

SADAKATHULLAH APPA COLLEGE

(AUTONOMOUS)

(Reaccredited by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.00 in the III cycle An ISO 9001:2008 Certified Institution)

RAHMATH NAGAR, TIRUNELVELI- 11.

Tamilnadu

DEPARTMENT OF NUTRITION AND DIETETICS (Unaided)



CBCS SYLLABUS

For

B.Sc. Nutrition and Dietetics

(Applicable for students admitted in June 2015 and onwards)

**(As per the Resolutions of the Academic Council
Meeting held on 23.02.2016)**

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COURSE STRUCTURE (CBCS)

B.Sc. Nutrition and Dietetics

(Applicable for students admitted in June 2015 onwards)

I SEMESTER				II SEMESTER					
P	COURSE	H/ W	C	P	COURSE	H/ W	C		
I	Tamil / Arabic	6	3	I	Tamil / Arabic	6	3		
II	English	6	3	II	English	6	3		
III	Core - 1	4	5	III	Core - 3	4	5		
	Core - 2	3	4		Core - 4	3	4		
	Core Practical -I*	3	--		Core Practical -I*	3	3		
	Allied I-Paper-I	3	4		Allied I-Paper - II	3	4		
	Allied-I-Practical*	3	-		Allied-I-Practical*	3	2		
IV	Environmental Studies	2	1	IV	Value Education	2	1		
TOTAL			30	20	TOTAL			30	25
III SEMESTER				IV SEMESTER					
I	Tamil / Arabic	6	3	I	Tamil / Arabic	6	3		
II	English	6	3	II	English	6	3		
III	Core - 5	3	4	III	Core - 6	3	4		
	Core Practical - II	3	--		Core Practical - II	3	3		
	Allied - II Paper - I	3	4		Allied - II - Paper - II	3	4		
	Allied - II Practical	3	--		Allied II Practical	3	2		
IV	Skill Based Elective - 1	3	2	IV	Skill Based Elective - 2	3	2		
	Non Major Elective - 1	3	2		Non Major Elective - 2	3	2		
TOTAL			30	18	V	Extension Activities	-	1	
TOTAL			30	18	TOTAL			30	24
V SEMESTER				VI SEMESTER					
III	Core - 7	6	6	III	Core - 10	6	6		
	Core - 8	5	5		Core - 11	5	5		
	Core - 9	5	5		Core-12-Project	5	5		
	Core Practical - III*	3	--		Core Practical - III	3	3		
	Core Practical - IV*	3	--		Core Practical - IV	3	3		
	Core Elective - 1	5	6		Core Elective - 2	5	6		
	Core Elective Practical	3	--		Core Elective Practical	3	3		
TOTAL			30	22	TOTAL			30	31

B.Sc. - NUTRITION AND DIETTEICS										
DISTRIBUTION OF CREDITS, NO. OF PAPERS & MARKS										
PART	COURSE	SEMESTER	Hrs	CREDITS	NO.OF PAPERS	MARKS				
I	Tamil / Arabic	I to IV	24	12	4	400				
II	English	I to IV	24	12	4	400				
III	Core + Core Practical	I to VI	71	67	11 + 4	1500				
	Core Elective + CE Practical + Project	V & VI	21	20	2 + 1 + 1	400				
	Allied + Practical	I to IV	24	18	4 + 2	600				
IV	Environmental Studies	I	2	1	1	100				
	Social Value Education	II	2	1	1	100				
	Skilled Based Elective	III to IV	6	4	2	200				
	Non Major Elective	III & IV	6	4	2	200				
V	Extension Activities	I to IV	--	1	1 (No. Exam)	100				
TOTAL			180	140	40	4000				
SEMESTER WISE DISTRIBUTION OF HOURS										
PART	I	II	III				IV			TOT.
SEM	T/A	ENG	CORE	CE	PRO	AL	SBE	NME	SVE/ES	
I	6	6	7 + 3	-	-	3 + 3	-	-	2	30
II	6	6	7 + 3	-	-	3 + 3	-	-	2	30
III	6	6	3 + 3	-	-	3 + 3	3	3	-	30
IV	6	6	3 + 3	-	-	3 + 3	3	3	-	30
V	-	-	16 + 6	5 + 3	-	-	-	-	-	30
VI	-	-	11 + 6	5 + 3	5	-	-	-	-	30
TOT	24	24	47+24=71	10+6=16	5	12+12=24	6	6	4	180

