

SHIVAJI UNIVERSITY, KOLHAPUR - 416004, MAHARASHTRA

PHONE:EPABX–2609000, www.unishivaji.ac.in, <u>bos@unishivaji.ac.in</u>

Estd. 1962 "A++" Accredited by NAAC (2021) With CGPA 3.52 शिवाजी विद्यापीठ, कोल्हापूर -४१६००४,महाराष्ट्र

दूरध्वनी-ईपीएबीएक्स -२६०९०००, अभ्यासमंडळे विभाग दुरध्वनी ०२३१—२६०९०९४ ०२३१—२६०९४८७



Date: 01/01/2024

SU/BOS/Science/06

То,

The Principal,	The Head/Co-ordinator/Director
All Concerned Affiliated Colleges/Institutions	All Concerned Department (Science)
Shivaji University, Kolhapur	Shivaji University, Kolhapur.

Subject: Regarding syllabi of B.Sc. Part-III (Sem. V & VI) as per NEP-2020 (1.0) degree programme under the Faculty of Science and Technology.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, nature of question paper and equivalence of B.Sc. Part-III (Sem. V & VI) as per NEP-2020 (1.0) degree programme under the Faculty of Science and Technology.

	B.ScIII (Sem. V & VI) as per NEP-2020 (1.0)										
1.	Mathematics	12.	Computer Science (Opt)								
2.	Statistics	13.	Computer Science (Entire)								
3.	Physics	14.	Information Technology (Entire)								
4.	Microbiology	15.	Food Science and Technology (Entire)								
5.	Industrial Microbiology	16.	Food Science								
6.	Electronics	17.	Food Science and Quality Control (Entire)								
7.	Chemistry	18.	Food Technology & Management (Entire)								
8.	Sugar Technology (Entire)	19.	Biochemistry								
9.	Geology	20.	Biotechnology (Optional/Vocational)								
10.	Zoology	21.	Biotechnology (Entire)								
11.	Botany	22.	Environmental Science (Entire)								

This syllabus, nature of question and equivalence shall be implemented from the academic year 2024-2025 onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website <u>www.unishivaji.ac.in NEP-2020(Online Syllabus)</u>

The question papers on the pre-revised syllabi of above-mentioned course will be set for the examinations to be held in October /November 2024 & March/April 2025. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

by Registrar r. S. M. Kubal

Copy to:

SHIVAJI UNIVERSITY, KOLHAPUR.



Accredited By NAAC with 'A+++' Grade National Education Policy 2020

Syllabus For

B.Sc. Part - III

Food Technology and Management (Entire)

SEMESTER V AND VI

Syllabus to be implemented from June 2024 onwards

Syllabus of B.Sc.Food Technology and Management (Entire) (As per NEP 2020)

Guidelines shall be as per B. Sc. Regular Program.

• Rules and Regulations shall be as per B. Sc. Regular Program except CBCS R. B. Sc. 3 Structure of Program and List of Courses.

• Preamble:

This syllabus is framed to give sound knowledge with understanding of Food technology and management to undergraduate students of B. Sc. Food Technology and Management, (Entire) Program.

The goal of the syllabus is to make the study of Food technology and Management popular, interesting and encouraging students for higher studies including research.

B.Sc. (Food Technology and Management) Program Outcome

- Utilize knowledge from the physical and biological sciences as a basis for understanding the role of food, nutrients, in food processing and preservation.
- Students will be able to deliver effective presentation of food safety, quality and hygiene to the general public.
- Students will gain ability to function as an individual as well as a member of team.
- Students will understand the impact of Food Science and Technology in society and environmental context for sustainable development.
- Students will be able to carry out Nutritional evaluation of food products and shelf-life.
- Students will develop vertical progression to higher studies.
- Students will be promoted for start-up projects.

Program Specific Outcome

- Increase the employability of women in the food processing sector of Indian economy and this has been accorded priority in policy making.
- Expose the participant to the basic essentials of Food Technology & preservation so that they become capable of independently handling food processing units.
- Students will be able to understand the nutritional side which may help to inculcate the scientific view regarding dietary habits of population.
- Enabling the participants to keep themselves abreast of recent changes in Food Technology and Management.
- Creating necessary awareness amongst students regarding the laws affecting Food Processing and Preservation.
- Inculcating entrepreneurship attitude and self employment attitude in students.

						SEMES	STER –I (I	Duratio	n –	6 Mont	hs)						
	me			TEACH	ING	SCHE	ME					EX	AMINAT	ION SCH	EME		
Sr.	urse tt) Ti		THEOR	RY		Р	RACTICA	L		Inte	ernal	Theory	Univers	itv		Practica	1
No.	Cor (Subjec	Credits	Lectures	Hours		Credits	Lectures	Hours		Max Marks	Min Marks	Hours	Max Marks	Min Marks	Hours	Max Marks	Min Marks
1	DSC-FTM-A1	2	3	2.4		-	-	-		10	4	2	40	14			
2	DSC-FTM-A2	2	3	2.4		-	-	-		10	4	2	40	14			
3	DSC-FTM-A3	2	3	2.4		-	-	-		10	4	2	40	14			
4	DSC-FTM-A4	2	3	2.4		-	-	-		10	4	2	40	14			
5	DSC-FTM-A5	2	3	2.4		-	-	-		10	4	2	40	14			
6	DSC-FTM-A6	2	3	2.4		-	-	-		10	4	2	40	14		TICAL	
7	AECC-A	4	4	3.2		-	-	-		10	4	2	40	14	INAC	IICAL	
8	SEC-I (VBC-I) (Compulsory)	2	Demo (Onlin	cracy, Ele e and Sel	ectio f-Stu	ns and C udy Moc	Good Gover le)	nance		-	-	-	50	18	EXAN IS	IINATION	
9	Laboratory Course I	-	-	-		4	8	6.4		-	-	-	-	-	ANNU	JAL	
10	Laboratory Course II	-	-	-		4	8	6.4		-	-	-	-	-			
	Total	18	22	17.6		8	16	12.8		70	-	-	330	-			

