SREE BUDDHA
COLLEGE OF ENGINEERING, PATTOOR
(AUTONOMOUS)
(Affiliated to APJAK Technological University, Kerala)

Curriculum
(2024)
B.Tech-Semester I to VIII

Food Technology
Branch Code: FT
(Group D)

Pattoor P. O., Nooranad, Alappuzha-690529
Website: sbce.ac.in

Note

This curriculum adheres to the syllabus prescribed by APJ Abdul Kalam Technological University for the academic year 2024. All courses, credits, and evaluation criteria are implemented as per the regulations and guidelines issued by the university.

The institution ensures full compliance with the university's curriculum framework, ensuring quality education aligned with its standards.

SREE BUDDHA COLLEGE OF ENGINEERING * PATTOOR P.O. ALAPPUZHA-690529 * AUTONOMOUS

Chairman

Academic Council

CHAIRMAN
ACADEMIC COUNCIL
SREE BUDDHA COLLEGE OF ENGINEERING
PATTOOR, (AUTONOMOUS), NOORANAD
ALAPPUZHA-690529

FIRSTSEMESTER (July-December):GroupD														
10 Days Compulsory Induction Program														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GDMAT101	BSC	GC	Mathematics For Life science-1	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	GZPHT121 / GDCYT122	BSC	GC	Physics for Life science / Chemistry for Life science	3	0	2	0	5.5	40	60	4	5
3	C	GMEST103	ESC	GC	Engineering Graphics and Computer Aided Drawing.	2	0	2	0	4	40	60	3	4
4	D	GDFTT104	ESC	GC	Introduction to Food Technology	3	1	0	0	5	40	60	4	4
5	F	UCEST105	ESC	UC	Algorithmic Thinking with Python	3	0	2	0	5.5	40	60	4	5
6	L	GDFTL106	ESC	GC	Foundations of Food Technology Lab	0	0	2	0	1	50	50	1	2
7	I* S1/ S2	UCHWT127 / UCHUT128	PW / HMC	UC	Health and wellness / Life Skills and Professional Communication	1 / 2	0 / 0	1 / -	0 / 0	0 / 3	50 / 100	0 / 0	1	2
8	S_1/ S_2	UCSEM129	SE C	UC	Skill Enhancement Course: Digital 101(30 Hours, NASSCOM)	MOOC				2			-	
Total										**29/ 31**			**20**	**25**
Bridge Course (Mathematics or Introduction to Computer Science) *: Total 15 Hrs.														

Valuation for HMC courses will be done at college level, Question papers will be provided by the University.

No Grade Points will be awarded for the MOOC course and I slot course.

- L-T-P-R: Lecture-Tutorial-Practical-Project
- SS (Self Study) Hours= 1.5L+0.5 T+0.5P+R
- CIA: Continuous Internal Assessment, ESE: End Semester Examination

Digital 101 (NASSCOM)		
Sl. No:	**Technologies Covered**	**Hours**
1	Artificial intelligence and Big Data Analytics (AI/BDA)	11
2	Internet of Things (IoT)	2.5
3	Cyber Security	2.5
4	Block Chain	2.5
5	Robotic Process Automation	1.5
6	Augmented and Virtual Reality (AR and VR)	2.5
7	Cloud Computing	2.5
8	3 D Printing and Modelling	2
9	Web, Mobile Dev and Marketing	2
10	Responsible AI	1
	Total Hours	**30**

Note:*Engineering Physics, Engineering Chemistry, Health and Safety and Life skill and Universal Human Values shall be offered in both S1 and S2. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Engineering Physics/ Health and wellness in SI and Engineering Chemistry/ Life Skills and Professional Communication in S2 & vice versa.*

