

Department of Food Technology
GNIT
Minutes of the BOS meeting

Date: 27/02/2018

Venue: R & D Lab, Department of Food Technology

Time: 12:00 Noon

As per the notice dated 21.02.2018 with Ref. No. GNIT/FT/BOS/2018/01, a BOS meeting was held on 27/02/2018 in presence of following experts and members:

Members present (Internal):

1. Dr. Kakali Bandyopadhyay : Head and Chairman
2. Dr. Parimal Chattopadhyay : Professor, Member
3. Dr. Chaitali Chakraborty : Assistant Professor, Member
4. Dr. Anju Paul : Associate Professor, Member
5. Dr. Sunita Adhikari : Assistant Professor, Member
6. Ms. Shairee Ganguly : Assistant Professor, Member
7. Mr. Amit Kumar Barman : Assistant Professor, Member
8. Ms. Mausumi Roy : Assistant Professor, Member
9. Ms. Kaushiki Goswami : Assistant Professor, Member

External Members Present:

1. Dr. Susanta Kumar Das : Former Professor, Department of Agricultural, & Food Engineering, IIT, Kharagpur
2. Dr. D.C. Sen : Former Professor & Head, Dept. of Dairy Technology, WBUAFS, Mohanpur, Nadia, External BOS Member
3. Dr. Deborshi De : Founder Director, Vedantic Organic Research Foundation, Kolkata and CEO, Smart Management Consultancy
4. Ms. Krita Ganguly : Lecturer, Govt. Polytechnic College. (Student Alumni).

Members Absent:

1. Ms. Sujata Sardar : Assistant Professor, Member
2. Mr. Aritra Das : Assistant Professor, Member
3. Ms. Shaona Datta : Assistant Professor, Member

The discussion was based on the following agenda:

Agenda:

1. Confirmation of Minutes of last BOS Meeting
2. Approval of Action taken report of the resolutions taken in the last meeting
3. Discussion on course which strengthen employability, entrepreneurship and skill development
4. Finalization of Elective Courses added in R18 Syllabus
5. New Course Added in R 18 Curriculum
6. Finalization of Regulation 18 (R 18) Curriculum and Syllabus of Food Technology wef. 2018-19 admission batches under autonomy

Resolutions:

After sufficient discussion and exchange of ideas, the following resolutions were taken:

Agenda 1: Confirmation of Minutes of last BOS Meeting

The minutes of last BOS meeting was duly confirmed and approved

Agenda 2: Approval of Action taken report of the resolutions taken in the last meeting

Action taken report of last BOS meeting' resolution was noted (vide Annexure I).

Agenda 3: Finalization of courses which strengthen employability, entrepreneurship and skill development:

The list of tentative courses that strengthen employability, entrepreneurship and skill development was discussed in previous BOS meeting held on 03.07.2017.

As per suggestion of external expert, Dr. Susanta Kumar Das, some courses are highlighted for strengthening employability and skill development. Finally, all BOS members agreed with the list of courses which strengthen employability, entrepreneurship and skill development (Vide Annexure II). It was assessed that about 69.6% of the courses being offered under R 18 syllabus for FT contributes to the abovementioned purpose.

Agenda 4: Finalization of Elective Courses added in R18 Syllabus:

32 Elective courses are selected out of 35 for R18 syllabus after taking Stakeholder's feedback. Further these 32 elective courses are finalized by the BoS Members (Vide Annexure III)

Agenda 5: New Course Added in R 18 Curriculum

As per suggestions of all stakeholders some new courses have been introduced in R18 curriculum. As per suggestion of external BOS experts Dr. Susanta Kr. Das and Dr. D. C. Sen following new courses are added in R 18 Curriculum:

- Environmental Biotechnology theory and lab
- Entrepreneurship Development and Start- up Management

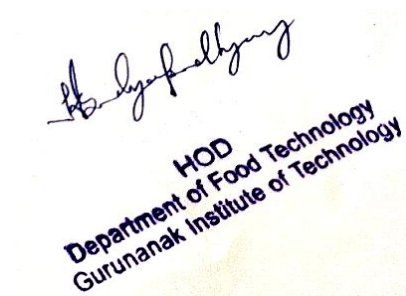
Finally, the list of new courses added in R 18 curriculum were approved by all BOS members (Vide Annexure IV).

