

BOS Minutes

R16

B.Tech - Food Tech.



**VIGNAN'S**  
Foundation for Science, Technology & Research  
**UNIVERSITY**  
(ESTABLISHED IN 1985)

**DEPARTMENT OF CHEMICAL ENGINEERING**

13-06-2016

**Minutes of Board of Studies: B. Tech Food Technology**

Minutes of Board of Studies (BOS) meeting of B. Tech Food Technology held on 13-06-2016 at office, Head of the department, Department of Chemical Engineering, Vignan's University, Vadlamudi.

**Agenda of the meeting:**

To discuss and finalize structure and detailed syllabus for B.Tech Food Technology applicable from 2016-17 admitted batch.

**Members Present**

The following members were present for the Board of Studies meeting

S.No	Name	Members	Signature
1.	Dr. M. Ramesh Naidu, Head, Department of Chemical Engineering, Vignan's University	Chairman, BOS	
2.	Dr. B V S Prasad, Dean college of Food Science and Technology, Bapatla	Invited member	
3.	Dr. Srinivas Maloo, Associate Professor and Head of the Department Food Technology, Osmania University	Invited member	
4.	Mr. M Brahmaiah, General Manager, Sangam Dairy, Vadlamudi	Invited member	
5.	Dr V. Madhusudhana Rao, Dean-E&M, Vignan's University	Internal Member	
6.	Mr P Ashok Kumar, Associate Professor, School of Chemical Engineering, Vignan's University	Internal Member	
7.	Mr P Bangaraiah, Head, School of Chemical Engineering, Vignan's University	Internal member	
8.	Ms. K. R. Asha, Assistant Professor, Department of Food Technology, Vignan's University	Internal Member	
9.	Ms. Alka Kumari, Assistant Professor, Department of Food Technology, Vignan's University	Internal Member	



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### 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**

1. Propose the approved course structure (as given in separate sheets) and syllabus for all four years of B. Tech in food technology after thorough discussion.
2. Propose and approve detailed syllabus for four years of B. Tech in food technology w.e.f the academic year 2016-17. The proposed course structure and syllabus is applicable for 2016 admitted batch onwards
3. The Curriculum follows Choice Based Credit System
4. Major restructuring has taken place in the Curriculum with theoretical courses amalgamated with laboratory sessions and skill components added to the courses.
5. Propose the sequential arrangement of all the courses & credits adjustment for all four year of B. Tech in Food Technology after thorough discussion.
6. Propose the new laboratories which are essential & suitable for all four years of B.Tech in Food Technology after thorough discussion.
7. The percentage of syllabus revision from R 13 to R 16 for B.Tech Food Technology is 25 %.
8. The proposed course structure and syllabus is applicable for 2016 (R-16) admitted batch onwards (*Appendix I*).
9. The Curriculum is encompassing the courses that enable employability or entrepreneurship or skill development (*Appendix II*).
10. Inclusion of new courses in the curriculum is reviewed and is provided as *Appendix III*.
11. Stakeholder's feedback is collected, analyzed and given utmost priority while designing the curriculum and their suggestions are implemented.

  
Chairman BoS



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**APPENDIX – I**

**Course Structure**

**I Year**

**Semester I**

Subject	Subject Category	L	T	P	C
Mathematics-I (for BiPC)	BS	3	1	-	4
Engineering Physics	BS	3	-	2	4
Technical English	HM	3	-	2	4
Computers and Internet (along with internet and cyber security aspects)	BE	3	-	2	4
Engineering Drawing	BE	3	-	2	4
Computer Programming	BE	3	-	2	4
PET Related	HM		-	2	1
<b>TOTAL</b>		<b>18</b>	<b>01</b>	<b>12</b>	<b>25</b>

**I Year**

**Semester II**

Subject	Subject Category	L	T	P	C
Engineering Chemistry	BS	3	-	2	4
Mathematics II (for BiPC)	BS	3	1	-	4
Engineering Products and Solutions	BE	3	-	2	4
Food Chemistry	CR	3	-	3	4
Environmental Science	BS	3	1	-	4
Basics of Electrical Engineering	BE	3	-	2	4
Workshop	BE	-	-	2	1
<b>TOTAL</b>		<b>18</b>	<b>02</b>	<b>11</b>	<b>25</b>



