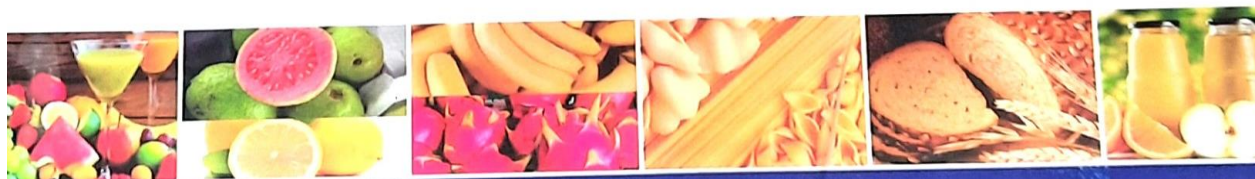# 6.4 SELF-STUDY REPORT FOR THE POST GRADUATE M.TECH (FOOD PROCESSING TECHNOLOGY) PROGRAMME
(2018-19 to 2022-23)

Submitted to

Accreditation Board

Indian Council of Agricultural Research

New Delhi

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6.4 SELF-STUDY REPORT FOR THE POST GRADUATE M.TECH (FOOD PROCESSING TECHNOLOGY) PROGRAMME

6.4.1. Brief History of the PG Programme

The College of Food Technology is one of the unique and premier constitute college which was established in May 1976 of this University to fulfill the academic and practical aspirations of the people of Maharashtra and offering post graduate degree programme M. Tech (Food Technology) of two years duration since 1981. (Annexure-1: Letter describing permission for establish of UG and PG College). The nomenclature and curricula design as per the NCG recommendation upto 2021-22. As per the BSMA, the nomenclature of post graduate degree has been now changed to M.Tech (Food Processing Technology) in 2022-2023.

Objectives

1) To assess the holistic ways for efficient utilization of resources or Agri produce by owing their seasonal seasonal availability, perishability and variability.
2) To learn the innovative novel technologies and advancement in food processing
3) To render food technologist with an intellectually more skill oriented human resources
4) To disseminate the innovative and viable technologies for food and allied industries
5) To boost up and enhance the confidence of post graduates to become entrepreneur or establish start up in the field of food technology.

Accomplishment

- Revamping of post of post graduate programme in whole food technology throughout the country
- Imparting in-depth and comprehensive knowledge of the food technology and also arming the students with management skills and professional attitude.
- Development of human resources to cater the need of food processing industry, government, corporate sector and research organization in India and abroad.
- Exposure to the faculty to emphasize the need of innovation and mechanism to ensure the quality and excellence in the mandatory activity i.e. teaching, research and extension.
- Serve as centre point for food entrepreneurship development in the region.
- Collaboration with State Government for planning and implementation of different programme.

M. Tech. (Food Technology) upto 2021-22 as per National Core Group

1. **Qualification**   :   B. Tech (Food Technology) from Agricultural University.

2. **Admission**   :   Entrance exam will be conducted by respective universities based on the syllabus used by ICAR for all India entrance

   Intake capacity :   15 including ICAR quota

4. **Distribution of credits**

Major	20 credits
Minor*	9 credits
Supporting#	5 credits
Seminar	1 credit
Thesis	20 credits
Total credits:	**55**

M. Tech. (Food Processing Technology) from 2022-23 as per BSMA

Major	21 credits
Minor*	8 credits
Supporting#	6 credits
Seminar	1 credit
CC	5 credits
Research Work	30 credits
Total credits:	**71**

*Minor Courses in the revised syllabus notified in three independent groups should be considered as supplementary to the major field where external evaluation of comprehensive theory examination is a salient feature and hence to be common. One course from each group needs to be offered.

#supporting Courses in the revised syllabus can be compared with earlier minor courses. Being uncommon, supporting courses can easily be adjustable according to need of student/ department and not to be evaluated by the comprehensive examination

6.4.2. Faculty Strength

The academic and supporting staff approved for Under Graduate Programme of B. Tech. (Food Technology) is used for Post Graduate teaching, research and extension. The faculty strength of the Degree Programme is given cadre-wise, both sanctioned and in-place as below.