Agenda 6: Finalization of Regulation 18 (R 18) Curriculum and Syllabus of Food Technology wef. 2018-19 admission batch under autonomy

Chairperson of BOS Committee has presented stakeholders feedback analysis on curriculum in front of all BOS members.

Finally, the curriculum and syllabus of Food Technology discipline was finalized and approved by BOS members (Vide Annexure V). All BOS members commented that the final R18 Curriculum is well organized and linked with departmental vision, mission, PEOs and PSOs.

The meeting ended with vote of thanks by the HOD; FT & Chairman, BOS



HOD
Department of Food Technology
Gurunank Institute of Technology

Head and Chairman
Dr. Kakali Bandyopadhyay

Annexure I
Department of Food Technology
Guru Nanak Institute of Technology
BOS Meeting
Action Taken Report

Following are the Action Taken Report of the BOS meeting held on 03.07.2017:

Agenda No.	Agenda Note	Resolution	Action Taken
Agenda 3	Target levels for Course Outcome Attainment through Cumulative Internal Examination (CIE) and Semester End Examination (SEE)	Target levels: Target level 1: 60% students must cover 60% and above Target level 2: 70% students must cover 60% and above Target level 3: 80% students must cover 60% and above	Subject wise attainment calculation is started by following the target levels
Agenda 5	Discussion on Value Added courses in curriculum	Incorporation of value added courses like: i. Introduction to AI ii. Introduction to Machine Learning iii. Nanoscience in Food Technology	These courses are introduced in beyond curriculum training as value added courses
Agenda 7	Discussion about the seminar topics	The following topics were suggested by the members: <ul style="list-style-type: none"> ● Super critical fluid extraction ● Micro-encapsulation ● Food laws ● Nanotechnology ● Formalin detector ● Application of computation in food industries 	As per suggestion, these topics are incorporate as students' seminar topic.

Annexure II

Sl.No.	Course Name	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1.	PROJECT-IA	PR 191	Skill Development, Entrepreneurship
2.	PROJECT-IB	PR 192	Skill Development, Entrepreneurship
3.	Project-II	PR 291	Skill Development, Entrepreneurship
4.	Innovative activities-I	PR 292	Employability, Skill Development, Entrepreneurship
5.	Project-III	PR 391	Skill Development, Entrepreneurship
6.	Innovative activities-II	PR 392	Employability, Skill Development, Entrepreneurship
7.	Project-IV	PR 491	Skill Development, Entrepreneurship
8.	Innovative activities-III	PR 492	Employability, Skill Development, Entrepreneurship
9.	Project-V	PR 591	Skill Development, Entrepreneurship
10.	Innovative activities-IV	PR 592	Employability, Skill Development, Entrepreneurship
11.	Project-VI	PR 691	Skill Development, Entrepreneurship
12.	Innovative activities-V	PR 692	Employability, Skill Development, Entrepreneurship
13.	Project-VII	PR 791	Skill Development, Entrepreneurship
14.	Innovative activities-VI	PR 792	Employability, Skill Development, Entrepreneurship
15.	Project-VIII	PR 891	Skill Development, Entrepreneurship
16.	English	HU101	Skill Development
17.	Workshop/ Manufacturing Practices	ME192	Skill Development
18.	Thermodynamics & Kinetics	FT 301	Employability
19.	Chemical Stoichiometry	CH401	Employability

20.	Principles of Food Preservation	FT402	Employability
21.	Unit Operation of Chemical Engineering-1	FT 403A	Employability, Entrepreneurship
22.	Transport Phenomena	FT 403B	Employability
23.	Unit operation Lab-I	FT 493A	Employability, Skill Development
24.	Transport phenomena Lab	FT 493B	Employability, Skill Development
25.	Food Process Technology-I (Cereals, Fruits, Vegetables, Beverages)	FT501	Employability, Entrepreneurship
26.	Food Process Technology-II (Fish, Meat, Poultry)	FT502	Employability, Entrepreneurship
27.	Food Process Engineering	FT503	Employability
28.	Unit Operations of Chemical Engineering-II	FT504A	Employability, Entrepreneurship
29.	Separation Process	FT504B	Employability
30.	Food Processing Lab-I	FT591	Employability, Skill Development
31.	Food Analysis & Quality Control Lab	FT592	Employability, Skill Development
32.	Unit Operation Lab-II	FT593A	Employability, Skill Development
33.	Separation Process Lab	FT593B	Employability, Skill Development
34.	Food Process Technology-III (Milk and Milk Products)	FT601	Employability, Entrepreneurship
35.	Food Process Technology-IV (Edible Fats and Oils)	FT602	Employability, Entrepreneurship

