

BOS Minutes

R19

B.Tech - Food Tech.

**VIGNAN'S**

Foundation for Science, Technology & Research

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DEPARTMENT OF CHEMICAL ENGINEERING**Minutes of Board of Studies: B. Tech Food Technology**

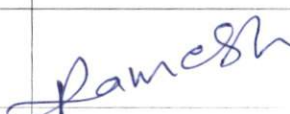


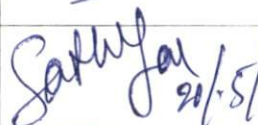

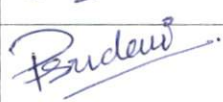


Date: 20.05.2019

Minutes of Board of Studies (BOS) meeting of B.Tech Food Technology held on 20-05-2019 at office Head of the department, Department of Chemical Engineering, VFSTR, Vadlamudi.

Agenda of the meeting:

1. To discuss and finalize structure and detailed syllabus for B.Tech Food Technology applicable from 2019-20 admitted batch.

Members present:

S.No	Name	Members	Signature
1.	Dr. M. Ramesh Naidu, Head, Department of Chemical Engineering, VFSTR	Chairman, BOS	
2.	Dr. Rama Chandra Pradhan, Professor and Head Department of Food Process Engineering, NIT Rourkela	Invited member	
3.	Dr. Srinivas Maloo, Associate Professor and Head of the Department Food Technology, Osmania University	Invited member	
4.	Dr. Ch. V. V. Satyanarayana, Professor and Head of the School of Food Engineering, Bapatla	Invited member	 21/5/2019
5.	Mr. Aniket Banerjee, Senior Manager, Marino Foods, Hyderabad.	Invited member	
6.	Dr. Sridevi Panyalaraju, Scientist, ANGRAU	Invited member	
7.	Mr. Prashant Bagade, Principal Scientist and Head, NCML, Hyderabad	Invited member	
8.	Dr. Payel Ghosh, Assistant Professor, Department of Chemical Engineering (Food Technology), VFSTR	Internal Member	



DEPARTMENT OF CHEMICAL ENGINEERING

9.	Dr. Sowmya Ranjan Purohit, Assistant Professor, Department of Chemical Engineering (Food Technology), VFSTR	Internal Member	
10.	Dr. Sandeep Singh Rana, Assistant Professor, Department of Chemical Engineering (Food Technology), VFSTR	Internal Member	
11.	Mr. Rahul Kumar, Assistant Professor, Department of Chemical Engineering (Food Technology), VFSTR	Internal Member	

Minutes of the BOS meeting

1. The chairman greeted all the BOS members.
2. The chairman emphasized broad objectives of the proposed changes in the course structure of B.Tech Food Technology.
3. The chairmen also elucidated in detail the suggestions and remarks communicated from various stakeholders.
4. The members of the BOS painstakingly observed the proposals of Department of Chemical Engineering in the light of suggestions made by experts and recommended a new course structure for B.Tech Food Technology.

After the discussion it is resolved to:

After thorough discussion, the following are the resolutions of BOS meeting:

1. The approved course structure and syllabus is for all four years of B. Tech in Food Technology after thorough discussion (*Appendix-I*).
2. The proposed course structure and syllabus is applicable for 2019-20 admitted batch onwards.
3. The Curriculum follows Choice Based Credit System.
4. Major restructuring has taken place in the curriculum which is oriented towards Project based learning with inclusion of Intra-disciplinary, Inter-departmental and Societal centric and industry related projects.



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Foundation for Science, Technology & Research

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-Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF CHEMICAL ENGINEERING

5. The total percentage of syllabus revision from R 16 to R 19 B. Tech Food Technology is 40 %.
6. Propose the sequential arrangement of all the courses & credits adjustment for all four year of B. Tech in Food Technology.
7. The Curriculum is encompassing the courses that enable employability or entrepreneurship or skill development (*Appendix II*)
8. Inclusion of new courses in the curriculum is reviewed and is provided as *Appendix III*.
9. Feedback form parents, employees, faculties, alumni and students were collected, analyzed and given utmost priority while designing the curriculum and their suggestions are implemented.