Structure of B.Sc. Food Technology and Management (Entire) Semester I and II

						SEM	ESTER	–II (Du	ratio	on – 6 M	onths)								
			r	ГЕАСНІ	ING	SCHE	ME						E	XAMINA	TION	SCHEME			
	a T		тиглі	ov		D	растіс	TAT				T	heory			D	ooti	مما	
Sr.	jec		THEOR	\1		11				Inte	rnal			Universit	y	r I	actio	cal	
No.	Cou (Sub) Tir	Credits	Lectur es	Hours		Credits	Lectur es	Hours		Max Marks	Min Marks		Hours	Max Marks	Min Marks	Hours		Max Marks	Min Marks
1	DSC-FTM-B1	2	3	2.4		-	-	-		10	4		2	40	14			-	-
2	DSC-FTM-B2	2	3	2.4		-	-	-		10	4		2	40	14			-	-
3	DSC-FTM-B3	2	3	2.4		-	-	-		10	4		2	40	14			-	-
4	DSC-FTM-B4	2	3	2.4		-	-	-		10	4		2	40	14			-	-
5	DSC-FTM-B5	2	3	2.4		-	-	-		10	4		2	40	14			-	-
6	DSC-FTM-B6	2	3	2.4		-	-	-		10	4		2	40	14			-	-
7	AECC-B	4	4	3.2		-	-	-		10	4		2	40	14			-	-
8	SEC-II (VBC-II) (Compulsory)	2	Const Gover	Constitution of India and Local Self Government(Online and Self-Study Mode)5018As per BOS guidelines-										-					
9	Laboratory Course	-	-	-		4	8	6.4		-	-		-	-	-			100	35
10	Laboratory Course II	-	-	-		4	8	6.4		-	-		-	-	-			100	35
	Total	18	22	17.6		8	16	12.8		70	-		-	330	-			200	-
	Grand Total	36	44	35.2		16	32	25.6		140	-		-	660				200	-
• Stu	udent Contact Hours pe	r week:	:32 Hour	rs (Min)						Total Englisł	Marks n): 1000		for 1	B.Sc-I(Ind	cluding			-	-
• Th	eory and Practical Lect	ures-48	3 Minute	es Each						Total C	Credits for	: B.	Sc Part-	-I(Sem I a	nd II): 5	52			
• AI	ECC-Ability Enhancem	ent Co	mpulsor	y Course((A+E	B)-Engli	ish												
• DS	SC-Discipline Specific	Course																	
• Pr	actical examination will	l be cor	nducted	annually	for 1	00 mar	ks per co	urse(subj	ect)	and mini	imum 35	mar	ks are r	equired f	or passir	ıg.			
• Th	nere shall be separate pa	assing f	for interi	nal and U	nive	rsity the	eory and	also for p	ract	ical exan	ninations					•			
• SE	SEC: Skill Enhancement Courses includes Skill based and Value based Courses																		
• In	case of VBC I and II th	ere wil	1 be 25 I	Multiple (Choi	ce Ques	tions of 2	2 marks e	each	and mini	imum 18	mar	ks are r	ecruited f	or passi	ng			
• M	inimum 14 marks are re	equired	for pass	ing out o	f 40 t	for each	n theory p	paper.											
• M	inimum 4 marks are req	uired f	or passi	ng out of	10 fc	or Interr	nal exami	ination of	eac	h paper									

Structure of B.Sc. Food Technology and Management (Entire) Semester III and I	V
---	---

					S	SEMES	ΓER –III (Duratio)n –	- 6 Mont	ths)									
	ine		,	ГЕАСНІ	SCHE	ME		EXAMINATION SCHEME												
Sr.	rse E) Ti		THEOR	Y		P	RACTICA	L		Trata		1	Theory	Timinomai	4		Practical	I		
No.	Cou (Subject	its	Ires	ş		its	Ires	S		inte S	Marks		×	S	Marks	ş	S	Marks		
		Cred	Lecti	Hour		Cred	Lecti	Hour		Max Marl	Min		Hour	Max Marl	Min	Hour	Max Marl	Min		
1	DSC-FTM-C1	2	3	2.4		-	-	-		10	4		2	40	14					
2	DSC-FTM-C2	2	3	2.4		-	-	-		10	4		2	40	14					
3	DSC-FTM-C3	2	3	2.4		-	-	-		10	4		2	40	14					
4	DSC-FTM-C4	2	3	2.4		-	-	-		10	4		2	40	14					
5	DSC-FTM-C5	2	3	2.4		-	-	-		10	4		2	40	14					
6	DSC-FTM-C6	2	3	2.4		-	-	-		10	4		2	40	14					
7	AECC-C	4	4	3.2		-	-	-		-	-		-	-	-					
8	SEC-III	Any o Cours	one from ses	pool of		2	-	-		-	-		-	-	-	2	50	18		
9	Laboratory Course III	-	-	-		4	8	6.4		-	-		-	-	-	PRAC	ΓICAL			
		-	-	-		4	8	6.4		-	-		-	-	-	EXAN	IINATION			
	Laboratory Course IV															IS				
10																ANNU	AL			
	Total	16	22	17.6		10	16	12.8		60	-		-	240	-		50			

						SEM	ESTER	–IV (Du	irati	ion – 6 N	Ionths)								
				ТЕАСНІ	NG S	SCHE	CME						E	XAMINA	TION	SCHEME			
	E e		тнео	DV		D	расти	CAT.				T	heory				Dract	tical	
Sr.	lirs jec me		IIIEO			11				Inte	ernal		1	Universi	ty		TTaci	lical	
No.	Cot (Sub Ti	Credits	lectures	Hours		Credits	lectures	Hours		Max Marks	Min Marks		Hours	Max Marks	Min Marks	Hours		Max Marks	Min Marks
1	DSC-FTM-D1	2	3	2.4		-	-	-		10	4		2	40	14			-	-
2	DSC-FTM-D2	2	3	2.4		-	-	-		10	4		2	40	14			-	-
3	DSC-FTM-D3	2	3	2.4		-	-	-		10	4		2	40	14			-	-
4	DSC-FTM-D4	2	3	2.4		-	-	-		10	4		2	40	14	_		-	-
5	DSC-FTM-D5	2	3	2.4		-	-	-		10	4		2	40	14	_		-	-
6	DSC-FTM-D6	2	3	2.4		-	-	-		10	4		2	40	14	_		-	-
7	AECC-C					-	-	-		-	-		3	70	25	-		-	-
	AECC-D	-	-	-									Proj	30	10				
						2			-				ect					50	10
8	SEC-IV	Any of Co	Any one from pool 2 2 50 18 of Courses																
9	Laboratory Course III	-	-	-		4	8	6.4		-	-		-	-	-	As per guidelines	BOS	100	35
10	Laboratory Course IV	-	-	-		4	8	6.4		-	-		-	-	-			100	35
	Total	12	18	17.6		10	16	12.8		60	-		-	340	-	-		250	-
	Grand Total	28	40	35.2		20	32	25.6		120	-		-	580		_		300	-
• St	udent Contact Hours p	er weel	k:32 Ho	urs (Min)						Total EVS):1	Marks 1000	f	for B	.Sc-II(Ind	cluding			-	-
• Th	heory and Practical Lec	tures-4	48 Minu	ites Each						Total C	Credits fo	r B.	Sc Part	:-II: 48					
• A	ECC-Ability Enhancen	nent Co	ompulse	ory Course	e(C+I	D):Env	vironmen	ntal Studi	es A	ECC (C)):EVS Th	eor	y and A	ECC (D)	EVS Pi	roject			
T)	(Theory:70 and Project:30 marks)																		
• D	DSC-Discipline Specific Course																		
• Pr	actical examination wi	ll be co	onducte	d annually	for 1	100 m	arks per	course an	ld m	inimum (35 marks	are	require	ed for pas	sing.				
• Tł	here shall be separate	bassing	for inte	ernal and I	Unive	ersity t	heory ar	nd also for	r pra	actical ex	aminatio	ns							
• M	linimum 14 marks are r	equired	d for pa	ssing out	of 40	for ea	ch theor	y paper.											
• M	linimum 4 marks are re	quired	for pass	sing out of	f 10 f	or Inte	ernal exa	mination	of e	ach pape	er								
• E	xamination of SEC sha	ll be eit	ther The	eory or Pr	actica	al dene	ending o	n the type	of	SEC									