SECOND SEMESTER (January-June): Group D														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GDMAT201	BSC	GC	Mathematics For Life science -2	3	0	0	0	4.5	40	60	3	3
2	B 1/2	GZPHT121	BSC	GC	Physics for Life science	3	0	2	0	5.5	40	60	4	5
		GDCYT122			Chemistry for Life science									
3	C	GDEST203	ESC	GC	Basic Mechanical & Civil Engineering	3	0	0	0	4.5	40	60	3	3
4	D	GZEST204	ESC	GC	Basic Electrical & Electronics Engineering (Part 1: Electrical Engineering)	2	0	0	0	3	20	30	2+2=4	4
					(Part 2: Electronics Engineering)	2	0	0	0	3	20	30		
5	E	PCFTT205	PC	PC	Food Chemistry	3	1	0	0	5	40	60	4	4
6	F	UCEST206	ESC	UC	Engineering Entrepreneurship & IPR	3	0	0	0	4.5	60	40	3	3
7	I*	UCHWT127	PW	UC	Health and wellness	1	0	1	0	0	0	0	1	2
		UCHUT128	HMC		Life Skills and Professional Communication	2	0	-	0	3	50	50		
8	L	GZESL208	ESC	GC	Basic Electrical and Electronics Engineering Workshop	0	0	2	0	1	50	50	1	2
9	S_1/ S_2	UCSEM129	SEC	UC	Skill Enhancement Course: Digital 101(30 Hours, NASSCOM)	MOOC							1	
Total										**34**			**24**	**26**

No Grade Points will be awarded for the MOOC course and I slot course.

THIRD SEMESTER (July-December)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GDMAT301	BSC	GC	Mathematics for Life science -3	3	0	0	0	4.5	40	60	3	3
2	B	PCFTT302	PC	PC	Food Thermodynamics and Process Calculations	3	1	0	0	5	40	60	4	4
3	C	PCFTT303	PC	PC	Food Microbiology	3	1	0	0	5	40	60	4	4
4	D	PBFTT304	PC-PBL	PB	Food Process Engineering	3	0	0	1	5.5	60	40	4	4
5	F	GNEST305	ESC	GC	Introduction to Artificial Intelligence and Data Science	3	1	0		5	40	60	4	4
6	G S3/S4	UCHUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		UCHUT347			Engineering Ethics and Sustainable Development									
7	L	PCFTL307	PCL	PC	Food Microbiology Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCFTL308	PCL	PC	Food Chemistry Lab	0	0	3	0	1.5	50	50	2	3
9	R/M		VAC		REMEDIAL/MINOR/COURSE	3	1	0	0	5			4*	4*
Total										**31/ 36**			**25/29***	**27/31***

FOURTH SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	GDMAT401	BSC	GC	Mathematics for Life science -4	3	0	0	0	4.5	40	60	3	3
2	B	PCFTT402	PC	PC	Heat and Mass Transfer in Food Processing	3	1	0	0	5	40	60	4	4
3	C	PCFTT403	PC	PC	Processing of Cereals, Pulses and Oilseeds	3	1	0	0	5	40	60	4	4
4	D	PBFTT404	PC-PBL	PB	Food Analysis	3	0	0	1	5.5	60	40	4	4
5	E	PEFTT41N	PE	PE	PE-1	3	0	0	0	4.5	40	60	3	3
6	G S3/S4	UCHUT346	HMC	UC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		UCHUT347			Engineering Ethics and Sustainable Development									
7	L	PCFTL407	PCL	PC	Food Analysis & Quality Evaluation Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCFTL408	PCL	PC	Food Process Engineering Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
Total										**31/36**			**24/28***	**26/30***

Note: *Economics for Engineers and Engineering Ethics and Sustainable Development shall be offered in both S3 and S4. Institutions can advise students belonging to about 50% of the number of branches in the Institution to opt for Economics for Engineers in S3 and Engineering Ethics &Sustainable Development in S4 and vice versa.*

PROGRAM ELECTIVE I: PEFTT41N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	PEFTT411	Food Product Design and Development	3-0-0-0	3	3
	PEFTT412	Bakery and Confectionery Products	3-0-0-0		3
	PEFTT413	Food Biotechnology	3-0-0-0		3
	PEFTT414	Refrigeration & Cold Chain	3-0-0-0		3
	PEFTT416	Extension and Transfer of Technology	3-0-0-0		3
	PEFTT417	Phytochemicals in Food	3-0-0-0		3
	PEFTT418	Spices and Plantation Crops Technology	3-0-0-0		3
	PEFTT415	Unit Operations in Food Processing	3-0-0-0		5/3