Chairman BoS

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DEPARTMENT OF CHEMICAL ENGINEERING**APPENDIX – I****Course Structure****I Year I Semester**

Course Title	L	T	P	C
Engineering Mathematics - I(B)	3	1	2	5
Engineering Physics	3	0	2	4
Basics of Electrical & Electronics Engineering	3	0	2	4
Engineering Graphics & Design	2	0	2	3
Organic Chemistry	3	1	0	4
Physical Fitness, Sports & Games-I	0	0	3	1
Total	14	1	11	21

I Year II Semester

Course Title	L	T	P	C
Engineering Mathematics - II (B)	3	1	2	5
Food Biochemistry and Nutrition	3	0	2	4
Programming for Problem Solving	2	0	4	4
English Proficiency and Communication Skills	0	0	2	1
Technical English Communication	2	0	2	3
Constitution of India	1	0	0	1
Workshop	1	0	2	2
Basic Engineering Products	2	0	2	3
Physical Fitness, Sports & Games-II	0	0	3	1
Total	14	1	19	24

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DEPARTMENT OF CHEMICAL ENGINEERING**II Year I Semester**

Course Title	L	T	P	C
Probability & Statistics	3	1	0	4
Food Chemistry and Toxicology	3	0	2	4
Food Microbiology	3	0	2	4
Fundamentals of Fluid Mechanics	3	0	2	4
Thermodynamics and Heat Engines	3	0	0	3
Principles of Management & Organizational	3	0	0	3
Life Skills-I	0	0	2	0
Technical Seminar-I	0	0	2	1
Intra-disciplinary Projects-I	0	0	3	1
Physical Fitness, Sports & Games-III	0	0	2	1
Total	18	1	15	25

II Year II Semester

Course Title	L	T	P	C
Fundamentals of Heat and Mass Transfer	3	0	2	4
Food Processing Operations	3	0	2	4
Principles of Food Processing and Preservation	3	0	2	4
Meat Fish and Poultry Process Technology	1	0	0	1
Department Elective-I	3	0	0	3
Environmental Studies	3	0	0	3
Life Skills-II	0	0	2	1
Technical Seminar-II	0	0	2	1
Intra Disciplinary Projects-II	0	0	2	1
Open Elective-I	3	0	0	3
Total	19	0	12	25

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-Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF CHEMICAL ENGINEERING**III Year I Semester**

Course Title	L	T	P	C
Dairy Technology	3	0	2	4
Fruits and Vegetable Processing	3	0	2	4
Cereals Pulses and Oilseeds Process Technology	3	0	2	4
Soft Skills Laboratory	0	0	2	1
Employability Skills-I	0	0	2	0
Professional Ethics, Human Values & Gender Equity	2	0	0	2
Inter Departmental Projects-I	0	0	4	2
Modular Course	0	0	0	1
Department Elective-I	3	0	0	3
Open Elective-II	3	0	0	3
Total	18	0	12	24

III Year II Semester

Course Title	L	T	P	C
Spices and Plantation Crops Process Technology	3	0	2	4
Bakery and Confectionery Technology	3	0	2	4
Food Additives	3	1	0	4
Professional Communications Laboratory	0	0	2	1
Employability Skills-II	0	0	2	1
Inter Departmental Projects-II	0	0	4	2
Department Elective-II	3	0	0	3
Open Elective-III	3	0	0	3
Total	15	1	12	22

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DEPARTMENT OF CHEMICAL ENGINEERING**IV Year I Semester**

Course Title	L	T	P	C
Food Quality Safety and Standards	3	0	0	3
Food Plant Layout and Equipment Design	3	0	2	4
Food Packaging	3	0	2	4
Societal Centric and Industry Related Projects	0	0	6	3
Department Elective-III	3	0	0	3
Department Elective-IV	3	0	0	3
Total	15	0	10	20

IV Year II Semester

Course Title	L	T	P	C
Project work / Internship (Industry Oriented Projects)	0	0	24	12
Total	-	-	24	12

L = Lecture ; T = Tutorial ; P = Practical ; C = Credits

The courses that are highlighted denote implementation of 'Choice Based Credit System (CBCS)'


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DEPARTMENT OF CHEMICAL ENGINEERING**R-19 Department Elective Courses****ELECTIVE - I**

