting milling characteristics of pulses. **07**
- Q.3**
- (a) Define/explain the terms: **03**
i) Pitting of legumes ii) Anti-nutritional factors iii) Aspiration
- (b) Explain the working mechanism of continuous magnetic separator with neat sketch. **04**
- (c) Give a flow diagram of Commercial method of pulse milling and explain the principal steps involved in commercial milling. **07**

OR

- Q.3**
- (a) Enlist the advantages and disadvantages of rice polishing. **03**
- (b) Explain the important features of Modern methods of pulse milling over traditional methods. **04**
- (c) Explain the dehusking of paddy using the rubber roll sheller. **07**
- Q.4**
- (a) Enlist the species of wheat and state their importance. **03**
- (b) State the advantages and limitations of solvent extraction method over mechanical methods. **04**

(c) Explain the process of extraction of corn starch by wet milling method. **07**

OR

Q.4 (a) Write a short note on 'hydrogenation of oil'. **03**

(b) What is conditioning of wheat? Explain the process of wheat conditioning. **04**

(c) Explain the working of: **07**

i) Screw press

ii) Hydraulic press

Q.5 (a) State the nutritional value of cereals and pulses. **03**

(b) Explain the nature of soft and waxy varieties of corn. **04**

(c) Explain the air classification of speciality wheat flours. **07**

OR

Q.5 (a) State the advantages of parboiling of paddy. **03**

(b) Write short note on 'Supply Chain of Food Grains' **04**

(c) Explain the various pre-treatments required to oilseeds prior to oil extraction. **07**