Department Profile Department of Food Science and Technology

1) From the Desk of Head in 200 words

I have always been inspired by Hippocrates Quote, 'Let Food Be Your Medicine and Medicine Be Your Food'. Today world is facing challenge about safe and nutritious food, and food security is becoming important pillar of sustainable growth of the society. For this, awareness about the food and components in its relation is becoming necessary. Also, there is necessity to fill the skill gap in the industry and manpower to boost the trade. Keeping all this in mind, M. Sc. Food Science and Technology course was started in Shivaji University, to create a middle level manpower. Food Science and Technology ensures the delivery of a safe, nutritious, and abundant food globally. It can address specific issues throughout the food system. Food science is the study which consists of the physical, biological, and chemical makeup of food and covers the concepts underlying food processing and preservation. Various scientific disciplines inclusive of chemistry, engineering, biochemistry, microbiology, and nutrition are applied. Whereas, the application of these scientific disciplines for selection, preservation, processing, packaging, distribution, and consumption is the food technology. Being university department facilities from other departments are shared and utilized for strengthening the teaching and research.

I want my students to get a quality education that will impart professional and problem solving skills to build their career and become an entrepreneur. My aim is to recognize this department nationally and internationally for excellence in teaching, research and public service. Through this I seek to be the preferred destination for students, seeking an education and knowledge.

2) Brief History of the department along with present focus in academic & research

The Department of Food Science and Technology was established in June 2007 in the university as self supporting department. Its primary objective was to produce competent food scientists and technologists who can take leading roles in improving the socio-economic status of regional people. The department is also intended to provide technical support to farmers and entrepreneurs to establish small scale industries. Food Science and Technology is a multidisciplinary course which includes subjects on processing, preservation, chemistry, quality, safety and marketing aspects of food and food products. The department has framed the curriculum in such a manner that by the time the student completes this degree program, the entrepreneur skill is already developed and they are fit to work in research, teaching and industry. The department is committed to work on research areas like food processing and preservation, utilization of industrial waste and neutraceuticals and functional foods. Also, the faculties have got sanction various research project form funding agencies. Department has developed innovative products like healthy noodles, wheat free cake, ficus jam and pickle etc.

3) **Vision:** To develop competent food technologist through proactive teaching and learning process, research, entrepreneurship and extension activities leading towards sustainable growth of the society.

4) Mission

To produce competent food technologist with sound knowledge of hygienic food processing, preservation, food standards and regulations, packaging and storage in order to reduce the food losses

To nurture research acumen and entrepreneurship skills amongst students

To promote and practice high standards of professional ethics and social values

5) Core Values of the Departments

The curriculum of the M. Sc. Food Science and Technology is practical oriented and has been designed in such a way that by the time of completing this course student will adopt values like competitiveness and professionalism. To gain hands on experience about the field students are made to complete one month industrial training. Also, different guest lectures, seminars and short term training are conducted to develop entrepreneurship skill amongst students.

The department strives for excellence by developing proactive solutions for challenges in the field of value addition, food preservation, waste utilization and health foods. Research culture gets imbibed in students by completing major research project which is also a part of curriculum. To strengthen the research department also offers Ph. D. degree in Food Science and Technology. The research mainly focuses on industry and society needs.

6) Academic Programs offered with Intake

M. Sc. Food Science and Technology	:	40
Ph. D. Food Science and Technology	:	06

7) Outcome base Education

a. Program Education Objectives

Post Graduates will apply the knowledge of food chemistry, food preservation, food processing and food packaging for the effective utilization of agricultural commodities to develop healthy and nutritious foods

Post Graduates will design economically feasible equipments for the modernization of traditional food processing methods

Post Graduates will apply the knowledge of food engineering and technology principles from the various aspects of food technology and related disciplines to solve practical and real-world problems

b. Program Outcomes

Post Graduates will have an ability to apply knowledge of Food Science, Food Processing, Food Engineering and Technology