Course Title	L	T	P	C
Refrigeration Engineering and Cold Chain	3	-	-	3
Engineering Properties of Food Materials	3	-	-	3
Instrumental Methods of Food Analysis	3	-	-	3
Introduction to Biochemical Engineering and Enzyme	3	-	-	3
Instrumentation and Process Control	3	-	-	3
Emerging Trends in Food Processing	3	-	-	3

ELECTIVE - II

Course Title	L	T	P	C
Nutraceutical and Functional Foods	3	-	-	3
Grain Storage Technology	3	-	-	3
Maintenance of Food Equipment	3	-	-	3
Food Toxicology Agrochemical Residues in Food	3	-	-	3
Strategy and Marketing of Food Products	3	-	-	3
Extrusion Technology	3	-	-	3

ELECTIVE - III

Course Title	L	T	P	C
Food Biotechnology	3	-	-	3
Bioprocess Engineering	3	-	-	3
Food Plant Layout Management and Utilities	3	-	-	3
Post Harvest Management of Fruits and Vegetables	3	-	-	3

ELECTIVE - IV

Course Title	L	T	P	C
Project Planning Preparation and Management	3	-	-	3
Waste Management and by Product Utilization	3	-	-	3
Dairy and Food Processes	3	-	-	3
Nano Technology	3	-	-	3

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APPENDIX II

List of courses that enable employability or entrepreneurship or skill development in the R-19 B.Tech – Food Technology

Sl .No	Year (Semester)	Core / Elective	Name of the Course	Activities with direct bearing on Employability/ Entrepreneurship/ Skill development
1	First year (Semester I)	Core	Engineering Mathematics - I (B)	Skill Development
2	First year (Semester I)	Core	Engineering Physics	Skill Development
3	First year (Semester I)	Core	Basics of Electrical & Electronics Engineering	Skill Development
4	First year (Semester I)	Core	Engineering Graphics & Design	Skill Development
5	First year (Semester I)	Core	Organic Chemistry	Skill Development
6	First year (Semester I)	Employability Skills	Physical Fitness, Sports & Games	Skill Development
7	First year (Semester II)	Core	Engineering Mathematics - II (B)	Skill Development
8	First year (Semester II)	Core	Food Biochemistry and Nutrition	Skill Development
9	First year (Semester II)	Core	Programming for Problem Solving	Skill Development
10	First year (Semester II)	Core	English Proficiency and Communication Skills	Skill Development
11	First year (Semester II)	Core	Workshop	Skill Development
12	First year (Semester II)	Core	Technical English	Skill Development

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DEPARTMENT OF CHEMICAL ENGINEERING

			Communication	
13	First year (Semester II)	Core	Constitution of India	Skill Development
14	First year (Semester II)	Core	Basic Engineering Products	Skill Development
15	First year (Semester II)	Employability Skills	Physical Fitness, Sports and Games - II	Skill Development
16	Second year (Semester I)	Core	Probability and Statistics	Skill Development
17	Second year (Semester I)	Core	Food Chemistry and Toxicology	Skill Development
18	Second year (Semester I)	Core	Food Microbiology	Skill Development
19	Second year (Semester I)	Core	Fundamentals of Fluid Mechanics	Skill Development
20	Second year (Semester I)	Core	Thermodynamics & Heat Engines	Skill Development
21	Second year (Semester I)	Core	Principles of Management and Organizational Behavior	Skill Development
22	Second year (Semester I)	Employability Skills	Life Skills - I	Skill Development
23	Second year (Semester I)	Employability Skills	Technical Seminar - I	Employability
24	Second year (Semester I)	Employability Skills	Intra-Disciplinary Project	Skill Development
25	Second year (Semester I)	Employability Skills	Physical Fitness, Sports & Games - II	Skill Development
26	Second year (Semester II)	Core	Fundamentals of Heat and Mass Transfer	Skill Development
27	Second year (Semester II)	Core	Food Processing Operations	Skill Development

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DEPARTMENT OF CHEMICAL ENGINEERING