Note : *Level 5 courses in the B. Tech curriculum carry a total of 5 credits, consisting of 3 credits for the Programme Elective and 2 additional credits. The additional 2 credits shall be awarded only if the student meets the eligibility conditions specified in the B. Tech. -2024 regulations. If those conditions are not fulfilled, the student will receive only 3 credits for the course.*

FIFTH SEMESTER (July-December)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	PCFTT501	PC	PC	Processing of Fruits and Vegetables	3	1	0	0	5	40	60	4	4
2	B	PCFTT502	PC	PC	Processing of Milk & Milk Products	3	1	0	0	5	40	60	4	4
3	C	PCFTT503	PC	PC	Food Safety & Quality Regulations	3	0	0	0	4.5	40	60	3	3
4	D	PBFTT504	PC-PBL	PB	Food Additives and Flavorings	3	0	0	1	5.5	60	40	4	4
5	E	PEFTT52N	PE	PE	PE-2	3	0	0	0	4.5	40	60	3	3
6	I*	UCHUM506	HMC	UC	Constitution Of India (MOOC)	-	-	-	-	2	-	-	1	-
7	L	PCFTL507	PCL	PC	Food Preservation Lab	0	0	3	0	1.5	50	50	2	3
8	Q	PCFTL508	PCL	PC	Food Processing Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
	S_5/ S_6	Industrial Visit (Maximum 10 Days are permitted, Not Exceeding more than 5 Working Days) /Industrial Training												
Total										**30/ 35**			**23/27***	**24/28***

No Grade Points will be awarded for the MOOC course and I slot course.

PROGRAM ELECTIVE 2: PEFTT 52N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	PEFTT 521	Modelling & Simulation in Food Processing	3-0-0-0	3	3
	PEFTT 522	Nanotechnology in Food	3-0-0-0		3
	PEFTT 523	Food Rheology	3-0-0-0		3
	PEFTT524	Sensory Evaluation of Food Products	3-0-0-0		3
	PEFTT 526	Engineering Properties of Food Materials	3-0-0-0		3
	PEFTT 527	Separation Processes in Food Technology	3-0-0-0		3
	PEFTT 528	Food Fermentation Technology	3-0-0-0		3
	PEFTT 525	**Novel Food Processing Technology**	3-0-0-0		**5/3**

SIXTH SEMESTER (January-June)														
Sl. No:	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs/ Week**
						L	**T**	**P**	**R**		**CIA**	**ESE**		
1	A	PCFTT601	PC	PC	Design of Food Processing Equipment& Plant Layout	3	1	0	0	5	40	60	4	4
2	B	PCFTT602	PC	PC	Meat, Fish and Poultry Processing	3	0	0	0	4.5	40	60	3	3
3	C	PEFTT63N	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	PBFTT604	PC-PBL	PB	Food Packaging Technology	3	0	0	0	5.5	60	40	3	4
5	F	GDEST605	ESC	GC	Design Thinking and Product Development (Group Specific Syllabus)	2	0	0	0	3	40	60	2	2
6	O	OEFTT61N /IEFTT61N	OE/ILE	OE/IE	OE/ILE-1	3	0	0	0	4.5	40	60	3	3
7	L	PCFTL607	PCL	PC	Modeling and Simulation of Food Processes Lab	0	0	3	0	1.5	50	50	2	3
8	P	PCFTP608	PS	PC	Mini Project: Socially Relevant Project	0	0	0	3	3	50	50	3	3
9	R/ M/ H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
	S5/ S6	Industrial Visit (Maximum 12 Days are permitted, Not Exceeding more than 6 Working Days) /Industrial Training												
Total										**32/ 36**			**23/27***	**25/29***

Note: Open Electives are such courses which will be offered by other departments. Like CSE department students have to opt open electives from ECE/ME/EEE etc. departments.

