

## DEPARTMENT OF PROCESSING AND FOOD ENGINEERING

### + ACTIVITIES AND ACHIEVEMENTS

#### ✓ Activities

#### • Teaching activity:

**Teaching activity- Courses under Department of Processing & Food Engineering**

**According to IV Deans' committee recommendation**

Sr. No.	Course Name	Course No.	Credit	L	P	T
1.	Computers Programming and Data Structures	PFE - 101	3(1+2)	1	2	0
2.	Electrical Circuits	PFE - 102	3(2+1)	2	1	0
3.	Engineering Properties of Biological Materials and Food Quality	PFE - 201	3(2+1)	2	1	0
4.	Crop Process Engineering	PFE - 202	3(2+1)	2	1	0
5.	Heat and Mass Transfer	PFE - 204	2(2+0)	2	0	0
6.	Database Management and Internet	PFE - 206	2(0+2)	0	2	0
7.	Dairy and Food Engineering	PFE - 301	3(2+1)	2	1	0
8.	Electrical Machines and Power Utilization	PFE - 303	3(2+1)	2	1	0
9.	Agricultural Structures and Environment Control	PFE - 302	3(2+1)	2	1	0
10.	Drying and Storage Engineering	PFE - 304	4(3+1)	3	1	0
11.	Food Packaging Technology	PFE - 401	3(2+1)	2	1	0
12.	Waste and By-product Utilization	PFE - 403	2(1+1)	1	1	0
13.	Development of Processed Products and Equipments	PFE - 405	3(2+1)	2	1	0
14.	Food Processing Plant Design and Layout	PFE - 407	2(1+1)	1	1	0
15.	Post Harvest Technology	APE-2.2.3	4(3+1)	3	1	0
16.	Agricultural Process Engineering	APE-3.1.2	4(2+2)	2	2	0
17.	Agricultural Structures	APE-3.1.5	3(2+1)	2	1	0
18.	Food Packaging Technology	APE – 3.1.8	3 (2 + 1)	2	1	0
19.	Development of Processed Products and Equipments	APE – 3.1.9	3 (2 + 1)	2	1	0

Sr. No.	Course Name	Course No.	Credit		
1.	Project	AE - 401	6		
2.	Seminar	AE - 403	1		
3.	Industrial and Field Training cum Project Work	ITP-3.2.1	18		
Course Code	Course Name	Total Credits	Lecture	Practical	Tutorial
Student will undertake in-plant training of 25 credits hours which will include practical training at Institution, training in one (4 months) / two (2 months each) Industrial Units and Educational tour.					
AE (PFE) - 402	Educational tour	0(0+0)	0	0	0
AE - 404	In-Plant Training	25(0+25)	0	25	0

**According to V Deans' committee recommendation**

Sr. No.	Dept. of Processing and Food Engineering (5)	Course No.	Credit 13(8+5)	L	P	T
1	Engineering Properties of Agricultural Produce	PFE-202	2(1+1)	1	1	2
2	Agricultural Structures and Environmental Control	PFE-301	3(2+1)	2	1	3
3	Post Harvest Engineering of Cereals, Pulses and Oil Seeds	PFE-303	3(2+1)	2	1	3
4	Post Harvest Engineering of Horticultural Crops	PFE-302	2(1+1)	1	1	2
5	Dairy and Food Engineering	PFE-304	3(2+1)	2	2	3
<b>Elective course</b>						
1	Food Quality and Control	PFE-4.8.17	3(2+1)	2	1	3
2	Food Plant Design and Management	PFE-4.8.18	3(2+1)	2	1	3
3	Food Packaging Technology	PFE-4.8.19	3(2+1)	2	1	3
4	Development of Processed Products	PFE-4.8.20	3(2+1)	2	1	3
5	Process Equipment Design	PFE-4.8.21	3(2+1)	2	1	3