28	Second year (Semester II)	Core	Principles of Food Processing and Preservation	Skill Development
29	Second year (Semester II)	Core	Meat Fish and Poultry Process Technology	Skill Development
30	Second year (Semester II)	Core	Environmental Studies	Skill Development
31	Second year (Semester II)	Employability Skills	Life Skills - II	Skill Development
32	Second year (Semester II)	Employability Skills	Technical Seminar - II	Employability
33	Second year (Semester II)	Employability Skills	Intra-Disciplinary Project - II	Skill Development
34	Third year (Semester I)	Core	Dairy Technology	Skill Development
35	Third year (Semester I)	Core	Fruits and Vegetables Processing	Skill Development
36	Third year (Semester I)	Core	Cereals Pulses and Oilseeds Process Technology	Skill Development
37	Third year (Semester I)	Employability Skills	Soft Skills Laboratory	Employability
38	Third year (Semester I)	Employability Skills	Employability Skills - I	Employability
39	Third year (Semester I)	Employability Skills	Professional Ethics, Human Values & Gender Equity	Employability
40	Third year (Semester I)	Employability Skills	Intra-Departmental Project - I	Employability
41	Third year (Semester II)	Core	Spices and Plantation Crops Process Technology	Skill Development
42	Third year (Semester II)	Core	Bakery and Confectionery	Skill Development



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-Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF CHEMICAL ENGINEERING

			Technology	
43	Third year (Semester II)	Core	Food Additives	Skill Development
44	Third year (Semester II)	Core	Professional Communications Laboratory	Skill Development
45	Third year (Semester II)	Employability Skills	Employability Skills - II	Employability
46	Third year (Semester II)	Employability Skills	Intra-Departmental Project - II	Employability
47	Fourth year (Semester I)	Core	Food Quality Safety and Standards	Skill Development
48	Fourth year (Semester I)	Core	Food Plant Layout and Equipment Design	Employability
49	Fourth year (Semester I)	Core	Food Packaging	Skill Development
50	Fourth year (Semester I)	Employability Skills	Societal Centric and Industry Related Projects	Employability
51	Fourth year (Semester II)	Employability Skills	Internship/Project work	Employability
52	Elective I	Department elective	Refrigeration Engineering and Cold Chain	Skill Development
53		Department elective	Engineering Properties of Food Materials	Skill Development
54		Department elective	Introduction to Biochemical Engineering and Enzyme Technology	Skill Development
55		Department elective	Instrumentation and Process Control in food processing	Employability
56		Department elective	Instrumental Methods of Food Analysis	Skill Development
57		Department elective	Emerging trends in Food Processing	Skill Development

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Foundation for Science, Technology & Research

(Deemed to be UNIVERSITY)

-Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF CHEMICAL ENGINEERING

58	Elective II	Department elective	Nutraceutical and Functional Foods	Skill Development
59		Department elective	Grain Storage Technology	Skill Development
60		Department elective	Maintenance of Food Equipment	Employability
61		Department elective	Food Toxicology Agrochemical Residues in Food	Skill Development
62		Department elective	Strategy and Marketing of Food Products	Employability
63		Department elective	Extrusion Technology	Employability
64	Elective III	Department elective	Food Biotechnology	Skill Development
65		Department elective	Bioprocess Engineering	Skill Development
66		Department elective	Food Plant Layout Management and Utilities	Employability
67		Department elective	Post-Harvest Management of Fruits and Vegetables	Employability
68	Elective IV	Department elective	Project Planning Preparation and Management	Skill Development
69		Department elective	Waste Management and By Product Utilization	Skill Development
70		Department elective	Dairy and Food Processes	Skill Development
71		Department elective	Nano Technology	Skill Development