Faculty strength

Table-1: Faculty strength of College of Food Technology at present in position

Sr. No.	Post	Sanctioned	Faculty In place	Vacant	Faculty recommended by ICAR/UGC/VCI/ other regulatory bodies	Deviation (%)
1	Associate Dean and Principal	1	1	-	-	--
2	Professor	2	1	1	05	50
3	Associate Professor*	10	7*	3	10	30
4	Assistant Professor	7	3	4	23	57
	Total	**20**	**12**	**8**	**48**	**40**

*In addition to above, Dr. V.D. Surve, Associate Professor from V.D. College of Agri-Biotechnology, Latur had been deputed to College of Food Technology, VNMKV Parbhani working as Head, conducting the UG courses of Department of Food Business Management.

b) Research staff

The faculty of food technology also involved the following research staff from AICRP and Network project ICAR New Delhi for completion of curricula of M.Tech. (Food Processing Technology) degree programme.

Table 2: Research staff involved in PG teaching

Sr. No.	Name of employee	Designation	Qualification
1	Dr. Vijaya Pawar	Principle scientist AICRP	M.Tech, Ph.D (Food Technology)
2	Dr. Pravin Ghatge	Scientist	M.Tech, Ph.D (Food Technology)

c) Adjunct faculty

The faculties from other constituted colleges from VNMKV help to complete the curricula of M.Tech. (Food Processing Technology) degree programme.

Table 3: Faculty from other constituted colleges of VNMKV

Sr. No.	Course No.	Semester	Name	Department
1	FST-532	II (PG)	Dr. Santosh Phulari	In-charge computer cell VNMKV

Glimpses of Lecture Series by Experts and Guest faculty

6.4.3 Technical and Supporting Staff

The position of technical and supporting staff of Degree Programme are tabulated showing sanctioned, in position and vacancy staff.

Table-4: Position of ministerial staff

Sr. No.	Post	Sanctioned	In position	Vacant
1.	Section Officer	1	1	-
2.	Senior Clerk	2	2	-
3.	Junior Clerk	6	2	4
4.	Steno	1	-	1
5.	Sweeper	2	-	2
6.	Watchmen	3	1	2
7.	Peon	2	1	1
8.	Lab Peon	3	-	3
9.	Mazdoor	5	1	4
	Total	**25**	**8**	**17**

Technical Staff

The list of technical and supporting staff is given as follows;

Table-5: Position of technical staff

Sr. No.	Post	Sanctioned	In position	Vacant
1	Senior Research Assistant	6	1	5
2	Field Assistant (T-I)	1	1	-
3	Boiler Assistant	1	-	1
4	Senior Mechanic	1	-	1
	Total	**9**	**2**	**7**

Supporting Staff

Table-6: Position of supporting staff

Sr. No.	Post	In position
Deputation		
1	Book Bearer (Laxman Dhage)	1
2	Mazdoor	1
Over and above		
1	Electrician	1
2	Nursery Assistant	1
	Total	**4**

Table-7: Ministerial Staff on contract basis

Sr. No.	Name of Staff	Post
1	Mr. Narwade S. K.	Computer Operator
2	Mr. Jadhav M. L.	Computer Operator
3	Mrs. Patil S. R.	Computer Operator
4	Mr. Parsode G.K.	Driver
5	Mr. Tondge D. M.	Office Assistant
6	Mr. Ayachit N. B.	Office Assistant
7	Mr. Pulgurle S. A.	Mazdoor
8	Mrs. Deshmukh G.V.	Laboratory Assistant
9	Mr. Bansode S.N.	Mazdoor
10	Mrs. Kale P.S.	Mazdoor
11	Mr. Pawar K.P.	Wiremen
12	Mrs. Parsode M.G.	Mazdoor
13	Mrs. Bansode S.	Mazdoor

