



FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme: Bachelor of Technology (Food Processing Technology)

Semester: V

Course Code: 202070505

Course Title: Technology of Cereals, Pulses and Oil Seeds

Course Group: Professional Core Course

Course Objectives: This subject is aimed at imparting knowledge and skills related to the processing techniques, value addition and handling of processing equipment of cereals, pulses and oil seeds to the students, as the understanding of these aspects is essential for the students to perform efficiently and effectively in the industry.

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
Lecture	Tutorial	Practical		Theory		J/V/P*		Total
				Internal	External	Internal	External	
3	0	2	4	50/18	50/17	25/9	25/9	150/53

* J: Jury; V: Viva; P: Practical

Detailed Syllabus:

Sr.	Contents	Hours
1	Rice: Milling operations and parboiling of paddy.	10
2	Wheat: Milling operations of wheat, flour pretreatments, Turbo grinding and air-classification, Flour grades and their suitability for baking purposes, Assessment of flour quality and characteristics.	12
3	Milling of Pulses: Composition of pulses, Traditional milling, Commercial milling and Modern methods of pulse milling. Factors affecting milling of pulses, Supply chain of food grains	11
4	Processing of Oilseeds: Pre-treatment, Oil extraction methods, Processing of extracted oil: Refining, Hydrogenation; Processing of deoiled cake: Protein rich products, Soybean processing.	12
	Total	45

List of Practicals / Tutorials:



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Aegis: Charutar Vidya Mandal (Estd.1945)

1	To study the physical properties of rice
2	To study the physical properties of paddy
3	To study the cooking quality of rice using water uptake method.
4	To prepare sprouted or germinated pulses or beans
5	To prepare parboiled paddy by pressure boiling method
6	Determination of Angle of Repose of grains
7	Preparation of quick cooked rice
8	To study the methods of extraction of oil from oilseeds
9	Determination of slipping point of fat
10	Determination of under milled grains from polished rice

Reference Books:

1	Post-harvest technology of Cereals, Pulses and Oilseeds by Chakravarti A. Oxford Publishing.
2	Cereal Technology by Potter NN. AVI Publication.
3	Unit Operations of Agricultural Processing by K.M. Singh and K. K. Sahay
4	Bakery Science & Cereal Technology by Neelam Khatarpaul, Rajbala Grewal & Sudesh (Daya publishing house).
5	Bakery Technology and Engineering by Matz SA. CBS Publication.
6	Manuals on Rice and its processing by CFTRI Mysore and IIT Kharagpur

Supplementary learning Material:

1	www.iicpt.edu.in
2	sch.vscht.cz/materialy/erasmus/CCHT2Engl-Hr-2010.pdf
3	www.grains.k-state.edu
4	www.grainmilling.org.za/miller.htm
5	www.cftri.com/milling.html

Pedagogy:

- Direct classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Industrial/ Field visits
- Course Projects

Internal Evaluation:

The internal evaluation comprised of written exam (40% weightage) along with combination of various components such as Certification courses, Assignments, Mini Project, Simulation, Model making, Case study, Group activity, Seminar, Poster Presentation, Unit test, Quiz, Class Participation, Attendance, Achievements etc. where individual component weightage should not exceed 20%.



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Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks in %						R: Remembering; U: Understanding; A: Applying; N: Analyzing; E: Evaluating; C: Creating
R	U	A	N	E	C	
18	18	20	22	22	0	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Understand the milling operations of paddy	25
CO-2	Understand the milling operations of wheat	25
CO-3	Understand the milling operations of pulses and supply chain	25
CO-4	Understand the extraction and refining process of oil from oilseeds	25

Curriculum Revision:

Version:	2
Drafted on (Month-Year):	June-2022
Last Reviewed on (Month-Year):	
Next Review on (Month-Year):	June-2025