PROGRAM ELECTIVE 3: PEFTT 63N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	PEFTT 631	Non-Thermal Processing	3-0-0-0	3	3
	PEFTT 632	Beverage Processing	3-0-0-0		3
	PEFTT 633	Food Storage Engineering	3-0-0-0		3
	PEFTT 634	Food Toxicology	3-0-0-0		3
	PEFTT 636	Food Supply chain management	3-0-0-0		3
	PEFTT 637	Advanced Extrusion Technology	3-0-0-0		3
	PEFTT 638	Process Instrumentation and Control	3-0-0-0		3
	PEFTT 635	**Advances in Food Packaging**	3-0-0-0		5/3

OPEN ELECTIVE 1: OEFTT 61N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEFTT 611	Unit Operations in Food Processing	3-0-0-0	3	3
	OEFTT 612	Refrigeration & air conditioning in Food Industry	3-0-0-0		3
	OEFTT 613	Instrumental Methods in Food Analysis	3-0-0-0		3
	OEFTT 614	Post Harvest Handling of Food materials	3-0-0-0		3
	OEFTT 615	Dairy Technology	3-0-0-0		3
	OEFTT 616	Thermal Processing of Food	3-0-0-0		3
	OEFTT 617	Engineering Properties of Food Materials	3-0-0-0		3

SEVENTH SEMESTER (July-December)

Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIA	ESE		
1	A	PEFTT74N / PEFTM74N	PE	PE	PE-4 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	PEFTT75N/ PEFTM75N	PE	PE	PE-5 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	O	OEFTT72N /IEXXT72N/ OEXXM72N	OE/ ILE	OE/IE	OE/ILE-2 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
4	I*	UEHUT704 / UEHUM70N	HM C	UE	Elective (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	2	2
5	S	PCFTS705	PS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P	PCFTP706/ PCFTI706	PS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	12	12	100	0	4	8
7	R/H		VAC		Remedial/Honours Course	3	0	0	0	4.5			3*	3*
Total										**26/ 31**			**17/20***	**22/25***

**No Grade Points will be awarded for the I slot courses*
**The students can take the internship option either in 7th or in 8th semester.*
** Option 1: Work on a Project in the institute/department under the mentorship of faculty members.*
*Option 2: Full semester Internship in Industry/organization (**7th or 8th semester**)*

Note: Open Electives are such courses which will be offered by other departments.

PROGRAM ELECTIVE 4: PEFTT 74N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	PEFTT 741	Food Informatics	3-0-0-0	3	3
	PEFTT 742	Food Laws and Regulations	3-0-0-0		3
	PEFTT 743	Nanotechnology in Food	3-0-0-0		3
	PEFTT 744	Food Industry Waste Management	3-0-0-0		3
	PEFTT 746	Emerging Techniques in Food Quality and Safety	3-0-0-0		3
	PEFTT 747	Food Plant Sanitation & Hygiene	3-0-0-0		3
	PEFTT 748	Fat and Oil Processing Technology	3-0-0-0		3
	PEFTT 745	Food Rheology and Microstructure	3-0-0-0		5/3

PROGRAM ELECTIVE 5: PEFTT 75N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	PEFTT 751	ICT Applications in Food Industry	3-0-0-0	3	3
	PEFTT 752	Energy Management in Food Industry	3-0-0-0		3
	PEFTT 753	Food Products monitoring and control	3-0-0-0		3
	PEFTT 754	Post harvest spoilage & physiology of foods	3-0-0-0		3
	PEFTT 756	Snack Food Technology	3-0-0-0		3
	PEFTT 757	Consumer Behavior in Food Marketing	3-0-0-0		3
	PEFTT 758	Optimization techniques	3-0-0-0		3
	PEFTT 755	Research Methodology and Statistics	3-0-0-0		5/3

OPEN ELECTIVE 2: OEFTT 72N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEFTT 721	Food Engineering	3-0-0-0	3	3
	OEFTT 722	Food Process and Equipment Design	3-0-0-0		3
	OEFTT 723	Food laws and legislations	3-0-0-0		3
	OEFTT 724	Food Industry Management	3-0-0-0		3
	OEFTT 725	Consumer and Convenience Foods	3-0-0-0		3
	OEFTT 726	Bioprocess Engineering	3-0-0-0		3
	OEFTT 727	Fermentation and Enzyme Technology	3-0-0-0		3