					S	SEMES	TER-V (Duratio	o n –	6 Mont	hs)							
	me		r	ГЕАСНІМ	NG	SCHE	ME						EX	AMINAT	ION SCH	EME		
Sr.	t) Ti		THEOF	RY		PI	RACTICA	L		Inte	rnal	[Theory	Universi	itv		Practical	
No.	Cou (Subjec	Credits	Lectures	Hours		Credits	Lectures	Hours		Max Marks	Min Marks		Hours	Max Marks	Min Marks	Hours	Max Marks	Min Marks
1	DSC-FTM-E1	2	3	2.4		-	-	-		10	4		2	40	14			
2	DSC-FTM-E2	2	3	2.4		-	-	-		10	4		2	40	14			
3	DSC-FTM-E3	2	3	2.4		-	-	-		10	4		2	40	14			
4	DSC-FTM-E4	2	3	2.4		-	-	-		10	4		2	40	14			
5	DSC-FTM-E5	2	3	2.4		-	-	-		10	4		2	40	14			
6	DSC-FTM-E6	2	3	2.4		-	-	-		10	4		2	40	14			
7	AECC-E	4	4	3.2		-	-	-		10	4		2	40	14			
8	SEC-V	Any o Cours	one from ses	pool of		2	-	-		-	-		-	-	-	2	50	18
9	Laboratory Course V	-	-	-		4	8	6.4		-	-		-	-	-	PRACT	ICAL	
10	Laboratory Course VI	-	-	-		4	8	6.4		-	-		-	-	-	EXAM	NATION	
11	Project					4	8	6.4					-	-	-	IS ANNUA	AL.	
	Total	16	22	17.6		14	24	19.2		70	-		-	280	-		50	

Structure of B.Sc. Food Technology and Management (Entire) Semester V and VI

						SEME	STER -	-VI (Du	rati	on – 6 N	Ionths)						
			r	ГЕАСНІ	NG	SCHE	ME						Εž	KAMINA	TION	SCHEME		
	ime		THEOL	\mathbf{v}		D	ΡΑCTIC	AT				Т	heory			Dract	tical	
Sr.	arse t() T		meor	<u> </u>		1	KACTIC.	AL		Inter	rnal		1	Universit	у	1140	lical	
No.	Cor (Subjec	Credit s	No. of lecture	Hours		Credit s	No. of lecture	Hours		Max Marks	Min Marks		Hours	Max Marks	Min Marks	Hours	Max Marks	Min Marks
1	DSC-FTM-F1	2	3	2.4		-	-	-		10	4		2	40	14		-	-
2	DSC-FTM-F2	2	3	2.4		-	-	-		10	4		2	40	14		-	-
3	DSC-FTM-F3	2	3	2.4		-	-	-		10	4		2	40	14		-	-
4	DSC-FTM-F4	2	3	2.4		-	-	-		10	4		2	40	14		-	-
5	DSC-FTM-F5	2	3	2.4		-	-	-		10	4		2	40	14		-	-
6	DSC-FTM-F6	2	3	2.4		-	-	-		10	4		2	40	14		-	-
7	AECC-F	4	4	3.2		-	-	-		10	4		2	40	14		-	-
8	SEC-VI	Any of Co	one fro ourses	om pool		2	-	-		-	-		-			2	50	18
9	Laboratory Course V	-	-	-		4	8	6.4		-	-		-	-	-	As per BOS guidelines	100	35
10	Laboratory Course VI	-	-	-		4	8	6.4		-	-		-	-	-		100	35
11	Project					4	8	6.4									100	35
	Total	16	22	17.6		14	24	19.2		70	-		-	280	-		350	-
	Grand Total	32	44	35.2		28	48	38.4		140	-		-	560			400	-
• Si	tudent Contact Hours	per we	ek:32 l	Hours (M	lin)					Total Englisł	Marks h): 1100	fc	or B.S	c-III(Inc	luding		-	-
• T	heory and Practical L	ectures	-48 Mi	nutes Ea	ch					Total C	Credits f	for E	B.Sc Pa	rt-III: 60				
• A	ECC-Ability Enhanc	ement	Compu	lsory Co	urse	(E+F)-F	English											
• D	DSC-Discipline Specific Course																	
• P	 Practical/Project examination will be conducted annually for 100 marks per course and minimum 35 marks are required for passing. 																	
• T	here shall be separate	e passir	ng for i	nternal a	nd U	Iniversi	ty theory	y and als	o fo	r practica	al/Proje	ct ez	kamina	tions				
• N	finimum 14 marks ar	e requir	ed for	passing c	out o	of 40 for	each th	eory pap	er.									
• N	finimum 4 marks are	require	ed for p	assing ou	t of	10 for 1	Internal	examina	tion	of each	paper							
• E	xamination of SEC sl	hall be	either T	Theory or	Pra	ctical d	ependin	g on the	tvne	of SEC								