14	Mr. Maske A.B.	College Watchmen
15	Mr. Shinde L.T.	College Watchmen
16	Mr. Dure A.R.	Mazdoor
Garden Cum Maintenance staff		
1	Mr. Shinde D. B.	Mazdoor
2	Mrs. Shinde R.G.	Mazdoor
3	Mrs. Shinde M.M.	Mazdoor
4	Mrs. Bhandare L.S.	Mazdoor
5	Mrs. Karekar N.B.	Mazdoor
6	Mr. Mohite M.S.	Mazdoor
Hostel Staff (Shishir, Devgiri and Purva)		
1	Mr. Raner N.B.	Mali
2	Mr. Revanwar B.R.	Mazdoor
3	Mr. Shaikh Naseer Shaikh Meera	Watchmen
4	Mr. Dure A.R.	Mazdoor
5	Mr. Kale K.A.	Watchmen
6	Mr. Shinde P.P.	Hostel Watchmen
7	Mr. Bansode N. G.	Mazdoor
8	Mr. Ambhure D. S.	Mazdoor
9	Mr. Raner G.D.	Mazdoor
10	Mr. Shinde K.K.	Mazdoor
11	Mrs. Binde R.S.	Mazdoor
12	Mr. Shaikh Md. Rasool Sk. Burhan	Watchmen
13	Mr. Shaikh Javed Shaikh Nabi	Watchmen
14	Mr. Ambhore D.S.	Watchmen
15	Mr.Shinde K.S.	Mazdoor

6.4.4. Classrooms and Laboratories

Department wise PG laboratories and equipment housed in individual laboratory in the college along with any other research unit are presented as follows:

Table 8: Classrooms in the college

Sr. No.	Classrooms	Quantity (No.)	Space (Sq. ft)	Capacity
1	PG Classroom in Dept. of Food Engineering	1	576	20
2	PG Classroom in Dept. of Food Business Management	1	624	20
3	PG Classroom in Dept. of Food Chemistry and Nutrition	1	390	20

Considering high capacity of classrooms and laboratories 1 batch is conducted for all theory and practical.

Laboratories in the college

Table-9. Laboratories in the college

Sr. No.	Laboratory
1	PG Laboratory of Dept. of Food Chemistry and Nutrition
2	PG Laboratory of Dept. of Food Microbiology and Safety
3	PG Laboratory of Food Process Technology
4	PG Laboratory of Food Engineering
5	Niche Area Laboratory
6	Arid Legumes Research Laboratory

Department of Food Process Technology

Food Process Technology is a major department of Food Technology equipment with sufficient laboratories for carrying out experiments pertaining to fruits and vegetables preservation and processing, cereal processing, legumes processing, animal product technology and number of experiments pertaining to preservation and quality evaluation of different food products.

Table-10: Laboratories of Department of Food Process Technology

Sr. No.	Name of the Laboratory	Length (m)	Breadth (m)	Area (Sq.m)
1	Laboratory No. 2 (Quality Control Laboratory)	9.8	6.5	64
2	Laboratory No. 3	9.85	6.5	64
3	Laboratory No. 5 (Fruit and Vegetable Laboratory)	6.5	4.9	32
4	Laboratory No. 4	9.85	4.8	48
5	Laboratory No. 8	9.8	6.5	64
6	Instrumentation Room	3.4	3.3	11

Department of Food Engineering

Department of Food Engineering fulfils the aspiration for inculcating engineering skills amongst the students. It is well equipped with different equipment's, models and laboratories.

Table-11: Laboratory of Food Engineering

Sr. No.	Name of the Laboratory	Length (m)	Breadth (m)	Area (Sq.m)
1	Food Engineering Laboratory No. 3	9	7.1	64

Department of Food Chemistry and Nutrition

Department of Food Chemistry and Nutrition is operative and fulfilled with enough laboratories, equipment and expert faculty to carry out research and practical work.

Table-12: Laboratories of Department of Food Chemistry and Nutrition

Sr. No.	Name of the Laboratory	Length (m)	Breadth (m)	Area (Sq.m)
1	Laboratory No. 1(Analytical Laboratory)	14.40	10.70	154
2	Instrumentation Room	10.75	7.22	76
3	Sophisticated Instrument Laboratory	7.10	3.55	25

Department of Food Microbiology and Safety

Department of Food Microbiology and Safety is equipped with sufficient equipment and laboratories for learning, understanding and research pertaining to food safety and microbiology.

Table-13: Laboratories of Department of Food Microbiology and Safety

Sr. No.	Name of the Laboratory	Length (m)	Breadth (m)	Area (Sq.m)
1	Food Safety Laboratory	7.50	7.10	53
2	PG Laboratory	8.96	7.05	63
3	Inoculation Chamber	4.80	3.42	16

Niche Area and analytical Laboratory

The College of Food Technology is having State-of-Art Laboratory (Niche Area Laboratory and analytical facilities) which is equipped with high end sophisticated equipment and machineries.

