

▪ SEMETSER:- II

▪ COURSE NO.:- FST-124

▪ COURSE TITLE:- CEREAL PROCESSING

▪ CREDIT:- 3(2+1)

➤ THEORY

NO. OF UNITS	TOPICS	NO. OF LECTURES
1	<p><i>Present status and future prospects of cereals</i></p> <p><i>(Rice, Wheat, Corn, Sorghum, Rye)</i></p> <p><i>Morphology of Rice :</i></p> <ul style="list-style-type: none"> ▪ <i>Physical properties: Density, Bulk density, Angle of repose,</i> ▪ <i>hardness, asperity, porosity, stack of milling and moisture on physical properties</i> <p><i>Chemical composition: Distribution of nutrients and Aroma of rice.</i></p> <p><i>Drying of paddy : general principles and methods of drying,</i></p> <p style="text-align: center;"><i>cracking phenomenon - prevention. Methods of drying,</i></p> <p style="text-align: center;"><i>batch type, continuous type driers</i></p>	4
2	<p><i>Parboiling of rice :</i></p> <p><i>Milling of rice :</i></p> <ul style="list-style-type: none"> i <i>Conventional Milling</i> ii <i>Modern milling</i> iii <i>Advantages and disadvantages of milling machineries.</i> iv <i>By products of rice milling</i> <p><i>Aging of rice :</i></p> <p><i>Enrichment: Need of Enrichment, Methods of enrichment, enrichment levels, fortification of amino acids. - Processed Foods from rice: Breakfast cereals, flakes, puffing, canning and instant rice</i></p>	5
3	<p><i>Corn : Morphology, Physico-chemical properties, Corn milling, Milling fractions and preparations of modified starches</i></p> <p><i>Barley : Morphology, Physico-chemical properties and processing (Malting)</i></p>	5
4	<i>Sorghum : Morphology, Physico-chemical properties, Milling, Malting, Pearling and industrial utilization</i>	4
5	<i>Millets – Oat / Rye : Importance of Millet, composition, processing of millets for food uses</i>	5
	TOTAL	32

➤ PRACTICALS

NO. OF UNITS	TOPICS	NO. OF EXPT.
1	Morphological characteristics of cereals	1
2	Physical properties of cereals	1
3	Chemical properties of cereals	1
4	Determination of colour of cereals	1
5	Parboiling of paddy	1
6	Cooking quality of rice	1
7	Milling of rice	2
8	Conditioning of wheat	1
9	Production of sorghum flakes	1
10	Production of popcorns	1
11	Preparation of sorghum malt	2
12	Determination of gelatinization temp. by amylograph	1
13	Extraction of oil from rice bran	1
14	Visit to cereal processing unit	1
	TOTAL	16

➤ *Reference Books:*

- *Technology of Cereals* Kent.
- *Post Harvest Technology of Cereals, Pulses and Oil seeds* A. Chakrawarthy
- *Modern Cereal Sci and Technology* Y. Pomeranz
- *Utilization of Rice* Luh.
- *Post Harvest Bio Technology of Cereals* D.K. Salunkhe
- *Hand Book of Cereal Science and Karel Technology* O.R. Fennema, Markus karel