

CARMEL COLLEGE OF ARTS, SCIENCE AND COMMERCE, NUVEM – GOA

POST GRADUATE DEGREE STUDIES (AFFILIATED TO GOA UNIVERSITY)

M.Sc. (II) Food Technology (Semester III) Examination January 2021

FTO 101 CEREAL, LEGUME, AND OILSEED PROCESSING TECHNOLOGY

Max. Marks: 45

Duration: 2 hours

Date: 18 January 2021

INSTRUCTIONS:

1. All questions in **Section I** are compulsory.
 2. Answer **any 3** questions from **Section II**
 3. Figures on the right indicate maximum marks assigned to the question
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SECTION I

Q1. Pick the correct option from the choices given.

(3 × 1 mark = 3 marks)

1. Under conditions of moderate temperature and high relative humidity, the grain _____.
 - a. remains at equilibrium
 - b. absorbs moisture
 - c. loses moisture
 - d. remain unchanged
2. Pulses and Cereals are respectively deficient in:
 - a. Leucine, Methionine
 - b. Methionine, Lysine
 - c. Methionine, Leucine
 - d. Lysine, Methionine
3. Which of the following is not a value added product?
 - a. Fermented vegetables
 - b. Oilseed cake
 - c. Parboiled rice
 - d. Organic fruit

Q2. Discuss any three of the following briefly:

(3 × 3 marks = 9 marks)

- a. Cereals as weaning foods.
- b. Moisture Migration in a Silo.
- c. Process of Fumigation.
- d. Nixtamalization of corn.

P.T.O.

Q3. Match the 'Process' to its function.

(6 × 0.5 mark = 3 marks)

	i	Removal of free fatty acids (FFA)	
a	Fractionation	ii	Degradation of phytates via endogenous phytases
b	Conditioning	iii	Slow dehydration of sprouted grain
c	Fermentation	iv	Reduction of grain size
d	Refining	v	Extraction of isolates and concentrates
e	Kilning	vi	Alternate wetting and drying
f	Germination	vii	Addition of refined fortificants
	viii	Production of low glycemic index foods	

SECTION II

Q4. a. Explain the relationship between moisture, temperature and relative humidity w.r.t. grain storage. (7)

b. Briefly explain changes observed in food grains during storage. (3)

Q5. a. Explain the process of Parboiling and the biochemical changes that take place within the grain. (8)

b. Discuss the advantages conferred on parboiling rice. (2)

Q6. a. Describe the basic stages of oilseed processing. (8)

b. Draw a chart for processing of any one oilseed. (2)

Q7. a. What is meant by Fortified Foods? What are the pros and cons of Fortification? (4)

b. Elaborate on Iron Fortificants, citing an example for each. (6)