Table-14: Niche Area and analytical Laboratory

Sr. No.	Name of the Laboratory	Length (m)	Breadth (m)	Area (sq.m)
1.	Niche Area Laboratory	20	6.4	128
1.	Analytical lab under Common Incubation Centre	3.5	5	17.5

Recently in 2023-24 sophisticated analytical equipment lab is established under Common Incubation Centre, under PMFME MOFPI, New Delhi.

Arid Legumes Research Laboratory

The laboratory established under AICRP is extensively used for PG and Ph.D. research purpose.

Table-15: Arid Legumes Research Laboratory

Sr. No.	Name of the Laboratory	Length (m)	Breadth (m)	Area (Sq.m)
1	Laboratory No. 1(Analytical Laboratory)	14.40	10.70	154

Equipment available in College of Food Technology, VNMKV, Parbhani
Table-16: Equipment available in College of Food Technology

Sr. No.	Name of equipment
1	Bernoulli's Theorem Apparatus
2	BOD Incubator
3	Bomb Calorimeter
4	Cryogenic Centrifuge Unit
5	Cryogenic Mixer Mill
6	Digital Colony Counter
7	Digital Turbidity Meter
8	Digital Water Bath
9	Freeze Drier
10	HPLC High-Performance Liquid Chromatography
11	Infra-Red Digestion Unit
12	Infra-Red Moisture Meter
13	Infra-Red Steam Distillation Unit
14	Lab Scale Fermenter
15	Metacentric Height Apparatus
16	Micro-Kjeldahl Steam Distillation Unit
17	Modified Atmospheric Chamber
18	Orbital Shaking Incubator
19	Phase Contrast Fluorescent Microscope
20	Refrigerated Centrifuge
21	Reynolds No. Apparatus
22	Spray Drier
23	Texturometer (TPA)
24	Ultrasonic Auto mixer
25	UVS Double Beam Spectrophotometer
26	UVS Single Beam Spectrophotometer
27	Vacuum Concentrator
28	Cold Storage
29	3D Printer
30	Fiber analyzer
31	Vacuum oven
32	Sensitive balance sartorius

33	Water activity meter with moisture meter
34	Rotary evaporator
35	Digital hand-held pH meter
36	Brix-acidity meter
37	Salt meter
38	Frying oil monitor
39	Portable refrecto polarimeter
40	Deep freezer
41	Dehumidifier
42	Environmental control chamber
43	Digital thermo hygrometer
44	Digital micrometer

Quality Control Laboratory   **Analytical Laboratory CIC**

Post Graduate Laboratory

6.4.5. Conduct of Practical and Hands-on-Training

M. Tech. (Food Technology) programme includes Practical in curricula enriching students with Practical skills. Moreover, subjects like Food Analysis and Microbiology are given special attention to make student acquaint with the practical skills.

It is also compulsory for the students to subject their dissertation for programmes which include vigorous research activities thereby strengthening the practical skills in students.

Post Graduate Laboratory

6.4.6. Supervision of students in PG programmes

Number of students supervised by Faculty in PG programme is presented as follows:

Table-17: Number of Students supervised for PG Programme

Name of guide	Designation	No. of students supervised in PG programme				
		2018-19	2019-20	2020-21	2021-22	2022-23
Dr. R.B. Kshirsagar	Professor and Associate Dean and Principal, College of Food Technology, VNMKV, Parbhani	2	2	2	2	2
Dr. A.R. Sawate	Professor, College of Food Technology, VNMKV, Parbhani	2	2	---	---	---
Prof. D.R. More	Associate Professor, College of Food Technology, VNMKV, Parbhani	2	2	2	---	---
Prof. H. W. Deshpande	Associate Professor, College of Food Technology, VNMKV, Parbhani	2	2	2	2	1
Dr. V.S. Pawar	Associate Professor, College of Food Technology, VNMKV, Parbhani	2	2	2	2	2
Dr. K.S. Gadhe	Associate Professor, College of Food Technology, VNMKV, Parbhani	2	2	2	2	2
Dr. B. S. Agarkar	Associate Professor, College of Food Technology, VNMKV, Parbhani	2	2	2	2	1
Dr. G.M. Machewad	Assistant Professor, College of Food Technology, VNMKV, Parbhani	---	1	1	1	1
Dr. S.K. Sadawarte	Assistant Professor, College of Food Technology, VNMKV, Parbhani	---	1	2	2	1
Dr. P. U. Ghatge	Assistant Professor, College of Food	1	---	1	2	1