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**II Year I Semester**

Subject	Subject Category	L	T	P	C
Engineering Mathematics (Math 3)	BS	3	1	-	4
Compulsory Management Subject	HM	3	-	-	3
Soft Skills	GL	-	-	2	1
NSS/NCC/YOGA/MUSIC/DANCE	GL	-	-	2	1
CRT Related	GL		-	2	1
<b>Department core subject and Labs :</b>					
Biochemistry and Nutrition	CR	3	-	3	4
Food Microbiology	CR	3	-	3	4
Thermodynamics	CR	3	1	-	4
Fluid Mechanics	CR	3	-	3	4
<b>TOTAL</b>		<b>18</b>	<b>02</b>	<b>15</b>	<b>26</b>

**II Year II Semester**

Subject	Subject Category	L	T	P	C
Professional Communication	GL	-	-	2	1
NSS/NCC/YOGA/MUSIC/DANCE	GL	-	-	2	1
CRT Related	GL	-	-	2	1
<b>Department core subject and Labs :</b>					
Principles of Food Preservation	CR	3	1	-	4
Probability and Statistics	CR	3	1	-	4
Heat and Mass Transfer	CR	3	-	3	4
Unit Operations	CR	3	-	3	4
<b>Elective Streams:</b>					
Stream 1- Elective 1	EL	3	-	-	3
Stream 2- Elective 1	EL	3	-	-	3
<b>TOTAL</b>		<b>18</b>	<b>02</b>	<b>12</b>	<b>25</b>



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**III Year I Semester**

Subject	Subject Category	L	T	P	C
BEC Related	HM	-	-	2	1
NSS/NCC/YOGA/MUSIC/DANCE	GL	-	-	2	1
CRT Related	GL	-	-	2	1
<b>Department Core subject and Labs :</b>					
Cereals Legumes and Oilseeds Technology	CR	3	-	3	4
Bakery and Confectionary Technology	CR	3	-	3	4
Fruits and Vegetable Processing	CR	3	-	3	4
Dairy Technology	CR	3	-	3	4
<b>Elective Streams:</b>					
Stream 1- Elective 2	EL	3	-	-	3
Stream 2- Elective 2	EL	3	-	-	3
<b>TOTAL</b>		<b>18</b>		<b>18</b>	<b>25</b>

**III Year II Semester**

Subject	Subject Category	L	T	P	C
Professional Ethics	GL	2	-	-	2
NSS/NCC/YOGA/MUSIC/DANCE	GL	-	-	2	1
CRT Related	GL	-	-	2	1
<b>Department Core subject and Labs :</b>					
Food Packaging	CR	3	-	3	4
Nutraceuticals and Functional Foods	CR	3	1	-	4
Instrumental Methods of Food Analysis	CR	3	-	3	4
Food Safety and Standards	CR	3	1	-	4
<b>Elective Streams:</b>					
Stream 1- Elective 3	EL	3	-	-	3
Stream 2- Elective 3	EL	3	-	-	3
<b>TOTAL</b>		<b>20</b>	<b>02</b>	<b>10</b>	<b>26</b>





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**IV Year I Semester**

Subject	Subject Category	L	T	P	C
Foreign Language	HM	3	-	-	3
NSS/NCC/YOGA/MUSIC/DANCE	GL	-	-	2	1
CRT Related	GL	-	-	2	1
<b>Department core subject and Labs :</b>					
Spices and Plantation Crop Processing	CR	3	-	-	3
Food Process Equipment Design and Economics	CR	3	-	3	4
Meat, Fish and Poultry Process Technology	CR	3	1	-	4
Beverage Process Technology	CR	3	1	-	4
<b>Elective Streams:</b>					
Stream 1- Elective 4	EL	3	-	-	3
Stream 2- Elective 4	EL	3	-	-	3
<b>TOTAL</b>		<b>21</b>	<b>02</b>	<b>07</b>	<b>26</b>