36.	Bakery, Confectionary and Extruded Foods	FT603	Employability, Entrepreneurship
37.	Microbial Technology & Food Biotechnology	FT604A	Employability, Entrepreneurship
38.	Environmental Biotechnology	FT604B	Employability
39.	Data Structure and Algorithm	FT 605A	Employability
40.	Database Management System	FT 605B	Employability
41.	Software Engineering	FT 605C	Employability
42.	Food Processing Lab–II	FT 691	Employability, Skill Development
43.	Microbial Technology Lab	FT 692A	Employability, Skill Development
44.	Environmental Biotechnology Lab	FT 692B	Employability, Skill Development
45.	Data Structure and Algorithm Lab	FT 693A	Employability, Skill Development
46.	Database Management System Lab	FT 693B	Employability, Skill Development
47.	Software Engineering Lab	FT 693C	Employability, Skill Development
48.	Waste Management of Food Industries	FT701	Employability
49.	Enzyme Technology	FT702A	Employability
50.	Renewable Energy Technology	FT702B	Employability, Skill Development, Entrepreneurship
51.	Plant Maintenance, Safety & Hygiene	FT702C	Employability, Skill Development, Entrepreneurship
52.	Food Packaging	FT703A	Employability, Skill Development, Entrepreneurship

53.	Functional Foods & Nutraceuticals	FT703B	Employability
54.	Protein Technology	FT703C	Employability
55.	Process Instrumentation	FT 704A	Employability
56.	Process Control Systems	FT 704B	Employability
57.	Food Engineering Lab	FT791	Employability, Skill Development
58.	Instrumentation Laboratory	FT792A	Employability, Skill Development
59.	Process Control Systems Laboratory	FT792B	Employability, Skill Development
60.	Innovation-Project Based-Sc. Tech, Social, Design & Innovation	MC781	Employability, Skill Development, Entrepreneurship
61.	Entrepreneurship Development and start-up management	FT 801A	Employability, Skill Development, Entrepreneurship
62.	Project Engineering & Plant Layout	FT 801B	Employability, Skill Development, Entrepreneurship
63.	Principles of Biochemical Engineering	FT802A	Employability
64.	Modeling & Simulation of Food Processing	FT802B	Employability
65.	Product Development & Quality Assurance Lab	FT891	Employability, Skill Development, Entrepreneurship

Annexure III

SI No	Course Code	Course Name	Contact Hours /Week				Credit Points
			L	T	P	Total	
Professional Elective Courses relevant to chosen specialization/Branch (PE)							
1	FT 403 A	Unit Operation of Chemical Engineering-1	3	0	0	3	3
2	FT 403 B	Transport Phenomena					
3	FT 493 A	Unit operation Lab-I	0	0	3	3	1.5
4	FT 493 B	Transport phenomena Lab					
5	FT 504 A	Unit Operations of Chemical Engineering- II	3	0	0	3	3
6	FT 504 B	Separation Process					
7	FT 593 A	Unit Operation Lab-II	0	0	3	3	1.5
8	FT 593 B	Separation Process Lab					
9	FT 702 A	Enzyme Technology	3	0	0	3	3
10	FT 702 B	Renewable Energy Technology					
11	FT 702 C	Plant Maintenance, Safety & Hygiene					
12	FT 703 A	Food Packaging Technology	3	0	0	3	3
13	FT 703 B	Functional Foods & Nutraceuticals					
14	FT 703 C	Protein Technology					
15	FT 802 A	Principles of Biochemical Engineering	3	0	0	3	3
16	FT 802 B	Modeling & Simulation of Food Processing					
		Total Credit:					18