B.Sc. - NUTRITION AND DIETETICS
(Applicable for students admitted in June 2015 onwards)
TITLE OF THE PAPERS, CREDITS & MARKS

I SEMESTER								
P	SUB	TITLE OF THE PAPER	S.CODE	H/ W	C	MARKS		
						I	E	T
I	TA 1	இக்காலத் தமிழ் OR	15UTAL11	6	3	25	75	100
	AR 1	Applied Grammar and Translation - I	15UARL11					
II	EN 1	Prose, Poetry and Remedial Grammar - I	15UENL11	6	3	25	75	100
III	C 1	Food science	15UNDC11	4	5	25	75	100
	C 2	Human Physiology	15UNDC12	3	4	25	75	100
	CP - 1	Nutrition and Dietetics Core Practical - I	--	3	--	EXAM II SEM		
	AI 1	Human Development	15UNDA11	3	4	25	75	100
	AI P	Nutrition and Dietetics - Allied Practical - I	--	3	--	EXAM II SEM		
IV	ES	Environmental Studies	15UEVS11	2	1	25	75	100
TOTAL				30	21	150	450	600
II SEMESTER								
I	TA 2	சமயத் தமிழ்	15UTAL21	6	3	25	75	100
	AR 2	Applied Grammar and Translation-II	15UARL21					
II	EN 2	Prose, Poetry and functional Grammar - II	15UENL21	6	3	25	75	100
III	C 3	Principles of Nutrition	15UNDC21	4	5	25	75	100
	C 4	Food Chemistry	15UNDC22	3	4	25	75	100
	CP - 1	Nutrition and Dietetics Core Practical -I	15UNDC2P	3	3	40	60	100
	AI 2	Family Resource Management	15UNDA21	3	4	25	75	100
	AI P	Nutrition and Dietetics - Allied Practical -I	15UNDA2P	3	2	40	60	100
IV	VE	Value Education - I	15USVE2A	2	1	25	75	100
		Value Education - II	15USVE2B					
TOTAL				30	24	190	510	700

B.Sc. – NUTRITION AND DIETETICS

III SEMESTER								
P	SUB	TITLE OF THE PAPER	S.CODE	H/W	C	MARKS		
						I	E	T
I	TA 3	பயன்பாட்டுத் தமிழ்	15UTAL31	6	3	25	75	100
	AR 3	Prose and Letter writing	15UARL31					
II	EN 3	One Act Plays and Writing Skill	15UENL31	6	3	25	75	100
III	C 5	Dietetics	15UNDC31	3	4	25	75	100
	CP II	Nutrition and Dietetics Core Practical - II	--	2	--	EXAM IV SEM		
	A II-1	Introduction to Textiles	15UNDA31	3	4	25	75	100
	A II P	Nutrition and Dietetics – Allied Practical - II	--	2	--	EXAM IV SEM		
IV	SBE 1	Functional foods and Nutraceuticals	15UNDS31	3	2	25	75	100
	NME 1	Choose any one from the list	--	3	2	25	75	100
TOTAL				30	18	150	450	600
IV SEMESTER								
I	TA 4	சங்கத் தமிழ்	15UTAL41	6	3	25	75	100
	AR 4	Quran and Hadeeth	15UARL41					
II	EN 4	A Practical Course in Spoken English	15UENL41	6	3	25	75	100
III	C 6	Medical Nutrition Therapy	15UNDC41	3	4	25	75	100
	CP II	Nutrition and Dietetics Core Practical - II	15UNDC4P	3	3	40	60	100
	A II-2	Medical Laboratory techniques	15UNDA41	3	4	25	75	100
	A II P	Nutrition and Dietetics Allied Practical - II	15UNDA4P	3	2	40	60	100
IV	SBE 2	Entrepreneurship Development	15UNDS41	3	2	25	75	100
	NME 2	Choose any one from the list	--	3	2	25	75	100
V	EX	Extension Activities (Choose from the list)	--	--	1	--	100	100
TOTAL				30	24	230	670	900