Post Graduates will have an ability to analysis the problems in food science, food processing and food technology, and will be competent to control them during foods manufacturing and storage

Post Graduates will have an ability to identify problems and design to resolve the problems in the actual situations during food processing, food quality controlling, food packaging and storage

Post Graduates will have an ability to express practical proficiency in the field of food analysis, food processing and food preservation

Post Graduates will have advanced knowledge of food microbiology, food science, food engineering, food quality and food processing technology

Post Graduates will have an ability of designing and development of food products as per the need of society keeping the value of food safety and health benefits

Post Graduates will have an ability to understand the impact of the professional scientific and technical solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development

Post Graduates will have an ability to apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice

Post Graduates will have an ability to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings

Post Graduates will have an ability to communicate effectively for self development

Post Graduates will have knowledge of industrial economics and management of food industries

Post Graduates will have an ability to recognize the need, and have preparations and ability to engage in independent and life-long learning in the broadest context of technological change

M. Sc. FOOD SCIENCE AND TECHNOLOGY STRUCTURE (CBCS PATTERN) (2019-20)

M. Sc. Part – I

SEMESTER – I (Duration – Six Month)												
				TEA	CHING SCHEN	ME	EXAMINATION SCHEME					
TVDF	SR.	COURSE	TITLE OF THE DADER	The	ory and Practic	al	Universi	ty assessme	nt (UA)	Internal Assessment (IA)		
IIIL	NO.	CODE	IIILL OF THE FAFEK	LECTURES	HOURS	CREDITS	MAX.	MINI.	EXAM.	MAX.	MINI.	EXAM.
				(per week)	(per week)	CILDIIS	MARKS	MARKS	HOURS	MARKS	MARKS	HOURS
	1	CC-101	Principles of Food Processing & Preservation	4	4	4	80	32	3	20	8	1
CGPA	2	CC-102	Food Microbiology	4	4	4	80	32	3	20	8	1
	3	CC-103	Food Chemistry	4	4	4	80	32	3	20	8	1
	4	CC-104	Biochemistry and Nutrition	4	4	4	80	32	3	20	8	1
	5	CCPR-105	Laboratory Course I	16	16	8	200	80				*
1	fotal (A)	-				24	520			80		
Non-CGPA	1	AEC-106	Communicative English - I	2	2	2				50	20	2
				SEMESTER	– II (Duration -	- Six Month)						
	1	CC-201	Principles of Food Engineering	4	4	4	80	32	3	20	8	1
	2	CC-202	Cereal and Legume Technology	4	4	4	80	32	3	20	8	1
	3	CC-203	Fruit and Vegetable Technology	4	4	4	80	32	3	20	8	1
	4	CC-204	Fermentation Technology	4	4	4	80	32	3	20	8	1
	5	CCPR-205	Laboratory Course II	16	16	8	200	80				*
Total (B)						24	520			80		
Non-CGPA	1	SEC-106	Fundamentals of Information Technology - I	2	2	2				50	20	2
To	tal (A + 1	B)				48	1040			160		