B.Sc. (FTM Part I) (Semester I & 1

Course code	Name of Course	Course code	Name of Course						
	SEM		SEM						
	III		IV						
DSC FTM-A1	Food Science-I	DSCFTM-B1	Food Science-II						
DSC FTM-A2	Food Preservation-I	DSCFTM-B2	Food Preservation-II						
DSC FTM-A3	Human Physiology-I	DSCFTM-B3	Human Physiology-II						
DSC FTM-A4	Food Chemistry -I	DSCFTM-B4	Food Chemistry -II						
DSC FTM-A5	Food Microbiology -I	DSCFTM-B5	Food Microbiology -II						
DSC FTM-A6	Dairy Technology –I	DSCFTM-B6	Dairy Technology –II						
AECC – A	English – I	AECC-B	English – II						
SEC – I (VBC- I)	Democracy, Elections, & Good Governance (Online and Self Study mode)	SEC-II (VBC II)	Constitution of India and Local Self Government (Online and Self Study mode)						

DSCFTM-P1	Laboratory Course I (Based on DSC FTM-A4,DSC FTM-A5, DSC FTM-B4 and DSC FTM-B5)
DSCFTM-P2	Laboratory Course II (Based on DSC FTM -A2, DSC FTM-B2, DSC FTM-A6 and DSC FTM-B6)

B.Sc.(FTM Part II) (Semester III & IV)

Course code	Name of Course	Course code	Name of Course
SEMESTER III		SEMEST	TER IV
DSCFTM-C1	Human Nutrition-I	DSCFTM-D1	Human Nutrition -II
DSCFTM-C2	Food Biochemistry -I	DSCFTM-D2	Food Biochemistry -II
DSCFTM-C3	Post-Harvest Technology-I	DSCFTM-D3	Post-Harvest Technology -II
DSCFTM-C4	Processing and Preservation of Fruits and Vegetables-I	DSCFTM-D4	Processing and Preservation of Fruits and Vegetables -II
DSCFTM-C5	Grain Science and Technology-I	DSCFTM-D5	Grain Science and Technology-II
DSCFTM-C6	Food Packaging –I	DSCFTM-D6	Food Packaging –II
AECC-C	Environment Studies (Theory)	AECC-D	Environment Studies (Project)
SEC-III	Any one from the pool of courses	SEC-IV	Any one from the pool of courses

DSCFTM-P3	Laboratory Course III (Based on DSC FTM-C1,DSC FTM-D1, DSC FTM-C2 and DSC FTM-D2)
DSCFTM-P4	Laboratory Course IV
	(Based on DSC FIM-C3 and DSC FIM-D3 and DSC FIM-C4 and DSC FIM-D4)

Course code	Name of Course	Course code	Name of Course
SEMESTER V		SEMEST	TER VI
DSCFTM-E1	Animal Product Technology-I	DSCFTM-F1	Animal Product Technology-II
DSCFTM-E2	Bakery and Confectionery-I	DSCFTM-F2	Bakery and Confectionery-II
DSCFTM-E3	Beverage Technology-I	DSCFTM-F3	Beverage Technology-II
DSCFTM-E4	Food Quality Control Safety and Waste Management-I	DSCFTM-F4	Food Quality Control Safety and Waste Management-II
DSCFTM-E5	Therapeutic Nutrition-I	DSCFTM-F5	Therapeutic Nutrition-II
DSCFTM-E6	Industrial Business Management-I	DSCFTM-F6	Industrial Business Management-II
AECC-E	English III	AECC-F	English IV
SEC-III	Any one from the pool of courses	SEC-IV	Any one from the pool of courses

B.Sc. (FTM Part II) (Semester V & VI)

DSCFTM-P5	Laboratory Course V
	(Based on DSC FTM-E2 and DSC FTM-F2 and DSC FTM-E3 and DSC FTM-F3)
DSCFTM-P6	Laboratory Course VI
	(Based on DSC FTM-E4 and DSC FTM-F4 and DSC FTM-E5 and DSC FTM-F5)
DSCFTM-P7	Project
DSCFTM-P7	Project

Class	B.Sc(FTM) I	B.Sc(FTM) II	B.Sc(FTM) III	Total
Marks	1000	1000	1100	3100
Number of	56	48	60	164
Credits				

COURSE OUTCOMES B.Sc. (FTM) PART III (SEMESTER V)

Class	Course code /	Course outcome
	Course Name	
B. Sc. (FTM) III Semester V	DSCFTM-E1 Animal Product Technology-I	 Understanding the skills required for pre-slaughtering of meat and further processes. Understanding structure, composition & different preservation techniques of preserving eggs .
	DSCFTM-E2 Bakery and Confectionery-I	 Imparting knowledge of scope of bakery and confectionery, terminology used, and organization chart of bakery. Familiarizing students with different types of flours, their composition and functional properties. Analyzing the role of various ingredients used in bread making and effect of processing conditions. Understanding the working of various types of ovens, methods of bread making and characteristics of a good bread.
	DSCFTM-E3 Beverage Technology-I	 Understanding of quality, testing, safety and analysis of enriching elements in beverages Use the different equipment in beverage industry Apply the process parameters for brewing different

	•	types of beverages Students will able to work in industry and research institutes
DSCFTM-E4 Food Quality Control Safety and Waste Management-I	•	Understand the food quality aspects and need of food safety. Knowing the various regulatory aspects for food business operators. Acquire knowledge of food laws & regulations.
DSCFTM-E5 Therapeutic Nutrition-I	•	Students will able to gain knowledge about principles of diets therapy and different therapeutic diets. Students will understand the pathology of diseases and apply nutritional principles to discuss dietary management. Students will able to gain knowledge on the etiological factor and treatment and dietary modification of fevers, obesity, underweight and Gastrointestinal diseases
DSCFTM-E6 Industrial Business Management-I	•	Understand the conceptual learning skills in today's business environment. Analyze financial performance of an organization
English III		 Comprehend communication process, methods of communication & flow of communication. Compose effective professional letters using standard language, style & structure