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V SEMESTER								
III	C 7	Community Nutrition	15UNDC51	6	5	25	75	100
	C 8	Clinical Biochemistry	15UNDC52	5	5	25	75	100
	C 9	Food Packaging	15UNDC53	5	5	25	75	100
	CE III	Nutrition and Dietetics Core Practical – III	-	3	-	EXAM VI SEM		
	CP IV	Nutrition and Dietetics Core Practical – IV	--	3	--	EXAM VI SEM		
	CE 1	A) Bakery OR	15UNDE5A	5	6	25	75	100
		B) Development of Food Product	15UNDE5B					
	CEP	Nutrition and Dietetics Core Elective Practical	---	3	--	EXAM VI SEM		
TOTAL				30	21	125	375	500
VI SEMESTER								
III	C 10	Food Microbiology	15UNDC61	6	6	25	75	100
	C 11	Preservation Techniques	15UNDC62	5	5	25	75	100
	C 12	Project	15UNDP61	5	5	25	75	100
	CP III	Nutrition and Dietetics Core Practical – III	15UNDP6P1	3	3	40	60	100
	CP IV	Nutrition and Dietetics Core Practical – IV	15UNDC6P2	3	3	40	60	100
	CE 2	A) Food safety & Quality control	15UNDE6A	5	6	25	75	100
		OR B) Post Harvest Technology	15UNDE6B					
IV	CEP	Nutrition and Dietetics Core Elective Practical	15UNDE6P	3	3	40	60	100
TOTAL				30	31	220	480	700

PART I & II
TITLE OF THE PAPERS, CREDITS & MARKS

TWO YEARS LANGUAGE COURSES (B.A. - HIS., ENG.LIT., B.Sc. - MATHEMATICS, PHYSICS, CHEMISTRY, ZOOLOGY , MICROBIOLOGY & NUTRITION AND DIETETICS)							
PART I – TAMIL							
I	இக்காலத் தமிழ்	15UTAL11	6	3	25	75	100
II	சமயத் தமிழ்	15UTAL21	6	3	25	75	100
III	பயன்பாட்டுத் தமிழ்	15UTAL31	6	3	25	75	100
IV	சங்கத் தமிழ்	15UTAL41	6	3	25	75	100
TOTAL			24	12	100	300	400
PART I – ARABIC							
I	Applied Grammar and Translation -I	15UARL11	6	3	25	75	100
II	Applied Grammar and Translation -II	15UARL21	6	3	25	75	100
III	Prose and Letter Writing	15UARL31	6	3	25	75	100
IV	Quran and Hadeeth	15UARL41	6	3	25	75	100
TOTAL			24	12	100	300	400
PART II – ENGLISH							
I	Prose, Poetry and Remedial Grammar I	15UENL11	6	3	25	75	100
II	Prose, Poetry and Remedial Grammar II	15UENL21	6	3	25	75	100
III	One act plays and Writing Skill	15UENL31	6	3	25	75	100
IV	A Practical Course in Spoken English	15UENL41	6	3	40	60	100
TOTAL			24	12	115	285	400