SL. No	Course Code	Slot I: HMC Elective
1	UEHUT704	Project Management: Planning, Execution, Evaluation and Control
2	UEHU**M**701	Proficiency course in French. (MOOC) (B1 level)
3	UEHUM702	Proficiency Course in German (B1 Level). (MOOC)
4	UEHUM703	Proficiency Course in Spanish (B1 Level) (MOOC)
5	UEHUM704	Introduction to Japanese Language and Culture (N5 level). (MOOC)

EIGHTH SEMESTER (January-June)

Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIA	ESE		
1	A	PEFTT86N / PEXXM86N	PE	PE	PE-6 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	O	OEFTT83N /IEFTT83N/ OEFTM83N	OE/ILE	OE/IE	OE/ILE-3 (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	I*	UEHUT803 / UEHUM803	HMC	UC	Organizational Behavior and Business Communication (Internship Students: Self Study/MOOC Approved by the University/Online Classes)	2	0	0	0	3	50	50	1	2
4	P	PCFTP806/ PCFTI806/ PCFTJ806	PS	PC	Option 1: Major Project Option 2: Internship (4-6 Months) Option 3: Major Project Phase -II (For the students who have not opted for internship in S7/S8)	0	0	0	12	12	100	0	4	8
5	R/H		VAC		Project: Honours Course	0	0	0	4	4			4*	4
Total										**24/ 28**			**11/15***	**16/20**

****No Grade Points will be awarded for the I slot courses***

** Option 2: Full semester Internship in Industry/organization (**7th or 8th semester**)*

PROGRAM ELECTIVE 6: PEFTT 86N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	PEFTT 861	Food Plant Layout and Design	3-0-0-0	3	3
	PEFTT 862	Entrepreneurship Development in Food Technology	3-0-0-0		3
	PEFTT 863	Nutraceuticals and Functional Foods	3-0-0-0		3
	PEFTT 864	Automation in Food Industry	3-0-0-0		3
	PEFTT 866	Applications of Renewable energy in Food Processing	3-0-0-0		3
	PEFTT 867	By Product Utilization in Food Industry	3-0-0-0		3
	PEFTT 868	HACCP Planning and Implementation	3-0-0-0		3
	PEFTT 865	Agro-Industrial Project Planning and Management	3-0-0-0		**5/3**

OPEN ELECTIVE 3:OEFTT 83N

SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	OEFTT 831	Fundamentals of Food Processing	3-0-0-0	3	3
	OEFTT 832	Food Plant Layout and Design	3-0-0-0		3
	OEFTT 833	Nutraceuticals and Functional Foods	3-0-0-0		3
	OEFTT 834	Food Industry Waste Management	3-0-0-0		3
	OEFTT 835	Food Product Design and Development	3-0-0-0		3
	OEFTT 836	Cereals and Legumes Technology	3-0-0-0		3
	OEFTT 837	Entrepreneurship development in Food Industry	3-0-0-0		3

HMC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1/S2**	Life Skills and Professional Communication	1
2	**S3 /S4**	Economics for Engineers	2
3		Engineering Ethics and Sustainable Development	2
4	**S5**	Constitution Of India. (MOOC)	1
5	**S7**	Elective (Project Management/Foreign Languages)	2
6	**S8**	Organizational Behavior and Business Communication	1
Total Credits			**9**

BSC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Mathematics for Life Science-1	**3**
2	**S1/S2**	Physics for Life Science	4
3		Chemistry for Life Science	4
4	**S2**	Mathematics for Life Science-2	3
5	**S3**	Mathematics for Life Science-3	3
6	**S4**	Mathematics for Life Science-4	3
Total Credits			**20**

ESC Courses (Group D)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Engineering Graphics and Computer Aided Drawing	**3**
2		Introduction to Biotechnology/Food Technology/Agriculture Engineering	4
3		Algorithmic Thinking with Python	4
4		Foundations of Biotechnology/Food Technology/Agriculture Engineering Lab	1
5	**S2**	Basic Mechanical Engineering and Civil Engineering	3
6		Basic Electrical and Electronics Engineering	4
7		Engineering Entrepreneurship and IPR	3
8		Basic Electrical and Electronics Engineering Workshop	1
9	**S3**	Introduction to Artificial Intelligence and Data Science	4
7	**S6**	Design Thinking and Creativity	2
Total Credits			**29**