<b>VII Semester</b>			
<b>VII Semester Student READY</b>			
<b>(Rural and Entrepreneurship Awareness Development Yojana)</b>			
1.	CAE-4.7.1	10- weeks Industrial Attachment /Internship (Student READY)	10(0+10)
2.	CAE-4.7.2	10- weeks Experiential Learning On campus (Student READY)	10(0+10)
3.	CAE-4.7.3	Skill Development Training-II (Student READY) Registration only	5(0+5)
4.	CAE-4.7.4	Educational Tour (Registration only)	2 (0+2)
<b>Total</b>			<b>27(0+27)</b>
<b>VIII Semester</b>			
<b>VIII Semester Student READY</b>			
<b>(Rural and Entrepreneurship Awareness Development Yojana)</b>			
1.		Elective course	3(2+1)
2.		Elective course	3(2+1)
3.		Elective course	3(2+1)
4.	CAE-4.8.4	Project Planning and Report Writing (Student READY)	10(0+10)
<b>Elective Courses (Any 3 courses) 9 (6+3)</b>			

## Research:

### Recommendations:

Sr. No.	Title of recommendation
<b>Departments of Processing and Food Engineering</b>	
1.	Development and studies of sapota (chikoo) powder based value added product (pasta) using semolina (Suji) and maida.

### Ongoing Programmes

Sr. No.	Title of experiment
1.	Comparative Studies on the different drying methods on ber ( <i>Ziziphus mauritiana</i> ).
2.	Study on drying characteristics of bitter gourd ( <i>Momordica charantia L.</i> ).
3.	Development of Zero Energy Evaporative Cooling Storage Structure (ZEECSS) for Tribal Region of Dediapada.

### B. Tech academic research projects

<b>Academic Year 2016-17 (Completed)</b>	
1.	Process Standardization quality evaluation and storage study of pineapple juice blend with carrot and orange juice.
2.	Study of drying behaviour of banana chips
3.	Performance evaluation of mini dhal mill for pigeon pea ( <i>cajanus cajan</i> ) and green gram ( <i>vigna radiata</i> ).
4.	Development of value added products using soybean and cereals.
<b>Academic Year 2017-18 (Completed)</b>	
1.	Development of ready-to-eat (RTE) bitter gourd ( <i>Momordica charantia L.</i> ) chips.
2.	Development of low cost evaporative cooling system for tomato for benefit of farmers.
<b>Academic Year 2018-19 (Ongoing)</b>	
1.	Studies on drying characteristics and development of easy-to-cook (ETC) fenugreek ( <i>trigonella foenum-graecum</i> ) leaves.
2.	Impact of processing methods on quality of cauliflower ( <i>brassica oleracea</i> ) pickle.
3.	Performance evaluation of attrition mill and studies of fineness modulus (F.M) for wheat ( <i>triticum aestivum</i> ).
4.	Formulation and process development of muffins.
5.	Studies on dried ber fruit powder for preparation of pasta food product.
6.	Process standardization for the development of multigrain ready to eat snacks food.

### **M. Tech academic research projects**

1.	Design and development of rotary disc type garlic clove peeling machine.
2.	Engineering, physico-chemical and sensory properties of papaya ( <i>carica papaya</i> ) at different ripening stages.
3.	Development of washer cum grader for sapota fruit.
4.	Development of sweet potato ( <i>Ipomoea Batatas</i> L.) powder blended <i>Gulabjamun</i> .
5.	Thin layer drying characteristics of basil leaves ( <i>Ocimum gratissimum</i> ).

### **Ph.D academic research projects**

1.	Studies on green tender sorghum seed ( <i>pouk</i> ) processing and development of related Machinerries.
2.	Mathematical modelling and effect of drying conditions on quality characteristics of green peas ( <i>Pisum sativum</i> L.) under Fluidized bed drying.

### **Extension:**

- **Krusha Mahotasav**

Faculty and Scientists of the department actively participate in the Krushi Mahostav programme organized by the state Government every year and also taking part in the exhibition, seminar, krushigosthi etc. arranged during the programme.

- **Mera Gaon Mera Gaurav**

Scientists of the department regularly visit the adopted villages under Mera Gaon Mera Gaurav programme to promote the direct interface of scientists with the farmers to provide farmers with required information, knowledge and advisories.