DEPT. OF NUTRITION AND DIETETICS								
CBCS SYLLABUS								
(Applicable for students admitted in June 2015 onwards)								
PART III CORE , CORE ELECTIVE & PROJECT								
(FOR B.Sc. NUTRITION AND DIETETICS)								
SEM	P	TITLE OF THE PAPER	S.CODE	H/W	C	MARKS		
						I	E	T
I	C1	Food science	15UNDC11	4	5	25	75	100
	C2	Human Physiology	15UNDC21	3	4	25	75	100
	CP1	Core Practical - I	-	3	-	Exam. II Semester		
II	C3	Principles of Nutrition	15UNDC21	4	5	25	75	100
	C4	Food Chemistry	15UNDC22	3	4	25	75	100
	CP1	Core Practical - I	15UNDC2P	3	3	40	60	100
III	C5	Dietetics	15UNDC31	3	4	25	75	100
	CPII	Core Practical - II	--	3	--	Exam. IV Semester		
IV	C6	Medical Nutrition Therapy	15UNDC41	3	4	25	75	100
	CPII	Core Practical – II	15UNDC4P	3	3	40	60	100
V	C7	Community Nutrition	15UNDC51	6	6	25	75	100
	C8	Clinical Biochemistry	15UNDC52	5	5	25	75	100
	C9	Food packaging	15UNDC53	5	5	25	75	100
	CP III	Core Practical – III	-	3	-	EXAM VI SEM		
	CP IV	Core Practical – IV	-	3	--	EXAM VI SEM		
	CE 1	A) Bakery (OR)	15UNDE5A	5	6	25	75	100
		B) Development of Food product	15UNDE5B					
CEP	Core Elective Practical	--	3	-	EXAM VI SEM			
VI	C 10	Food Microbiology	15UNDC61	6	6	25	75	100
	C 11	Preservation Techniques	15UNDC62	5	5	25	75	100
	C 12	Project	15UNDP61	5	5	-	100	100
	CP III	Core Practical – III	15UNDC6P1	3	3	40	60	100
	CP IV	Core Practical – IV	15UNDC6P2	3	3	40	60	100
	CE 2	A) Food safety & quality control (OR)	15UNDE6A	5	6	25	75	100
		Post Harvest Technology	15UNDE6B					
CEP	Core Elective Practical	15UNDE6P	3	3	40	60	100	
TOTAL				92	85	525	1375	1900

**DEPT. OF NUTRITION AND DIETETICS
CBCS SYLLABUS**

**PART III – Allied Subjects for B.Sc. Nutrition and Dietetics
Part – III – Allied – I - Zoology**

SEM	P	TITLE OF THE PAPER	S.CODE	H/ W	C	MARKS		
						I	E	T
III	1	Human Development	15UNDA11	3	4	25	75	100
		Allied I - Practical	-	3	--	EXAM II SEM		
IV	2	Family Resource Management	15UNDA21	3	4	25	75	100
		Allied I - Practical	15UNDA2P	3	2	40	60	100
Total				12	10	90	210	300

**PART III – Allied Subjects for B.Sc. Nutrition and Dietetics
Part – III – Allied – II - Microbiology**

III	3	Introduction to Textiles	15UNDA31	3	4	25	75	100
		Allied II - Practical	--	3	--	EXAM IV SEM		
IV	4	Medical laboratory techniques	15UNDA41	3	4	25	75	100
		Allied II - Practical	15UNDA4P	3	2	40	60	100
TOTAL				12	10	90	210	300

**PART IV - SKILL BASED ELECTIVE
(FOR NUTRITION AND DIETETICS)**

III	1	Functional Foods and Nutraceuticals	15UNDS31	3	2	25	75	100
IV	2	Entrepreneurship Development	15UNDS41	3	2	25	75	100
Total				6	4	50	150	200

PART IV - NON MAJOR ELECTIVE (FOR OTHER MAJORS)

III	1	Introduction to Bakery	15UNDN31	3	2	25	75	100
IV	2	Food Preservation	15UNDN41	3	2	25	75	100
TOTAL				6	4	50	150	200