Programme Core Courses(PC)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S2**	Food Chemistry	4
2	**S3**	Food Thermodynamics and Process Calculations	4
3		Food Microbiology	4
4		Food Microbiology Lab	2
5		Food Chemistry Lab	2
6	**S4**	Heat and Mass Transfer in Food Processing	4
7		Processing of Cereals, Pulses and Oilseeds	4
8		Food Analysis & Quality Evaluation Lab	2
9		Food Process Engineering Lab	2
10	**S5**	Processing of Fruits and Vegetables	4
11		Processing of Milk & Milk Products	4
12		Food Safety & Quality Regulations	3
13		Food Preservation Lab	2
14		Food Processing Lab	2
15	**S6**	Design of Food Processing Equipment& Plant Layout	4
16		Meat, Fish and Poultry Processing	3
17		Modeling and Simulation of Food Processes Lab	2
Total Credits (Theory -10, Lab-7)			**52**

Programme Core-Project Based Learning (PBL)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S3**	Food Process Engineering	4
2	**S4**	Food Analysis	4
3	**S5**	Food Additives and Flavorings	4
4	**S6**	Food Packaging Technology	4
Total Credits			**16**

Programme Elective Courses (PE)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	S4	PE-1	3

2	**S5**	PE-2	3
3	**S6**	PE-3	3
4	**S7**	PE-4	3
5		PE-5	3
6	**S8**	PE-6	3
Total Credits			**18**

Open Elective Courses/Industry Elective(OE/IEL)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S6**	OE/ILE-1	3
2	**S7**	OE/ILE-2	3
3	**S8**	OE/ILE-3	3
Total Credits			**9**

Project/ Internship and Seminar			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S6**	Mini Project	2
2	**S7**	Seminar	2
3		Major Project/Internship	4
4	**S8**	Major Project/Internship/Research Project	4
Total Credits			**12**

Activity Points				
Sl. No.	**Group**	**Courses**	**Credits**	**Minimum Credit Requirements**
1	I	NSS, NCC, NSO (National Sports Organization)	1 (40 Points)	3 Credits (One credit from each Group)
2		Arts/Sports/Games		
3		Union/Club Activities		
4	II	English Proficiency Certification (TOFEL, IELTS, BEC etc.)	1 (40 Points)	
5		Aptitude Proficiency Certification (GRE, CAT, GMAT etc.)/ Valid Gate Score.		
6		Short Term Internship (Minimum 2 weeks), Clinical Exposure/Training (Minimum 2 weeks), Conferences/Paper Presentation/ Workshop Activities/ Professional Body Activities, Participation in University level/State Level/ National Level Hackathons		
7	III	Journal Publication, Patents, Start-Up, Innovation, Winners of National/ International Level Hackathons	1 (40 Points)	
8		**Skilling Certificates** (Approved by the University)		

- ***Students are required to acquire a minimum of 120 activity points, with at least 40 points per group, to fulfill the curriculum requirement of 3 activity credits.***
- ***For B. Tech Lateral Entry students, 30 points per group are required. A minimum of 90 activity points must be acquired to obtain the 3 activity credits mandated by the curriculum.***

Course classifications of the B. Tech Programmes and Overall Credit Structure			
Sl. No	**Category**	**Code**	**Credits**
1	Humanities and Social Sciences including Management Courses	HMC	9
2	Basic Science Courses	BSC	20
3	Engineering Science Courses	ESC	29
4	Programme (Professional) Core Courses	PCC	52
5	Programme (Professional) Core Courses-Project Based Learning	PBL	16
6	Programme Elective Courses	PEC	18
7	Open Elective Courses/Industry Linked Elective	OEC/ILE	9
8	Mini Project,Project Work/Internship and Seminar	PWS	12
9	Health and Wellness	HWP	1
10	Skill Enhancement Courses (Digital 101)	SEC	1
11	Mandatory Student Activities	MSA	3
Total Credits			**170**