SI No	Course Code	Course Name	Contact Hours /Week				Credit Points
			L	T	P	Total	
Open Elective Courses-Electives from other technical and / or emerging subjects (OE):							
1	FT604 A	A. Microbial Technology & Food Biotechnology	3	0	0	3	3
2	FT 604B	B. Environmental Biotechnology					
3	FT 605A	A. Data Structure and Algorithm	3	0	0	3	3
4	FT 605B	B. Database Management System					
5	FT605C	C. Software Engineering					
6	FT 692A	A. Microbial Technology Lab	0	0	3	3	1.5
7	FT692B	B. Environmental Biotechnology Lab					
8	FT 693A	A. Data Structure and Algorithm Lab	0	0	3	3	1.5
9	FT693B	B. Database Management System Lab					
10	FT693C	C. Software Engineering Lab					
11	FT 704A	A. Process Instrumentation	3	0	0	3	3
12	FT 704B	B. Process Control Systems					
13	FT792A	A. Instrumentation Laboratory	0	0	2	2	1
14	FT792B	B. Process Control Systems Laboratory					
15	FT 801A	A. Entrepreneurship Development for Food Technologists	3	0	0	3	3
16	FT801B	B. Project Engineering & Food Plant Layout					
		Total Credit:					16

Annexure IV

List of New courses introduced Program-wise during the assessment year			
Program Code	Program name	Course Code	Course Name
FT (09)	B.Tech. in Food Technology	PR 191	Project-IA
		PR 192	Project-IB
		MC 181	Induction Program
		PR 291	Project-II
		PR 292	Innovative activities-I
		PR 391	Project-III
		PR 392	Innovative activities-II
		MC 381	Behavioral and Interpersonal Skills
		PR 491	Project-IV
		PR 492	Innovative activities-III
		MC 401	Environment Sciences
		PR 591	Project-V
		PR 592	Innovative activities-IV
		MC 581	Social Awareness
		FT 604B	Environmental Biotechnology
		FT 692B	Environmental Biotechnology Lab
		PR 691	Project-VI
		PR 692	Innovative activities-V
		MC 601	Constitution of India
		PR 792	Innovative activities-VI
MC 781	Innovation-Project Based-Sc. Tech, Social, Design & Innovation		
FT 801A	Entrepreneurship Development and start-up management		
MC 801	Essence of Indian Knowledge Tradition		

Annexure V

Department: FOOD TECHNOLOGY Curriculum for B. Tech.

1st Semester

SI No	Course Code	Paper Code	Theory	Contact Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	BS	M 101	Mathematics -I	3	1	0	4	4
2	BS	PH 101	Physics- I	3	0	0	3	3
3	ES	EC 101	Basic Electronics Engineering (Gr. B)	3	0	0	3	3
4	HS	HU 101	English	2	0	0	2	2
Total of Theory							12	12
B. PRACTICAL								
5	BS	PH191	Physics- I Lab	0	0	3	3	1.5
6	ES	EC 191	/ Basic Electronics Engineering Lab	0	0	3	3	1.5
7	ES	ME 192	Workshop/Manufacturing Practices	0	0	3	3	1.5
8	PROJ	PR 191	PROJECT-IA	0	0	1	1	0.5
9	PROJ	PR 192	PROJECT-IB	0	0	1	1	0.5
C. MANDATORY ACTIVITIES / COURSES								
10	MC	MC 181	Induction Program	0	0	0	0	
Total of Theory, Practical & Mandatory Activities/Courses							22	17.5

2nd Semester

Sl No	Course Code	Paper Code	Theory	Credit Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	BS	M 201	Mathematics -II	3	1	0	4	4
2	BS	CH 201	Chemistry	3	0	0	3	3
3	ES	EE 201	Basic Electrical Engineering	3	0	0	3	3
4	ES	CS 201	Programming for Problem Solving	3	0	0	3	3
5	ES	ME 201	Engineering Mechanics	3	0	0	3	3
Total of Theory							16	16
B. PRACTICAL								
6	ES	CS291	Programming for Problem Solving Lab	0	0	3	3	1.5
7	BS	CH 291	Chemistry Lab	0	0	3	3	1.5
8	ES	EE 291	Basic Electrical Engineering Lab	0	0	3	3	1.5
9	ES	ME 291	Engineering Graphics & Design	0	0	3	3	1.5
10	HS	HU 291	Language Lab	0	0	2	2	1
11	PROJ	PR 291	Project-II	0	0	1	1	0.5
12	PROJ*	PR 292	Innovative activities-I	0	0	0	0	0.5
C. MANDATORY ACTIVITIES / COURSES								
13	MC	MC 281	NSS/ Physical Activities/Meditation & Yoga/Photography/ Nature Club	0	0	0	3	
Total of Theory, Practical & Mandatory Activities/Courses							34	24.0