B.Sc.(FTM) III Semester V DSE FTM E1- Animal Product Technology-I Credit 2

	Creatt 2		
	Unit – I	Hours Alloted	
E	gg		
•	Structure, composition of egg		
•	Nutritive value of egg		
•	Quality of egg- External and internal factors		
•	Evaluation of quality and grading of eggs		
P	rocessing and Preservation of eggs	15	
•	Preservation of shell eggs		
•	Egg processing – freezing, drying		
•	Effect of heat on egg protein.		
•	Egg foams and factors influencing foam formation.		
	Unit II		
Μ	leat		
•	Introduction and Classes of meat		
•	Structure and composition of meat muscle		
•	Nutritive value of meat		
•	Pre-slaughter transport and care and ante-mortem inspection		
•	Slaughtering of animals, post-mortem inspection and grading of meat		
•	Post slaughter operations		
Pı	rocessing and preservation of meat	15	
•	Tenderization of meat		
•	Processing and preservation of meat- chilling, curing, freezing, ageing,		
	smoking, thermal processing, canning, dehydration, use of preservatives,		
	irradiation and hurdle technology		
•	Cooking of meat		
•	Manufacturing of meat products		
•	Packaging of meat		

References:

- Manay S.N. and Shadaksharaswamy M.,Food facts and Principles, 2nd edition, New Age International (P) limited Publishers, 2001.
- Potter N. N. and Hotchkiss J.H., Food Science, 5th Edition, CBS Publishers and distributors, 1966.
- Srilakshmi B., Food Science, 3rd Edition, New Age International (P) limited publishers, 2003.
- The complete technology book on Meat, Poultry and fish processing (2nd revised edition)- NPCS Board of Consultants and Engineers.

B.Sc (FTM) Part III Semester V DSE FTM E2- Bakery and Confectionery-I Credit 2

Unit – I	Hours Allotted
 Introduction to bakery ingredients Major ingredients -Wheat,Sugar,Fats and oils, Yeast Minor ingredients-Salt,Leavening agents, Moistening agent,Improver and emulsifiers. Physiological and rheological properties Baking processes and equipment Types of baking processes Technological principles in the baking of breads Small equipment & their uses Large equipment & their uses Sanitation & hygiene in bakery unit 	15
Unit – II	
 Introduction to Confectionery Principles of confectionery manufacture Confectionery processes Quality parameters of confectionery products Equipment used in confectionery industry Sanitation & hygiene in confectionery unit Confectionery Ingredients Role of sucrose, invert sugar, corn syrups, sugar substitute and additional ingredients Reactions of sugar- caramelization, hydrolysis, and crystallization Sugar boiled confectionery Properties of boiled sugar confections 	15

References:

- John Kingslee, A professional text to bakery and confectionery,2nd edition,2019
- EIRI board of consultants and engineers, Confectionery and Chocolate Products with Manufacturing and Formulation Hand book
- Aylwaed F. (2001): Food technology processing & quality control, 1st edition, Agrobios (India).
- Harry W., Loesecke (2001): Outlines of food technology, 2nd edition, Agrobios (India).

B.Sc. (FTM) Part III Semester V DSC FTM E3- Beverage Technology-I

Credit 2

Unit - I	Hours
	Allotted
 Introduction to Beverages History and Types of beverages and their importance; status of beverage industry in India; FSSAI specifications for beverages, Ingredients, manufacturing and packaging processes and equipment for different beverages. Packaged drinking water Definition, types, manufacturing processes, quality evaluation and raw and 	15
processed water, methods of water treatment, BIS quality standards of bottled water beverages	
Unit - II	
Non-Alcoholic Beverages Types of Non-alcoholic beverages Soft drink – Introduction, Raw material, Manufacturing process, Quality control. Apple Cider – Introduction, History, Raw material, Fermentation Changes in apple cider composition during fermentation and maturation.	15
Carbonated Beverages Introduction to Carbonated beverages Soft drink manufacturing process, Ingredients used in preparation of Carbonated beverages Manufacturing process of Carbonated beverages Low calorie beverages	

References

- Handbook of Fermented foods and Beverage Technology- Ravinder A, Srinivias Maloo, Fr. Dr. Emmanuel S.J. Himalaya Publishing House.
- Fruit and Vegetable Juices Tressler D.K., Joslyn M.A. and Marsh G.C. AVI publishing company New York 1971 Food and Beverage Technology International USA Bernard and Alan Sterling Publication 1989
- Beverages: Technology, Chemistry and Microbiology Varnam and Sutherland Springer, 1994
- Manufacturing of Food and Beverages NIIR Board NIIR Publication, New Delhi
- Food Flavourings P.R. Ashust Springer, 2012
- Handbook of Alcoholic Beverages Alan Buglass John Wiley and Sons, 2011
- Beverages Pare Jean Company's Coming Publishing Limited, 1997
- Preservation of Fruit and Vegetable Products Girdharilal, Siddappa, Tondon Indian Council of Agricultural Research

B.Sc. (FTM) Part III Semester V

DSE FTM E4- Food Quality Control Safety and Waste Management-I

Credit 2		
Unit – I	Hours Allotted	
Concept of Food quality		
Definition of Food quality, Quality attributes of food, Objectives of		
quality control, Role and responsibilities of quality control, Quality		
assurance		
Sampling techniques and preparation of Sample		
Sensory evaluation of foods		
Texture evaluation of foods		
Concept of color in food quality	15	
Color measurement methods	15	
Concept of flavor in food quality		
Unit – II		
Indian food laws and regulations		
Prevention of Food Adulteration Act,		
Food safety and standards act 2006		
Functions of FSSAI,	15	
Food Licensing and Registration,		
General provisions as to article of food,		
Provisions related to import,		
Enforcement of act,		
Offences and penalties,		
Regulations for labeling and packaging		

References

- Sukhneet Suri and Anita Malhotra, Food Science, Nutrition and Safety, Dorling Kindersley (India) Pvt. Ltd, Pearson, 2014.
- Sunetra Roday, Food Science and Nutrition, 3rd Edition, Oxford University Press, 2018.
- Pulkit Mathur, Food Safety and Quality Control, Orient Blackswan Pvt. Ltd, 2018.
- Alok Kumar, Fundamentals of Food Hygiene, safety and Quality, I. K. International Pvt. Ltd., 2019.
- Virag Gupta, The Food Safety and Standards Act, 2006, 12th Edition, Commercial Law Publishers (India) Pvt. Ltd., 2019.
- Yeshajehu Pomeranz and Clifton E. Meloan, Food Analysis: Theory and Practice, 3rd Edition, CBS Publishers and Distributors Pvt. Ltd., 1996.
- S. Ranganna, Handbook of Analysis and Quality Control for Fruits and Vegetable Products, 2nd Edition, Tata McGraw-Hill Publishing Company Ltd., New Delhi, 2012.
- N. Shakuntala Manay and M.Shadaksharswamy, Food Facts and Principles, New Age International (P) Limited, 2008.
- B. Srilakshmi, Food Science, 6th Edition, New Age International Pvt. Ltd, 2015.