	Technology, VNMKV, Parbhani					
Dr. B.M. Patil	Assistant Professor, College of Food Technology, VNMKV, Parbhani	---	---	---	2	1
Prof. A.A. Joshi	Assistant Professor, College of Food Technology, VNMKV, Parbhani	---	---	---	---	1
	TOTAL	**15**	**16**	**16**	**17**	**13**

Table-18: Number of qualified faculty in relation to intake of PG students

PG		
No. of Students	No. of Guide	Ratio (Students: Guide)
15	10	1:0.7

6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.)

Mechanism of feedback

- College has well defined feedback mechanism of different stakeholders i.e., students, parents, industries, employers and farmers.

- Suggestions/complaint box is placed near ADP office so that students can unanimously give their feedback to the authorities regarding availability of infrastructure and any other thing to be creating academic atmosphere.

- Regular students-parents meet along with advisors of the students are organized to take feedback from the parents.

- The college is regularly arranging the lecture series and alumini meet of pass out successful alumini students

- Employees are encouraged to give their feedback during monthly meetings conducted by the authorities.

- Farmers and other stakeholders like women self-help group, youth entrepreneur etc. give their suggestions and also get the advice from the food technologist or experts through the individual visits and also official correspondence.

- **The feedback obtained is enclosed in annexure-IV for necessary perusal.**

Table 19: Records of student's feedback during last five year

Sr. No.	Name	Mode of communication	Date	Concern	Action taken
1	Sawale K.R	Discussion	12/12/2018	Renovation of hostel bathroom	Renovated and blockages were cleared
2	Gangakhedkar Prasad	Discussion	09/02/2020	Mosquito trouble in reading hall	Glass windows are placed
3	Lolge R.M.	Discussion	10/12/2020	Suggested that departments should have wider net connectivity	Wi-Fi router was installed in all department
4	Gaikwad G.P	Discussion	11/01/2023	Replacement of existing pipeline system in hostel	New pipeline system was installed to avoid leakage

6.4.8. Student intake and attrition in the programme for last five years P.G. (M. Tech. (Food Tech.)
Table-20: Student intake and attrition in the PG programme for last five years

Sr. No.	Year	Actual student admitted in last five years	Students Attrition	% Attrition
1	2018-19	15	01	6.6
2	2019-20	16	00	00
3	2020-21	16	00	00
4	2021-22	17	00	00
5	2022-23	13	00	00

6.4.9. ICT Application in Curricula Delivery

The use of ICT application is an integral part of teaching course curricula by using power point presentation, interactive boards, practical by using concerned software programme. Similarly the student ABC (Academic Bank of Credits), Digilocker system and creation of USID are also extensively used in educational system.

The College of Food Technology, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani has established two smart class rooms with audio-video system able them to inculcate the concept of "Show me and I understand" for better comprehensive understanding of students. The innovative and effective use of ICT technology results in transforming the way teachers "teaching" and effective student "learning" in this college. One seminar hall has been equipped with LED projector with sound system and one interactive projector. The smart class rooms tools i.e. audio-visual aids reveals to be more appealing for the students. This ICT methods of teaching and learning help in turn to make students able to good communicators for resolving their difficulty at place.

The smart class room is well equipped with various required tools such as Desktop and Laptop are well equipped with educational and research software in language lab, Document Camera/Visualize, Interactive White Board, Interactive Projector, LCD Projector, Digital Camera, Big Interactive LED/LCD Panels, Multimedia Pens/Stylus, Wireless Microphone for Convenience, Digital Podium, Software program for language lab etc.

***

Certificate

I, **Prof. Dr. R.B. Kshirsagar, Dean, College of Food Technology, VNMKV, Parbhani** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.

Dean
College of Food Technology
VNMKV, Parbhani