M. Sc. FOOD SCIENCE AND TECHNOLOGY STRUCTURE (CBCS PATTERN) (2019-20)

M. Sc. Part – II

	SEMESTER – III (Duration – Six Month)											
				TEACHING SCHEME			EXAMINATION SCHEME					
	SR.	COURSE	TITLE OF THE DADER	Theo	ry and Pract	ical	University assessment (UA) Internal Assessment (I				nt (IA)	
	NO	CODE	IIILE OF THE FAFEK	LECTURES	HOURS	CREDITS	MAX.	MINI.	EXAM.	MAX.	MINI.	EXAM.
				(per week)	(per week)	CREDITS	MARKS	MARKS	HOURS	MARKS	MARKS	HOURS
	1	CC-301	Technology of Meat, Fish and Poultry Products	4	4	4	80	32	3	20	8	1
CGPA	2	CCS-302	Technology of Milk and Milk Products	4	4	4	80	32	3	20	8	1
	3	CCS-303	Food Additives, Contaminants and Toxicology	4	4	4	80	32	3	20	8	1
	4	DSE-304	Food Quality and Safety Management	4	4	4	80	32	3	20	8	1
	5	CCPR-305	Laboratory Course III	16	16	8	200	80				*
Te	tal (C)					24	520			80		
Non CCDA	1	AEC-306	Communicative English - II	2	2	2				50	20	2
Non-CGFA	2	EC	SWAYAM/MOOCs/Online	Number of lectures and credits will be as specified on SWAYAM / MOOC Course / Online Courses					ses			
		-		SEMESTER -	IV (Duration	n – Six Month)					
	1	CC-401	Technology of Oilseeds and Fats	4	4	4	80	32	3	20	8	1
	2	CCS-02	Food Biotechnology	4	4	4	80	32	3	20	8	1
	3	CCS-403	Post-Harvest Technology of Plantation Crops	4	4	4	80	32	3	20	8	1
	4	DSE-404	Food Packaging	4	4	4	80	32	3	20	8	1
	5	CCPR-405	Project & Laboratory Course IV	16	16	8	200	80				*
Total (D)						24	520			80		
Non-CGPA	1	SEC-406	Fundamentals of Information Technology - II	2	2	2				50	20	2
	2	GE-407	Food Analysis	2	2	2				50	20	2
Tota	nl (C + 1	D)				48	48 1040 160					

8) Faculty Details (Details of the faculty in one page)

Name	Dr. Akshaya Kumar Sahoo					
Contact no	9860313395					
E-mail ID	aks_fst@unish	aks_fst@unishivaji.ac.in				
Designation	Co-ordinator					
Research Areas	Neutraceutical	s and Function	al Foods			
	Food Processin	ng Industry Wa	ste Utilization			
	Food Processin	ng and Preserva	ation			
No of Research papers	International: 4	41				
published in last 5 years	National: 07					
Research Projects in last 5	Compl	eted: 5	Ongo	oing: 0		
years (Give details)						
Books Published (Details)						
Patents/ IPR	3 Patent (Publi	shed)				
	Citation	H-Index	i10-index	RG Score		
	454	12	15	17.72		
No of Research papers	International:	3	-			
published in National	National: 25					
/International Conference						
Total no of Ph.D. Students	Awarded		Working			
	03 (Science)		04 (Science)			
	03 (Engineerin	lg)	01 (Engineering)			
Visits Abroad						
National/International						
Awards						
Selected Publications	 S. B. Sadale, A. K. Sahoo, S. Bansode, R. C. Ranveer and A. R. Tapre, P. M. Ganorkar (2019). Enzymatic Clarification and Preservation of Aloe vera Juice by Ohmic Heating. Current Journal of Applied Science and Technology. 35(6):1-9 Shital Patil, R.C. Ranveer, P.P. Debaje, J.H. Kadam and A.K. Sahoo (2018). Ultrasound assisted extraction of curcumin. Asian Journal of Dairy and Food Research. 37(3): 250-252. A.A. Gatade and A.K. Sahoo (2015). Effect of additives and steaming on quality of air dried noodles. Journal of Food Science and Technology. DOI : 10.1007/s13197-015-2013-y AK Sahoo, VS Gaikwad, RC Ranveer, PB Dandge, SR Waghmare (2016). Improvement of shelf life of soymilk using immobilized protease of Oerskovia xanthineolytica NCIM 2839. Biotech. 6 (2): 161. Rahul C. Ranveer, Samsher N. Patil and A. K. Sahoo (2013). Effect of different parameters on enzyme-assisted extraction of lycopene from tomato processing waste. Food and Bioproducts 					