3 rd Semester								
Sl No	Field	Paper Code	Theory	Contact Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	ES	CH(FT) 301	Environmental Engineering	2	0	0	2	2
2	BS	CH(FT) 302	Chemistry-2	2	1	0	3	3
3	ES	FT 301	Thermodynamics & Kinetics	2	1	0	3	3
4	PC	FT 302	Food Microbiology	2	1	0	3	3
5	PC	FT303	Chemistry of food	2	1	0	3	3
Total of Theory							14	14
B. PRACTICAL								
6	ES	CH (FT)391	Environmental Engineering Lab	0	0	3	3	1.5
7	BS	CH(FT)392	Chemistry-2 Lab	0	0	3	3	1.5
8	PC	FT391	Chemistry of Food Lab-I	0	0	3	3	1.5
9	PC	FT392	Food Microbiology Lab	0	0	3	3	1.5
10	PROJ	PR 391	Project-III	0	0	2	2	1
11	PROJ*	PR 392	Innovative activities-II	0	0	0	1	0.5
C. MANDATORY ACTIVITIES / COURSES								
12	MC	MC 381	Behavioral and Interpersonal Skills	0	0	3	3	
Total of Theory, Practical & Mandatory Activities/Courses							32	21.5

4 th Semester								
Sl No	Field	Paper Code	Theory	Contact Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	ES	M(FT)401	Numerical Methods	2	0	0	2	2
2	PC	FT401	Biochemistry & Nutrition	2	1	0	3	3
3	BS	CH401	Chemical Stoichiometry	2	1	0	3	3
4	PC	FT402	Principles of Food Preservation	2	1	0	3	3
5	HS	HU 401	Values & Ethics in Profession	2	0	0	2	2
6	PE	FT 403	A. Unit Operation of Chemical Engineering-1	3	0	0	3	3
			B. Transport Phenomena					
Total of Theory							16	16
B. PRACTICAL								
6	PC	FT491	Biochemistry Lab	0	0	3	3	1.5
7	PC	FT 492	Chemistry of Food Lab-II	0	0	3	3	1.5
8	PE	FT 493	A. Unit operation Lab-I	0	0	3	3	1.5
			B. Transport phenomena Lab					
9	PROJ	PR 491	Project-IV	0	0	2	2	1
10	PROJ*	PR 492	Innovative activities-III	0	0	0	0	0.5
C. MANDATORY ACTIVITIES / COURSES								
11.	MC	MC 401	Environment Sciences	3	0	0	3	
Total of Theory, Practical & Mandatory Activities/Courses							30	22

5 th Semester								
Sl No	Field	Paper Code	Theory	Contact Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	HS	HU 502	Economics for Engineers	2	0	0	2	2
2	PC	FT501	Food Process Technology–I (Cereals, Fruits, Vegetables, Beverages)	3	0	0	3	3
3	PC	FT502	Food Process Technology–II (Fish, Meat, Poultry)	3	1	0	4	4
4	PC	FT503	Food Process Engineering	2	1	0	3	3
5	PE	FT 504	A. Unit Operations of Chemical Engineering–II	3	0	0	3	3
			B. Separation Process					
Total of Theory							15	15
B. PRACTICAL								
6	PC	FT591	Food Processing Lab–I	0	0	3	3	1.5
7	PC	FT592	Food Analysis & Quality Control Lab	0	0	3	3	1.5
8	PE	FT 593	A. Unit Operation Lab–II	0	0	3	3	1.5
			B. Separation Process Lab					
9	PROJ	PR 591	Project-V	0	0	2	2	1
10	PROJ*	PR 592	Innovative activities-IV	0	0	0	0	0.5
C. MANDATORY ACTIVITIES / COURSES								
11.	MC	MC 581	Social Awareness	0	0	3	3	
Total of Theory, Practical & Mandatory Activities/Courses							29	21