B.Sc. (FTM) Part V Semester VI DSE FTM E5- Therapeutic Nutrition-I

Credit 2

Unit–I	HoursAllotted
 Introduction to diet therapy, Therapeutic Nutrition-Definition of Therapeutic diet, Planning therapeutic diets, Factors affecting therapeutic diet, Routine Hospital Diets- Regular diet, Soft diet, Liquid diets- Clear liquid diet, Full Fluid diet, Pureed diet, Restricted diets. Special feeding methods –Enteral/ tube feeding and types of tube feeding, types of enteral feeds, complications, Parenteral and Total Parenteral Nutrition, complications of TPN. Difference between Enteral and ParenteralNutrition, Role of a Dietitian in Hospital, Patient care and Counselling, Diet in Fever, its causes, symptoms, dietary management, Diet in Tuberculosis its causes, symptoms, dietary management, Diet in Influenza or flu its causes, dietary management, Diet in Obesity, its causes, treatment, complications, nutritional and food requirements. 	15
Unit - II	
 Diet in Gastrointestinal diseases- Indigestion- causes, symptoms, dietary management, Diet in Peptic Ulcer- causes, symptoms, dietary management, Diet in Flatulence – causes, symptoms, dietary management, Diet in Malabsorption syndrome- causes, symptoms, dietary management, Diet in Tropical Sprue- causes, symptoms, dietary management, Diet in Celiac disease- causes, symptoms, dietary management, Diet in Disaccharide Intolerance- causes, symptoms, dietary management, Diet in Diarrhoea, Irritable Bowel disease and Steatorrhea -causes, symptoms, dietary management, Diet in Constipation and Inflammatory Bowel Diseases- causes, symptoms, dietary management, Diet in Gallbladder diseases- Bile, significance of bile, mechanism of action, Diet in Cholecystitis, Cholelithiasis, Cholelithiasis, and Choledocholithiasis- causes, dietary management. 	15

Reference Books:

- Sharma, Principles of Therapeutic Nutrition and Dietetics, 1st edition, CBS Publishers & Distributors Pvt. Ltd, Reprint, 2023.
- KrauseandMahan,FoodandNutritionCareProcess,14thedition;Elsevier,NewYork, 2015.
- Shrilaxmi, Dietetics, New AgeInternational Publishers, New Delhi, India, 2019.
- S. Joshi, NutritionandDietetics,McGrawHillEducation, India, 2015.
- S. Agarwal, S. Udupi, HumanNutrition, JaypeePublication, NewDelhi, India, 2014.
- G. Gandy, Oxford Handbook of Nutrition and Dietetics; Oxford Publication, UK, 2010.
- M. Width, T. Reinhard, The Essential Pocket Guide for Clinical Nutrition,Oxford,UK, 2012.
- Shrilakshmi, Nutrition Science, New AgeInternational Publishers, New Delhi, India, 2019.

B.Sc. (FTM) Part III Semester V DSE FTM E6- Industrial Business Management-I

Credit 2	
Unit -I	Hours Allotted
 Introduction to Industry 1. Concept of Business and its objective 2. Introduction to Sole traders ,Partnership firms, Cooperative firm, Joint stock company ,State Enterprise and Public sector organization 3. Concept of industry and its types (Micro ,Small ,Medium scale industries) 4. Procedure to the start small scale industries 5. Social responsibility of business 	15
Unit – II	
 Introduction to Management & its functions 1. Concept of Management and its levels 2. Functional area of management a. Planning – definition , importance ,types and stages b. Organizing – definition ,importance and types c. Staffing : Concept and importance (recruitment & selection) d. Directing : Concept and Principles of Direction e. Controlling : Concept and its procedure 	15

References

- Indian Agriculture Agarwal A.M.
- Fundamentals of Modern Agriculture Blake D.
- Av Introduction to Agricultural production Economics & Farm Management -
- Robertson.
- Elements of farm management Sharma A.M. & Sharma V.K.
- CFN 3 Economics of food IGNOU.
- Management James A.F.Stone, R.Edward Forman & David R.Gilbert
- Business administration & Management Saxena S.C.
- Industrial Management Sarma
- Principles & practice of management Prasad L.M.
- Principles of Management T. Ramasamy

COURSE OUTCOMES-B.Sc. (FTM)PART III (SEMESTER VI)

Class	Course code /	Course outcome
	Course Name	
B.Sc. (FTM) III Semester VI	DSCFTM-F1 Animal Product Technology-II	 Learn the skills required for pre- slaughtering of poultry and further processes. Learn the processing & preservation techniques used for fish and fishery products.
	DSCFTM-F2 Bakery and Confectionery-II	 Imparting knowledge of scope of bakery and confectionery, terminology used, and organization chart of bakery. Familiarizing students with different types of flours, their composition and functional properties. Analyzing the role of various ingredients used in bread making and effect of processing conditions. Understanding the working of various types of ovens, methods of bread making and characteristics of a good bread.
	DSCFTM-F3 Beverage Technology-II	 They will gain a deeper understanding of quality, testing, safety and analysis of enriching elements in beverages Use the different equipment in beverage industry Apply the process parameters for brewing different types of beverages Students will able to work in industry and research institutes

DSCFTM-F4 Food Quality Control Safety and Waste Management-II	 Understand the various voluntary standards for food processing industries. Recognize and communicate common processing methods which convert food waste into valuable products.
DSCFTM-F5 Therapeutic Nutrition-II	 Students will able to Learn about the causes, types, glycaemic index of diabetes. Students will understand the gain knowledge on the etiological factor and treatment and dietary modification of disease of liver and cardiovascular diseases. Students will able to gain knowledge on the etiological factor and treatment and dietary modification of renal diseases
DSCFTM-F6 Industrial Business Management-II	 Evaluate organizational decisions with consideration of the political, legal and ethical aspects of business. Assess strengths, weaknesses, opportunities and threats of the business environment.
English IV	 Comprehend the employment skills to have effective first impression Use various inter-personal skills as per the need of situation & context

B.Sc. (FTM) Part III Semester VI DSE FTM F1- Animal Product Technology-II Credit 2

Unit – I	Hours Alloted
PoultryStructure, composition, classes of poultry	
• Nutritive value of poultry meat	
• Pre-slaughtering operations, ante-mortem inspection	
• Slaughtering and dressing of poultry	
Post-mortem inspection	
Processing and Preservation of poultry	15
Post-slaughtering operations	
• Grading and packaging of poultry meat	
• Preservation of poultry meat- heating, drying, chemical treatment, irradiation.	
Manufacturing of poultry products	
Utilization of By-product from abattoir	
Unit II	
Fish	
Classification of fish	
• Structure and composition of fish	
• Nutritive value of fish	
• Selection of fish	
• Commercial fish harvesting, handling, transport and storage	15
Processing and preservation of fish	
• Preservation of fish by curing, drying, smoking, freezing and canning	
Processing of value added fish products	
• Packaging of fish and fishery product	

References:

• Manay S.N. and Shadaksharaswamy M.,Food facts and Principles, 2nd edition, New Age International (P) limited Publishers, 2001.