**IV Year II Semester**

**II Semester**

Subject	Subject Category	L	T	P	C
Internship (6 months) / Project	CR	-	-	30	15
<b>TOTAL</b>				<b>30</b>	<b>15</b>

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

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

  
Chairman BoS



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**APPENDIX - II**

**List of courses that enable employability or entrepreneurship or skill development in the R-16 B. Tech – Food Technology**

Sl. No.	Year (Semester)	Core / Elective	Course Name	Employability/ Entrepreneurship/ Skill Development
1	First Year (Semester I)	Core	Basic Mathematics - I	Skill Development
2	First Year (Semester I)	Core	Engineering Physics	Skill Development
3	First Year (Semester I)	Core	Technical English Communication	Skill Development
4	First Year (Semester I)	Core	Basics of Computers and Internet	Skill Development
5	First Year (Semester I)	Core	Computer Programming	Skill Development
6	First Year (Semester I)	Core	Basics of Engineering Products	Skill Development
7	First Year (Semester I)	Core	English Proficiency and Communication Skills	Skill Development
8	First Year (Semester I)	Core	Engineering Physics Laboratory	Skill Development
9	First Year (Semester I)	Core	Basic Mathematics - II	Skill Development
10	First Year (Semester II)	Core	Engineering Chemistry	Skill Development
11	First Year (Semester II)	Core	Engineering Graphics	Skill Development
12	First Year (Semester II)	Core	Basics of Electrical and Electronics Engineering	Skill Development





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13	First Year (Semester II)	Core	Engineering Chemistry Laboratory	Skill Development
14	First Year (Semester II)	Core	Environmental Science and Technology	Skill Development
15	First Year (Semester II)	Core	Biochemistry and Nutrition	Skill Development
16	First Year (Semester II)	Core	Workshop Practice	Skill Development
17	Second Year (Semester I)	Core	Materials Science and Technology	Skill Development
18	Second Year (Semester I)	Core	Data Structures	Skill Development
19	Second Year (Semester I)	Core	Soft Skills Laboratory	Employability
20	Second Year (Semester I)	Core	Food Chemistry	Skill Development
21	Second Year (Semester I)	Core	Food Microbiology	Skill Development
22	Second Year (Semester I)	Core	Thermodynamics and Heat Engines	Skill Development
23	Second Year (Semester I)	Employability Skills	Employability and Life Skills Elective	Employability
24	Second Year (Semester II)	Core	Professional Communication Laboratory	Skill Development
25	Second Year (Semester II)	Core	Probability and Statistics	Skill Development
26	Second Year (Semester II)	Core	Principles of Food Preservation	Skill Development
27	Second Year (Semester II)	Core	Fundamentals of Heat and Mass Transfer	Skill Development
28	Second Year (Semester II)	Core	Unit Operations	Skill Development
29	Second Year (Semester I)	Employability Skills	Employability and Life Skills Elective	Employability



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30	Third Year (Semester I)	Core	Bakery and Confectionery Technology	Skill Development
31	Third Year (Semester I)	Core	Cereal, Legumes and Oilseeds Process Technology	Skill Development
32	Third Year (Semester I)	Core	Dairy Technology	Skill Development
33	Third Year (Semester I)	Core	Fruits and Vegetables Processing	Skill Development
34	Second Year (Semester I)	Employability Skills	Employability and Life Skills Elective	Employability
35	Third Year (Semester II)	Core	Professional Ethics	Skill Development
36	Third Year (Semester II)	Core	Food Packaging	Skill Development
37	Third Year (Semester II)	Core	Food Safety and Standards	Employability
38	Third Year (Semester II)	Core	Instrumental Methods of Food Analysis	Skill Development
39	Third Year (Semester II)	Core	Nutraceuticals and Functional Foods	Skill Development
40	Second Year (Semester I)	Employability Skills	Employability and Life Skills Elective	Employability
41	Fourth Year (Semester I)	Core	Management Science	Skill Development
42	Fourth Year (Semester I)	Core	Beverage Technology	Skill Development
43	Fourth Year (Semester I)	Core	Food Process Equipment Design	Employability
44	Fourth Year (Semester I)	Core	Meat, Fish and Poultry Process Technology	Skill Development
45	Fourth Year (Semester I)	Core	Spices and Plantation Crops Process Technology	Skill Development