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APPENDIX - III

**List of new courses in the R-19
B.Tech – Food Technology Curriculum**

Sl.No	Year (Semester)	Core / Elective	Name of the Course
1	First year (Semester I)	Core	Engineering Mathematics - I (B)
2	First year (Semester I)	Core	Engineering Physics
3	First year (Semester I)	Core	Basics of Electrical & Electronics Engineering
4	First year (Semester I)	Core	Engineering Graphics & Design
5	First year (Semester I)	Core	Organic Chemistry
6	First year (Semester I)	Employability Skills	Physical Fitness, Sports & Games
7	First year (Semester II)	Core	Engineering Mathematics - II (B)
8	First year (Semester II)	Core	Food Biochemistry and Nutrition
9	First year (Semester II)	Core	Programming for Problem Solving
10	First year (Semester II)	Core	English Proficiency and Communication Skills
11	First year (Semester II)	Core	Workshop
12	First year (Semester II)	Core	Technical English Communication
13	First year (Semester II)	Core	Constitution of India
14	First year (Semester II)	Core	Basic Engineering Products
15	First year (Semester II)	Employability Skills	Physical Fitness, Sports and Games - II
16	Second year (Semester I)	Core	Probability and Statistics
17	Second year (Semester I)	Core	Food Chemistry and Toxicology
18	Second year (Semester I)	Core	Food Microbiology
19	Second year (Semester I)	Core	Fundamentals of Fluid Mechanics
20	Second year (Semester I)	Core	Thermodynamics & Heat Engines

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Foundation for Science, Technology & Research

(Deemed to be UNIVERSITY)

-Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF CHEMICAL ENGINEERING

21	Second year (Semester I)	Core	Principles of Management and Organizational Behavior
22	Second year (Semester I)	Employability Skills	Life Skills - I
23	Second year (Semester I)	Employability Skills	Technical Seminar - I
24	Second year (Semester I)	Employability Skills	Intra-Disciplinary Project - I
25	Second year (Semester I)	Employability Skills	Physical Fitness, Sports & Games - III
26	Second year (Semester II)	Core	Fundamentals of Heat and Mass Transfer
27	Second year (Semester II)	Core	Food Processing Operations
28	Second year (Semester II)	Core	Principles of Food Processing and Preservation
29	Second year (Semester II)	Core	Meat Fish and Poultry Process Technology
30	Second year (Semester II)	Core	Environmental Studies
31	Second year (Semester II)	Employability Skills	Life Skills - II
32	Second year (Semester II)	Employability Skills	Technical Seminar - II
33	Second year (Semester II)	Employability Skills	Intra-Disciplinary Project - II
34	Third year (Semester I)	Core	Dairy Technology
35	Third year (Semester I)	Core	Fruits and Vegetables Processing
36	Third year (Semester I)	Core	Cereals Pulses and Oilseeds Process Technology
37	Third year (Semester I)	Employability Skills	Soft Skills Laboratory
38	Third year (Semester I)	Employability Skills	Employability Skills - I
39	Third year (Semester I)	Employability Skills	Professional Ethics, Human Values & Gender Equity
40	Third year (Semester I)	Employability Skills	Intra-Departmental Project - I
41	Third year (Semester II)	Core	Spices and Plantation Crops Process Technology

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(Deemed to be UNIVERSITY)

-Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF CHEMICAL ENGINEERING

42	Third year (Semester II)	Core	Bakery and Confectionery Technology
43	Third year (Semester II)	Core	Food Additives
44	Third year (Semester II)	Core	Professional Communications Laboratory
45	Third year (Semester II)	Employability Skills	Employability Skills - II
46	Third year (Semester II)	Employability Skills	Intra-Departmental Project - II
47	Fourth year (Semester I)	Core	Food Quality Safety and Standards
48	Fourth year (Semester I)	Core	Food Plant Layout and Equipment Design
49	Fourth year (Semester I)	Core	Food Packaging
50	Fourth year (Semester I)	Employability Skills	Societal Centric and Industry Related Projects
51	Fourth year (Semester II)	Employability Skills	Internship/Project work
52	Elective I	Department elective	Refrigeration Engineering and Cold Chain
53		Department elective	Engineering Properties of Food Materials
54		Department elective	Introduction to Biochemical Engineering and Enzyme Technology
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Foundation for Science, Technology & Research

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-Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF CHEMICAL ENGINEERING

63	Elective III	Department elective	Extrusion Technology
64		Department elective	Food Biotechnology
65		Department elective	Bioprocess Engineering
66		Department elective	Food Plant Layout Management and Utilities
67		Department elective	Post-Harvest Management of Fruits and Vegetables
68	Elective IV	Department elective	Project Planning Preparation and Management
69		Department elective	Waste Management and By Product Utilization
70		Department elective	Dairy and Food Processes
71		Department elective	Nano Technology


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