PART IV - EVS & VALUE EDUCATION (FOR ALL MAJORS)								
I	1	Environmental Studies	15UEVS11	2	1	25	75	100
II	2	Value Education I OR	15USVE2A	2	1	25	75	100
		Value Education II	15USVE2B					
TOTAL				6	4	50	150	200

PART - V - Extension Activities								
SEM	Extension Activities (Choose any one)		S.CODE	H/W	C	I	E	T
I to IV	Enviro Club		15UEXEVC	-	1	-	100	100
	NCC		15UEXNCC					
	NSS		15UEXNSS					
	Physical Education		15UEXPHY					
	Red Ribbon Club		15UEXRRC					
	Sadakath Outreach Programme		15UEXSOP					
	Youth Red Cross		15UEXYRC					
	Youth Welfare		15UEXYWL					
				-	1	-	100	100

PART – 1 TAMIL			
முதல் பருவம்			
Part – 1	இக்காலத் தமிழ்		15 UTAL11
Hrs/Week : 6	Hrs/Sem : 90	Hrs/Unit : 18	Credits : 3

நோக்கம் :

- ❖ தமிழ்ப் படைப்பிலக்கியங்களான புதுக்கவிதைகள், சிறுகதைகள் ஆகியவற்றை எழுத வைத்தல்.
- ❖ சமூகம் பற்றிய சிந்தனைகளைப் படைப்பிலக்கியங்கள் மூலம் ஏற்படுத்துதல்.

அலகு - 1

தமிழ்ச் செய்யுள் - புதுக்கவிதைகள்

- | | | |
|-----------------------------------|---|-------------------------------|
| 1. அல்லாஹ் | - | மகாகவி பாரதியார் |
| 2. தமிழுக்கு அமுதென்று பெயர் | - | பாவேந்தர் பாரதிதாசன் |
| 3. பாடல் | - | பட்டுக்கோட்டை கல்யாணசுந்தரம் |
| 4. ஆயிரம் திருநாமம் பாடி | - | கவிக்கோ அப்துல் ரகுமான் |
| 5. தேசப்பிதாவுக்கு ஒரு தெருப் | - | மு. மேத்தா
பாடகனின் அஞ்சலி |
| 6. ஐந்து பெரிது ஆறு சிறிது | - | வைரமுத்து |
| 7. மழை கொடுக்கும் | - | கவியரசு கண்ணதாசன் |
| 8. எத்திசையிலிருந்து எறியப்பட்டது | - | கல்யாண்ஜி |
| 9. சினேகிதனின் தாழ்வான வீடு | - | கலாப்பிரியா |
| 10. தூக்கம் விற்ற காசுகள் | - | ரசிகவ்ஞானியார் |
| 11. தோழர் மோசிகீரனார் | - | ஞானக்கூத்தன் |
| 12. வயலும் வாழ்வும் | - | நா.முத்துக்குமார் |
| 13. கடவுள் போற்றி | - | கவிமணி |
| 14. நண்பனே | - | கலீல் ஜீப்ரான் |

அலகு -2 (சிறுகதைக் களஞ்சியம்)

- | | | |
|-------------------------|---|-----------------------|
| 1. காஞ்சனை | - | புதுமைப்பித்தன் |
| 2. கூறல் | - | வண்ணதாசன் |
| 3. சொர்க்க கன்னிகை | - | கருணாமணாளன் |
| 4. காலத்தின் ஆவர்த்தனம் | - | தோப்பில் முகமதுமீரான் |
| 5. கனவில் உதிர்ந்த பூ | - | நாறும்பூநாதன் |
| 6. ராஜமீன் | - | கீரனார் ஜாஹிர்ராஜா |
| 7. சங்காத்தி | - | தீன் |

அலகு- 3 உரைநடை

1. படிப்பது சுகமே – வெ. இறையன்பு இ.ஆ.ப.
நீயூ செஞ்சுரி புக ஹவுஸ் (பி) லிட், சென்னை.