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46	Second Year (Semester I)	Employability Skills	Employability and Life Skills Elective	Employability
47	Fourth Year (Semester II)	Core	Project work /Internship	Employability
Department Elective Streams				
48	Post Harvest Technology	Department elective	Refrigeration and Cold Chain Management	Skill Development
49		Department elective	Grain Storage Technology	Skill Development
50		Department elective	Sugar and Jaggery Processing Technology	Skill Development
51		Department elective	Post Harvest Management of Fruits and Vegetables	Skill Development
52	Food Engineering	Department elective	Unit Operations-II	Skill Development
53		Department elective	Maintenance of Food Equipment	Employability
54		Department elective	Engineering Properties of Food Materials	Skill Development
55		Department elective	Renewable Energy for Food Processing	Skill Development
56	Food Safety And Quality	Department elective	Food Additives	Skill Development
57		Department elective	Food Toxicology and Agrochemical Residues in Food	Skill Development
58		Department elective	Total Quality Management for Food Industries	Skill Development
59		Department elective	Risk Analysis in Food Safety	Skill Development



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60	Biochemical Engineering	Department elective	Introduction to Biochemical Engineering and Enzyme Technology	Skill Development
61		Department elective	Instrumentation and Process Control in Food Processing	Employability
62		Department elective	Waste Management and Byproduct Utilization in Food Industries	Skill Development
63		Department elective	Bioprocess Engineering	Skill Development
64	Food Chain Management	Department elective	Entrepreneurship Development in Food Processing	Employability
65		Department elective	Strategy and Marketing of Food Products	Employability
66		Department elective	Cross National Co-operative and International Investment	Skill Development
67		Department elective	Project Planning, Preparation and Management	Skill Development



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**R-16 Department Elective Courses**

**STREAM - 1: POST HARVEST TECHNOLOGY**

Course Title	L	T	P	C
Refrigeration and Cold Chain Management	3	-	-	3
Grain Storage Technology	3	-	-	3
Sugar and Jaggery Processing Technology	3	-	-	3
Post Harvest Management of Fruits and	3	-	-	3

**STREAM - 2: FOOD ENGINEERING**

Course Title	L	T	P	C
Unit Operations - II	3	-	-	3
Maintenance of Food Equipment	3	-	-	3
Engineering Properties of Food Materials	3	-	-	3
Renewable Energy for Food Processing	3	-	-	3

**STREAM - 3: FOOD SAFETY AND QUALITY**

Course Title	L	T	P	C
Food Additives	3	-	-	3
Food Toxicology Agrochemical Residues in Food	3	-	-	3
Total Quality Management for Food Industries	3	-	-	3
Risk Analysis in Food Safety	3	-	-	3

**STREAM - 4: BIOCHEMICAL ENGINEERING**

Course Title	L	T	P	C
Introduction to Biochemical Engineering and Enzyme Technology	3	-	-	3
Instrumentation and Process Control in Food Processing	3	-	-	3
Waste Management and Byproduct Utilization in Food Industries	3	-	-	3



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Bioprocess Engineering	3	-	-	3
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**STREAM - 5: FOOD CHAIN MANAGEMENT**

Course Title	L	T	P	C
Entrepreneurship Development in Food Processing	3	-	-	3
Strategy and Marketing of Food Products	3	-	-	3
Cross National Co-operative and International Investment	3	-	-	3
Project Planning, Preparation and Management	3	-	-	3

  
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**APPENDIX - III**

**List of new courses in the R-16  
B.Tech – Food Technology Curriculum**

Sl. No.	Year (Semester)	Core / Elective	Course Name
1	First year (Semester I)	Core	Basic Mathematics - I
2	First year (Semester I)	Core	Engineering Physics
3	First year (Semester I)	Core	Technical English Communication
4	First year (Semester I)	Core	Basics of Computers and Internet
5	First year (Semester I)	Core	Computer Programming
6	First year (Semester I)	Core	Basics of Engineering Products
7	First year (Semester I)	Core	English Proficiency and Communication Skills
8	First year (Semester I)	Core	Engineering Physics Laboratory
9	First year (Semester I)	Core	Basic Mathematics - II