- Srilakshmi B., Food Science, 3rd Edition, New Age International (P) limited publishers, 2003.
- G. C. Mead, Poultry meat processing and quality, Woodhead Publishing Ltd. Cambridge, England, 2004.
- Hand book of Fisheries and Aquaculture. 2006. Indian Council of Agricultural Research. New Delhi.
- The complete technology book on Meat, Poultry and fish processing (2nd revised edition) NPCS Board of Consultants and Engineers.

Unit – I	Hours Allotted
 Processing of Bread Methods of Bread making Processing of bread 	
 Faults & corrective measures 	
 Staling & losses in baking 	15
 Anti-staling ingredients 	
Manufacturing of cakes	
• Cake making methods	
Classification of cakes	
Cake improvers- Working and types	
• Fillings and frosting	
Unit – II	
Processing of cookies and biscuits	
Classification of cookies	
Mixing methods in cookies	
 Types and processes in cookies 	
Characteristics of cookies or biscuits	
• Faults in manufacturing of cookies or biscuits	
Modified bakery products	15
Modification of bakery products with special nutritional requirements	
• High fiber products	
• Low sugar products	
• Law fat products	
• Low fat gluten free products	

References:

- Matz. S.A (1996): Bakery technology & engineering, 1st edition, Arya book
- depot, New delhi.
- Practical baking cooking 1st edition, queen street house, UK.
- Kamel B.S. &stauffer C.E. (1993): Advances in baking technology, 1stedition, Blackie academic & professional.
- Aylwaed F. (2001): Food technology processing & quality control, 1st
- edition, Agrobios (India).
- Harry W., Loesecke (2001): Outlines of food technology, 2nd edition,
- Agrobios (India).

B.Sc. (FTM) Part III Semester VI DSC FTM F3- Beverage Technology-II

Unit - I	Hours
	Allotted
Alcoholic Beverages	15
Wine	
Introduction to wine, Types and classification of Wine, Manufacturing of Wine,	
Chemistry and Microbiology of wine, Defects in Wine	
Beer	
Introduction, Types and classification of Beer, Beer ingredients, Manufacturing of	
Beer, Chemistry and Microbiology of Beer, Defects in Beer	
Unit - II	
Distilled Alcoholic Beverages	15
Introduction	
Types of Distilled alcoholic Beverages, Raw materials and Manufacturing of -	
Whiskey, Rum, Vodka, Brandy and Gin	
Miscellaneous beverages	
Coconut water, sweet toddy, sugar cane juice, coconut milk, flavoured syrups	
mineral water, natural spring water, flavoured water, carbonated water	

References

- Handbook of Fermented foods and Beverage Technology- Ravinder A, Srinivias Maloo, Fr. Dr. Emmanuel S.J. Himalaya Publishing House.
- Fruit and Vegetable Juices Tressler D.K., Joslyn M.A. and Marsh G.C. AVI publishing company New York 1971 Food and Beverage Technology International USA Bernard and Alan Sterling Publication, 1989
- Beverages: Technology, Chemistry and Microbiology Varnam and Sutherland Springer, 1994
- Manufacturing of Food and Beverages NIIR Board NIIR Publication, New Delhi
- Food Flavourings P.R. Ashust Springer, 2012
- Handbook of Alcoholic Beverages Alan Buglass John Wiley and Sons, 2011
- Beverages Pare Jean Company's Coming Publishing Limited, 1997
- Preservation of Fruit and Vegetable Products Girdharilal, Siddappa, Tondon Indian Council of Agricultural Research

B.Sc. (FTM) Part III Semester VI DSE FTM F4- Food Quality Control Safety and Waste Management-II

Credit 2

Unit – I	Hours Allotted

Various Organizations in the area of Food standardization and quality Food and Agriculture organization, World Health organization, World Trade Organisation, Export inspection Council, Global gap, United states Department of Agriculture, USFDA,Food and Drug Administration Codex Alimentarius commission	15
Food Safety Management System- Introduction, principles of food safety, Factors affecting Food Safety, Physical Hazards, Chemical hazards, Biological Hazards,	
HACCP, ISO: 22000, FSSC, BRC, PRPs (GAP, GMP, GHP, GSP.)	
Industrial byproducts and waste utilization	
Potential & prospects of byproduct & waste utilization from the food	
cereal product fruits and vegetable meat Poultry and fish milk & milk	15
products	
Effect of processing on processing and storage on food quality.	

References

- Sukhneet Suri and Anita Malhotra, Food Science, Nutrition and Safety, Dorling Kindersley (India) Pvt. Ltd, Pearson, 2014.
- Sunetra Roday, Food Science and Nutrition, 3rd Edition, Oxford University Press, 2018.
- Pulkit Mathur, Food Safety and Quality Control, Orient Blackswan Pvt. Ltd, 2018.
- Alok Kumar, Fundamentals of Food Hygiene, safety and Quality, I. K. International Pvt. Ltd., 2019.
- Virag Gupta, The Food Safety and Standards Act, 2006, 12th Edition, Commercial Law Publishers (India) Pvt. Ltd., 2019.
- Yeshajehu Pomeranz and Clifton E. Meloan, Food Analysis: Theory and Practice, 3rd Edition, CBS Publishers and Distributors Pvt. Ltd., 1996.
- S. Ranganna, Handbook of Analysis and Quality Control for Fruits and Vegetable Products, 2nd Edition, Tata McGraw-Hill Publishing Company Ltd., New Delhi, 2012.
- N. Shakuntala Manay and M.Shadaksharswamy, Food Facts and Principles, New Age International (P) Limited, 2008.
- B. Srilakshmi, Food Science, 6th Edition, New Age International Pvt. Ltd, 2015.