அலகு- 4 இலக்கிய வரலாறு

1. தமிழ்ப் புதுக்கவிதைகள் தோற்றமும் வளர்ச்சியும்
2. தமிழ்ச் சிறுகதைகள் தோற்றமும் வளர்ச்சியும்
3. தடம் பதித்த தமிழ்ச் சிறுகதையாசிரியர்கள்
4. தற்காலத் தமிழ்ப் புதுக்கவிதைகள், சிறுகதைகளின் போக்கு

அலகு- 5 இலக்கணம்

1. எழுத்து வகை பற்றிய விளக்கம்
முதலெழுத்துகள், சார்பெழுத்துகள், சுட்டெழுத்துகள், வினாவெழுத்துகள்
2. மொழி முதல் எழுத்துக்கள், மொழி இறுதி எழுத்துகள்
3. வல்லினம் மிகுமிடங்கள், மிகா இடங்கள்

PART – 1 TAMIL			
இரண்டாம் பருவம்			
Part – 1	சமயத் தமிழ்		15 UTAL21
Hrs/Week : 6	Hrs/Sem : 90	Hrs/Unit : 18	Credits : 3

நோக்கம் :

- ❖ பலசமயக் கருத்துக்களை ஒப்பிட்டுச் சமய நல்லிணக்கத்தோடு மாணவர்கள் வாழ இப்பருவம் துணை புரிகிறது.
- ❖ தமிழ்நாடு அரசுப் பணியாளர் தேர்வாணையத் தேர்வுக்கு மாணவர்களை ஆயத்தப்படுத்துதல்

அலகு- 1

தமிழ்ச் செய்யுள் (துறை வெளியீடு)

சைவம்

1. தேவாரம்
 - திருநாவுக்கரசர் - மாசில் வீணையும்...
 - நாமார்க்கும் குடியல்லோம்...
 - அப்பன் நீ அம்மை நீ...
 - திருஞானசம்பந்தர் - தோடுடைய செவியன்...
 - வேயுறு தோளி பங்கன்...
 - மருந்தவை மந்திரம்...
 - சுந்தரமூர்த்தி நாயனார் - பித்தா பிறைகுடி...
2. திருவாசகம்
 - மாணிக்கவாசகர் - பால் நினைந்தூட்டும்...
3. திருவெம்பாவை
 - ஆதியும் அந்தமும் இல்லா...
4. திருமந்திரம்
 - திருமூலர் - ஒன்றே குலமும் ஒருவனே தேவனும்...

வைணவம்

5. பொய்கையாழ்வார்
 - வையம் தகளியா...
 - பூதத்தாழ்வார் - அன்பே தகளியா...
 - பேயாழ்வார் - திருக்கண்டேன்...
6. திருப்பாவை
 - ஆண்டாளர் - மார்கழித் திங்கள்...
7. வளையாபதி
 - மக்கட் செல்வம்

பெளத்தம்

8. புத்தபிரான் - மு.ரா.பெருமாள்

கிறித்தவம்

9. இயேசு காவியம் (சில பகுதிகள்)- கண்ணதாசன்

இஸ்லாம்

10. நபிகள் நாயக மான்மிய மஞ்சரி - சதாவதானி செய்குத்தம்பிப்பாவலர் (குறிப்பிட்ட பாடல்கள்)
11. குணங்குடி மஸ்தான் பாடல்கள் - பாசக்கயிற்று வலை
12. ஞானப் புகழ்ச்சி - தக்கலை பீரமுகமது அப்பா
13. அலகிலா அருளும் - இறையருட் கவிமணி. கா.அப்துல்கபூர்

நீதி இலக்கியங்கள்

14. திருக்குறள் (வான் சிறப்பு)
15. நாலடியார் - கல்வி கரையில
16. இன்னாநாற்பது - ஆன்றவித்த...