Name	Dr. Abhijeet Arun Gatade				
Contact no	9028785807	9028785807			
E-mail ID	jeetgatade@gn	nail.com			
Designation	Temporary As	sistant Professo	r		
Research Areas	Food suppleme	entation and hea	alth foods		
	Traditional Fo	ods			
No of Research papers	International: 6	5			
published in last 5 years	National: 00		1		
Research Projects in last 5	Compl	eted: 0	Ongo	ing: 0	
years (Give details)					
Books Published (Details)	02 (Std XI Foc	od Science and '	Technology, Bal	lbharti, Pune)	
Patents/ IPR	1 Patent (Publi	ished)	1	1	
	Citation	H-Index	i10-index	RG Score	
	44	3	3	5.4	
No of Research papers	International: (00			
published in National	National: 06				
/International Conference			1		
Total no of Ph.D. Students	Awarded		Working		
Visits Abroad	Nil				
National/International	Best oral prese	ntation in Natio	onal Conference	NCET	
Awards	1st prize in XX	XI - ICFOST 20	12, National con	iference,	
	AFSTi Pune.				
Selected Publications	1. A.A. Gatade	and A.K. Sahoo	(2015). Effect of	of additives and	
	and Technology	$(52(12)) \cdot 8305 \ 8$	noodies. Journal (402	JI Food Science	
	2 R C Ranvee	er A A Gatade	H A Kamble a	nd A K Sahoo	
	(2015). Microe	ncapsulation and	1 storage stabilit	y of Lycopene	
	extracted from 7	Fomato processin	ng waste. Brazilia	n Archives of	
	Biology and Teo	chnology. 58(6):	953-960		
	3. A.A. Gatade,	R.C. Ranveer a	nd A.K. Sahoo (2	2014). Effect of	
	treatments, cmc	and storage co	onditions on sens	orial quality of	
	Riotachnology (red soymilk.	Journal of $4(1)$; 6.0	Microbiology,	
	4 A A Gatade	R C Ranveer an	d = K - Sahoo (20))13) Nutritional	
	analysis, total p	henolic content.	free radical Scav	venging activity	
	and phytochemical analysis of Leaves powder of moringa				
	oleifera (drumstick) and Cicer arietinum (chick pea).				
	International Journal of Pharma and Bio Sciences 4 (3): (B) 922 -				
	933				
	5. A.A. Gatade, K.C. Ranveer and A.K. Sanoo (2009). Physi Chamical and Sansorial Characteristics of Chasalata Prana				
	from Sovmilk	Advance Iournal	of Food Science	and Technology	
	1(1): 1-5	ia vance sournar	or i oou belenee	and reenhology	

9) Details of Research Laboratories & infrastructure with photographs.

M. Sc Practical Lab: 01 Research Lab: 01







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10) SET/NET Qualified Students

Dr. A. A. Gatade	Mr. H. A. Kamble
Ms. A. M. Kurane	Ms. A. M. Acharya
Ms. S. S. Rane	Mr. A. V. Chinchkar

11) Details of Students Placements

Academic Year	No. of students graduated	No. of students placed	Median salary of placed graduates per annum	No. of students selected for Higher Studies	Small Scale Entrepreneur
2014-15	32	24	2,40,000	0	4
2015-16	33	24	1,80,000	1	2
2016-17	29	25	1,44,000	1	0
2017-18	43	19	1,80,000	2	2
2018-19	44	23	1,80,000	0	2

12) Details of MoUs and Linkages

Institutional MoU with CNCVCW, CSIBER College, Kolhapur

- Facility Exchange
- Faculty Exchange
- Collaborative Research Work
- Collaborative Programs like Conference, Seminar, Workshops, Student Activities

Institutional Linkages

Sr. No.	Collaboration	Types of collaboration
1.	Madras University, Chennai	Students exchange
2.	CFTRI, Mysore	Visiting Faculty
3.	ICT, Mumbai	One of the faculty member is Ph.D guide
4.	Grape Research centre, Pune	One of the faculty member is Ph.D guide
5.	M.A.U. Parbhani	Collaborative Research papers
6.	MPKV, Rahuri	Collaborative Research papers
7.	UDCT, Aurangabad	Collaborative Research papers