6 th Semester								
Sl No	Field	Paper Code	Theory	Contact Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	PC	FT601	Food Process Technology–III (Milk and Milk Products)	3	1	0	4	4
2	PC	FT602	Food Process Technology–IV (Edible Fats and Oils)	3	1	0	4	4
3	PC	FT603	Bakery, Confectionary and Extruded Foods	3	0	0	3	3
4	OE	FT604	A. Microbial Technology & Food Biotechnology	3	0	0	3	3
			B. Environmental Biotechnology					
5	OE	FT 605	A. Data Structure and Algorithm	3	0	0	3	3
			B. Database Management System					
			C. Software Engineering					
Total of Theory							17	17
B. PRACTICAL								
6	PC	FT 691	Food Processing Lab–II	0	0	3	3	1.5
7	OE	FT 692	A. Microbial Technology Lab	0	0	3	3	1.5
			B. Environmental Biotechnology Lab					
8	OE	FT 693	A. Data Structure and Algorithm Lab	0	0	3	3	1.5
			B. Database Management System Lab					
			C. Software Engineering Lab					
9	PROJ	PR 691	Project-VI	0	0	2	2	1
10	PROJ*	PR 692	Innovative activities-V	0	0	0	0	0.5
C. MANDATORY ACTIVITIES / COURSES								
11	MC	MC601	Constitution of India	3	0	0	3	
Total of Theory, Practical & Mandatory Activities/Courses							31	23

7 th Semester								
Sl No	Field	Paper Code	Theory	Contact Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	HS	HU704	Principles of Management	2	0	0	2	2
2	PC	FT701	Waste Management of Food Industries	2	1	0	3	3
3	PE	FT 702	A. Enzyme Technology	3	0	0	3	3
			B. Renewable Energy Technology					
			C. Plant Maintenance, Safety & Hygiene					
4	PE	FT703	A. Food Packaging Technology	3	0	0	3	3
			B. Functional Foods & Nutraceuticals					
			C. Protein Technology					
5	OE	FT 704	A. Process Instrumentation	3	0	0	3	3
			B. Process Control Systems					
Total of Theory							14	14
B. PRACTICAL								
6	PC	FT791	Food Engineering Lab	0	0	3	3	1.5
7	OE	FT792	A. Instrumentation Laboratory	0	0	2	2	1
			B. Process Control Systems Laboratory					
8	PROJ	PR 791	Project-VII	0	0	0	5	2.5
9	PROJ*	PR 792	Innovative activities-VI	0	0	0	0	0.5
C. MANDATORY ACTIVITIES / COURSES								
10	MC	MC781	Innovation-Project Based-Sc. Tech, Social, Design & Innovation	0	0	3	3	
Total of Theory, Practical & Mandatory Activities/Courses							27	19.5

8 th Semester								
Sl No	Field	Paper Code	Theory	Contact Hours /Week				Credit Points
				L	T	P	Total	
A. THEORY								
1	OE	FT 801	A. Entrepreneurship Development and start-up management	3	0	0	3	3
			B. Project Engineering & Plant Layout					
2	PE	FT802	A. Principles of Biochemical Engineering	3	0	0	3	3
			B. Modeling & Simulation of Food Processing					
Total of Theory							6	6
B. PRACTICAL								
3	PC	FT891	Product Development & Quality Assurance Lab	0	0	3	3	1.5
4	PROJ	PR 891	Project-VIII	0	0	8	8	4
C. MANDATORY ACTIVITIES / COURSES								
5	M C	MC801	Essence of Indian Knowledge Tradition	3	0	0	3	
Total of Theory, Practical & Mandatory Activities/Courses							20	11.5

Credit Distribution:

Category	Total Credit Allocation	Credit Allocation As per AICTE
Basic Sciences (BS)	24.5	25*
Humanities & Social Sciences (HS)	9	12*
Engineering Sciences and Skills (ES)	28	24*
Professional Core (PC)	49.5	48*
Professional Electives (PE)	18	18*
Open Elective (OE)	16	18*
Project work, seminar, internship	15	15*
Mandatory Courses [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Knowledge Tradition etc.]	(non-credit)	(non-credit)
Total	160	160

*Minor variation is allowed as per need of the respective disciplines (as per AICTE)