அலகு- 2 புதினம்

- “கல்மரம்” - திலகவதி

அலகு - 3 உரைநடை (தமிழ்த் துறை வெளியீடு)

1. நபிகள் நாயகம் (ஸல்) அன்பின் தாயகம்
2. சதக்கத்துல்லாஹ் அப்பா அவர்களின் வாழ்வும் பணியும்
3. [கவி.கா.மு.ஷெரிப்](#) - த.மு.சா காசாமைதீன்
4. கவிக் கோ அப்துல்ருமானின் கவிதைகள்
5. தமிழ் இலக்கியங்களில் மனிதநேயச் சிந்தனைகள்
6. இணையத்தில் தமிழ்

அலகு- 4 போட்டித் தேர்வுத் தயாரிப்பு

இலக்கிய வரலாறு

1. சைவம், வைணவம், கிறித்துவம், இசுலாம் வளர்த்த தமிழ்
2. புகழ் பெற்ற தமிழ் நூல்கள், நூலாசிரியர்கள்
3. தமிழ்நாடு அரசுப் பணியாளர் தேர்வாணையம் நடத்தும் போட்டித் தேர்வுக்குரிய பொதுத்தமிழ் பாடத்திட்டம் - ஓர் அறிமுகம்

அலகு- 5 இலக்கணம்

வேர்ச்சொல் அறிதல், அகரவரிசைப்படி மாற்றியமைத்தல், செய்வினை, செய்யப்பாட்டுவினை, தன்வினை, பிறவினை, உடன்பாடு, எதிர்மறை, செய்தி வாக்கியம், கலவை வாக்கியம், பெயர்வினை, இடை, உரிச்சொற்களின் இலக்கணம் மற்றும் பெயர்ச்சொல், வினைச்சொல் வகைகள், லகர, எகர, ணகர, ரகர, றகர வேறுபாடுகள்.

PART – 1 TAMIL			
முன்றாம் பருவம்			
Part – 1	பயன்பாட்டுத் தமிழ்		15 UTAL31
Hrs/Week : 6	Hrs/Sem : 90	Hrs/Unit : 18	Credits : 3

நோக்கம் :

- ❖ தமிழின் காப்பிய இலக்கிய வளத்தை மாணவர்களுக்கு உணர்த்துதல்
- ❖ இந்திய ஆட்சிப் பணித்தேர்வுக்கு மாணவர்களை ஆயத்தப்படுத்துதல்
- ❖ செய்தி வெளிப்பாட்டு உத்திகளைக் கற்றுத் தந்து மாணவர்களை ஊடகவியலாளர்களாக மாற்றுதல்.

அலகு- 1

தமிழ்ச் செய்யுள் (துறை வெளியீடு)

1. சிலப்பதிகாரம் - வழக்குரைக் காதை
2. மணிமேகலை - பாத்திரம் பெற்ற காதை
3. பெரியபுராணம் - மெய்ப்பொருள் நாயனார் புராணம்
4. கம்பராமாயணம் - சுந்தரகாண்டம் (ஊர் தேடு படலம்)
5. இயேசு காவியம் - சிலுவைப்பாடு
6. சீறாப்புராணம் - மதினத்தார் ஈமான் கொண்ட படலம்
7. குத்பு நாயகம் - வண்ணக் களஞ்சியப் புலவர் (காப்பியப் பாவிசம் மட்டும்)

அலகு- 2

இந்திய ஆட்சிப் பணிக்குத் தயார்படுத்தும் நோக்கிலமைந்த பயன்பாட்டுக் கட்டுரை நூல். ஐ.ஏ.ஏஸ் தேர்வும் அணுகுமுறையும் -வெ.இறையன்பு இ.ஆ.ப.,நியூ செஞ்சரி புக ஹவுஸ், அம்பத்தூர், சென்னை - 98.