13) Extra-curricular and Extension activities

a. Consultancy Services

Financial Year	2018-19	2017-18	2016-17	2015-16	2014-15
Total no. of Consultancy Projects	2	1	4	10	4
Total no. of Client Organizations	2	1	4	9	3
Total Amount Received (Amount in Rupees)	10000	66406	7800	64800	3550

b. Participation Conferences

Year of Competition	No. of Paper
2014	12
2015	02
2017	04
2018	06

c. Participation in Avishkar Research Competition

	1
Year of Competition	Prizes Bagged up
2015	01
2016	03
2017	01
2018	01
2019	02

d. Industrial Training

To gain practical knowledge and hands on experience students are allowed to do one month industrial training. Some of the industries where the students have completed their training are listed below.

- Parle Biscuits Pvt. Ltd., Khopoli
- Mondelez India Foods Private Limited
- Mapro Pvt. Ltd., Panchagani
- Weikfield Indu., Pune
- Mother's Recipie, DBL, Pune
- Pravin Masale, Chordia Foods, Shirwal
- Maarc Labs Pvt Ltd., Pune
- Peony Foods, Pune
- Ghodawat Foods
- Gokul Dudh, Gokul Shirgaon, Kolhapur
- Warna Dudh, Warnanagar
- Yalagud Bakery, Yalagud

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14) List of Distinguished Alumni

Entrepreneurs

Mr. Atul Kalekar and Ms. Sharduli Kulkarni (Entrepreneur, ANS Industries, Sangli)
Mr. Ramakant Mane (Entrepreneur, Kalpana Foods, Kirloskarwadi, Sangli)
Ms. Shruti Jadhav (Entrepreneur, Hand Bake Heaven, Kolhapur)
Mr. Vinayak Undale Patil (Entrepreneur, Paras Natural Food Company, Undale, Karad)
Ms. Priyanka Patil (Pryanka Foods, Kodoli, Kolhapur)
Mr. Yash Ahire (Entrepreneur, Sahyadri Biogreen Food Prod. Pvt. Ltd., Satara)
Ms. Manasi Dhingani (Entrepreneur, Babali Foods, Kolhapur)
Mr. Prathmesh Ambrale and Mr. Akshay Jadhav (Entrepreneur, Dr. Foods, Ambral, Satara)
Mr. Krishna Joshi (Paliwal & Sons, Miraj)

Ms. Nandini Hiremath (Food Inspector, FDA, Mumbai, Maharashtra) Mr. Chirag Borkar (Technical Expert, Pepsico, Goa) Mr. Sunil Shingade (QC Officer, ITC, Pune) Ms. Jaya Jamdar (Asst. Professor, MCFT, Rajmachi, Karad) Mr. Vikrant Salavi and Ms. Shraddha Kulkarni (Asst. Professor, S P College of Food Tech., Kharvate Sawarde, Chiplun) Ms. Shruti Mulik (Asst. Professor, Jaysingpur College, Jaysingpur) Mr. Deepak Chougale (Asst. Manager, Rich Gravis Pvt. Ltd., Pune) Ms. Sini S. Nair (Asst. Prof., T. C. College, Baramati) Ms. Asavari Patil (QC Incharge, Nina Foods, Kolhapur) Ms. Sonali Patil (QC Manager, Kaka Halawai, Pune) Ms. Geeta Kulkarni (Assit. Prof., Y C College, Satara) Mr. Shishir Patil (Assit. Prof., Jaysingpur College, Jayasingpur)

15) Future roadmap of the department

MoU's with Food Industries (2019-2020) Establishment of Food Testing Laboratory (2020-2021) R&D Centre for Local Industries (2021-2022) Short Term Training and Certificate Programme (2022-2023) Center of Excellence in Food Science and Technology (2023-2024)

16) Media coverage of the Department



Students Research Project Presented at Trade Fair and Avishkar