B.Sc. (FTM) Part V Semester VI DSE FTM F5- Therapeutic Nutrition-II Credit 2

Unit I	Hours
	Allotted
 Diet in Liver diseases- functions of Liver, common liver diseases, Liver tests, causative agents of liver diseases, Types of liver damage- Fatty globulation/ fatty liver, Necrosis, Cirrhosis, - causes, symptoms, complications of cirrhosis dietary management, Diet in Jaundice- Causes, types of Jaundice, Dietary management Diet in Hepatitis- types, causes, symptoms, dietary management, Diet in Hepatic Coma- causes, symptoms, dietary management, Diet in Pancreatitis- causes, types (Acute and Chronic), symptoms, dietary management, Diet in Cardiovascular system- important definitions, aetiology, Atherosclerosis, Dietary management in Myocardial Infraction, Principles of diet Hyperlipidaemia- Functions, classification, role of Nutrition in Cardiac efficiency, Hypertension- cause, symptoms, treatment, dietary management, 	15
Unit - II	
 Diet in renal diseases- functions of Kidney, Glomerular Nephritis- causes, symptoms, dietary management, Kidney stones/ Renal stones/ Urinary Calculi- causes, types, symptoms, dietary management, Nephrosis- causes, symptoms, treatment, dietary management, Acute Kidney Injury/ Acute Renal Failure- causes, symptoms, dietary modification, Chronic Kidney Failure- causes, symptoms, dietary management, Gout- causes, sign and symptoms, lifestyle modification, dietary management, Diet in Diabetes- Types, symptoms, tests for diagnosis, complications of diabetes – acute and chronic, dietary management, glycaemic index, Gestational diabetes. 	15

References:

- Sharma, Principles of Therapeutic Nutrition and Dietetics, 1st edition, CBS Publishers & Distributors Pvt. Ltd, Reprint, 2023.
- Krause and Mahan, Food and NutritionCareProcess, 14thedition; Elsevier, NewYork, 2015.
- Shrilaxmi, Dietetics, New Age International Publishers, New Delhi, India, 2019.
- S. Joshi, NutritionandDietetics, McGrawHill Education, India, 2015.
- S. Agarwal, S. Udupi, HumanNutrition, JaypeePublication, NewDelhi, India, 2014.
- G. Gandy, Oxford Handbook of Nutrition and Dietetics; Oxford Publication, UK, 2010.
- M. Width, T. Reinhard, The Essential Pocket Guide for Clinical Nutrition,Oxford,UK, 2012.
- Shrilakshmi, Nutrition Science, New Age International Publishers, NewDelhi, India, 2019.

B.Sc. (FTM) Part III Semester VI DSE FTM F6- Industrial Business Management-II

Credit 2

Unit -I	Hours

	Allotted
Production Management And Human Resource Management	15
Production Management :	10
Concept, Selection of Site, Plant Layout – its types,	
Concept - Production Planning & Control, Materials Management, Inventory	
management, Inspection and quality control management and Kaizen	
Human Resource Management	
Concept, function of HRM and Important Provisions of Factory Act-1948,	
Unit – II	
Unit No.2 : Finance Management And Marketing Management	15
Finance Management	15
Concept and importance of finance management in organization	
Concept of working capital and sources of funds	
Break even analysis – concept	
Marketing Management	
Meaning, Importance of product and brand management	
Concept of Sales and distribution management	
Importance of digital marketing	

References

- Indian Agricultural Economics Myths & Realities Ashok Rudra
- Export Management Prof. Laxmi Narayan
- Agricultural Marketing in India S.S.Acharya & M.L.Agarwal.
- Indian Agriculture Agarwal A.M.
- Changing Prospective in Indian Agriculture Bhanushali S.G. & Pujar A.G. CFN
- CFN 3 Economics of food IGNOU
- International Marketing Francis cherunilam
- Business administration & Management Saxena S.C.
- Industrial Management Sarma
- Principles & practice of management Prasad L.M.
- Principles of Management T. Ramasamy
- Marketing Management Practice Kotlar Philip

LAB COURSE V

Sr. No	Name of experiment
1.	Determination of hardness of water
2.	Microbial analysis of water for E-coli
3.	Quality analysis of tea and coffee
4.	Determination of brix value of beverages
5.	Determination of saccharine in beverages
6.	Determination of benzoic acid in beverages
7.	Determination of sulphur dioxide
8.	Determination of caffeine in cola type of beverages
9.	Determination of pH and acidity of beverages
10.	Visit to carbonation unit
11.	Basics of microwave
12.	Preparation of biscuits
13.	Preparation of muffins
14.	Preparation of cookies
15.	Preparation of bread
16.	Preparation of Buns
17.	Preparation of toffee
18.	Preparation of Candy
19.	Determination of yeast quality by its dough raising capacity
20.	Determination of salt content in butter

B.Sc. (FTM) Part III Semester VI LAB COURSE VI

Sr. No	Name of experiment
1.	Planning of Clear liquid diet and Full liquid diet
2.	Planning of Soft diet
3.	Planning of diet for Typhoid
4.	Planning of diet for Obesity
5.	Planning of diet for Underweight
6.	Planning of diet for Peptic ulcer
7.	Planning of diet Lactose intolerance
8.	Planning of diet for Hepatitis
9.	Planning of diet for Cirrhosis of liver
10.	Planning of diet for Diabetes Mellitus
11.	Planning of diet for Acute Renal Failure
12.	Planning of diet for Chronic Renal Failure
13.	Planning of diet for Hypertension
14.	Detection of basic tastes and their threshold value
15.	Determination of Acidity of Wheat Flour
16.	Detection of adulteration in common food commodities
17.	Determination of Gluten content of Wheat Flour
18.	Determination of Moisture content of food sample
19.	Determination of Ash content of food sample
20.	Determination of Fibre content of food sample
21.	Estimation of Protein content from food sample
22.	Estimation of Fat content from food sample

B.Sc. (FTM) Part III Semester VI

PROJECT

Total Marks -100

- Project -70
- In plant training -30

Nature of Question Paper for B.Sc. Part – I, II & III (40 + 10 Pattern) according to Revised Structure as Per NEP – 2020 to be implemented from academic year 2022-23

Maximum Marks: 40 Duration: 2 hrs

Q. 1 Select the most correct alternate from the following [8] i) to viii) MCQ one mark each with four options A) B) C) D)

Q.2 Attempt any TWO of the following [16]

- A)
- B)
- C)

Q. 3 Attempt any FOUR of the following [16]

- a)
- տ, հ)
- b)
- c)
- d)
- , е)
- f)