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10	First year (Semester II)	Core	Engineering Chemistry
11	First year (Semester II)	Core	Engineering Graphics
12	First year (Semester II)	Core	Basics of Electrical and Electronics Engineering
13	First year (Semester II)	Core	Engineering Chemistry Laboratory
14	First year (Semester II)	Core	Environmental Science and Technology
15	First year (Semester II)	Core	Biochemistry and Nutrition
16	First year (Semester II)	Core	Workshop Practice
17	Second year (Semester I)	Core	Materials Science and Technology
18	Second year (Semester I)	Core	Data Structures
19	Second year (Semester I)	Core	Soft Skills Laboratory
20	Second year (Semester I)	Core	Food Chemistry
21	Second year (Semester I)	Core	Food Microbiology



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22	Second year (Semester I)	Core	Thermodynamics and Heat Engines
23	Second year (Semester I)	Employability Skills	Employability and Life Skills Elective
24	Second year (Semester II)	Core	Professional Communication Laboratory
25	Second year (Semester II)	Core	Probability and Statistics
26	Second year (Semester II)	Core	Principles of Food Preservation
27	Second year (Semester II)	Core	Fundamentals of Heat and Mass Transfer
28	Second year (Semester II)	Core	Unit Operations
29	Second year (Semester I)	Employability Skills	Employability and Life Skills Elective
30	Third year (Semester I)	Core	Bakery and Confectionery Technology
31	Third year (Semester I)	Core	Cereal, Legumes and Oilseeds Process Technology
32	Third year (Semester I)	Core	Dairy Technology
33	Third year (Semester I)	Core	Fruits and Vegetables Processing
34	Second year (Semester I)	Employability Skills	Employability and Life Skills Elective
35	Third year (Semester II)	Core	Professional Ethics



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36	Third year (Semester II)	Core	Food Packaging
37	Third year (Semester II)	Core	Food Safety and Standards
38	Third year (Semester II)	Core	Instrumental Methods of Food Analysis
39	Third year (Semester II)	Core	Nutraceuticals and Functional Foods
40	Second year (Semester I)	Employability Skills	Employability and Life Skills Elective
41	Fourth year (Semester I)	Core	Management Science
42	Fourth year (Semester I)	Core	Beverage Technology
43	Fourth year (Semester I)	Core	Food Process Equipment Design
44	Fourth year (Semester I)	Core	Meat, Fish and Poultry Process Technology
45	Fourth year (Semester I)	Core	Spices and Plantation Crops Process Technology
46	Second year (Semester I)	Employability Skills	Employability and Life Skills Elective
47	Fourth year (Semester II)	Core	Project work /Internship
Department elective streams			
48	Post Harvest Technology	Department elective	Refrigeration and Cold Chain Management
49		Department elective	Grain Storage Technology



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50		Department elective	Sugar and Jaggery Processing Technology
51		Department elective	Post Harvest Management of Fruits and Vegetables
52	Food Engineering	Department elective	Unit Operations-II
53		Department elective	Maintenance of Food Equipment
54		Department elective	Engineering Properties of Food Materials
55		Department elective	Renewable Energy for Food Processing
56	Food Safety and Quality	Department elective	Food Additives
57		Department elective	Food Toxicology and Agrochemical Residues in Food
58		Department elective	Total Quality Management for Food Industries
59		Department elective	Risk Analysis in Food Safety
60	Biochemical Engineering	Department elective	Introduction to Biochemical Engineering and Enzyme Technology
61		Department elective	Instrumentation and Process Control in Food Processing



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62	Food Chain Management	Department elective	Waste Management and Byproduct Utilization in Food Industries
63		Department elective	Bioprocess Engineering
64		Department elective	Entrepreneurship Development in Food Processing
65		Department elective	Strategy and Marketing of Food Products
66		Department elective	Cross National Co-operative and International Investment
67		Department elective	Project Planning, Preparation and Management

  
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