அலகு- 3

ஊடக அறிமுகம்

இதழியல் அறிமுகம்
சமூகமும் இதழ்களும்
வானொலி, தொலைக்காட்சி நிகழ்ச்சிகளை அமைக்கும் முறை
சிறப்புக் கட்டுரை எழுதுதல்
இதழ்களின் அடிப்படைக் கொள்கைகள்
தற்கால நாளிதழ்களில் தமிழ்

அலகு - 4

தமிழ் இலக்கிய வரலாறு

- ❖ ஐம்பெரும் காப்பியங்கள்
- ❖ ஐஞ்சிறு காப்பியங்கள்
- ❖ சிற்றிலக்கியங்கள் (உலா, தூது, பிள்ளைத் தமிழ், பரணி)

அலகு - 5

இலக்கணம்

(தமிழ்நாடு அரசுப் பணியாளர் தேர்வாணையத்தின் பொதுத் தமிழ் இலக்கணப் பகுதி)

பிழைத் திருத்தம், சந்திப் பிழைகள், ஒருமை - பன்மைப் பிழைகள், மரபுப் பிழைகள், வழுவச் சொற்களை நீக்குதல், பிறமொழிச் சொற்களை நீக்குதல், வேர்சொல்லைச் தேர்வு செய்தல்

பார்வை நூல்கள் :

- | | | |
|--------------------------------------|---|--|
| தமிழ் இலக்கிய வரலாறு | - | முனைவர்.சு.ஆனந்தன்
கண்மணிப் பதிப்பகம்,
திருச்சி - 02. |
| இதழியல் நுணுக்கங்கள் | - | செண்பகா பதிப்பகம்
சென்னை - 17.
தொலைபேசி : 24331510 |
| குத்து நாயகம் ஆய்வுரை | - | டாக்டர்.மு.அப்துல்கரீம்
உலக தமிழாராய்ச்சி நிறுவனம், சென்னை. |
| சீறாப்புராணம் மூலமும் பொழிப்புரையும் | - | ஹாஜி எம்.முகமது யூசுப்
இரண்டாம் பாகம் |

PART – 1 TAMIL			
நான்காம் பருவம்			
Part – 1	சங்கத் தமிழ்		15 UTAL41
Hrs/Week : 6	Hrs/Sem : 90	Hrs/Unit : 18	Credits : 3

நோக்கம் :

- ❖ சங்கத் தமிழ் குறித்த சிந்தனைகளை மாணவர்களுக்கு ஏற்படுத்துதல்
- ❖ இணைய ஊடகத்தில் தமிழ் இடம் பெற்றுள்ள இடத்தினை உணர்த்தி மாணவர்களை இணையத்தைப் பயன்படுத்த வைத்தல்

அலகு- 1

தமிழ்ச் செய்யுள் (துறை வெளியீடு)

நற்றிணை, குறுந்தொகை, ஐங்குறுநூறு, பதிற்றுப்பத்து, பரிபாடல், கலித்தொகை, அகநானூறு, புறநானூறு மற்றும் பத்துப் பாட்டில் முல்லைப்பாட்டு முழுவதும்

அலகு- 2

உரைநடை

சிற்பியே உன்னைச் செதுக்குகிறேன் - வைரமுத்து

அலகு- 3

இணையத் தமிழ் (தமிழ்த்துறை வெளியீடு)

- | | | |
|-------------------|---|-------------------------------|
| இணையத் தமிழ் | - | முனைவர் ச.மகாதேவன் |
| இரண்டாம் பதிப்பு | | பேரா.அ.மு.அய்யங்கான் |
| | | முனைவர்.அ.சே.சேக்சிந்தா |
| ❖ இணையம் | - | ஓர் அறிமுகம் - உலகளாவிய தமிழ் |
| ❖ வலைத்தளங்கள் | - | இணையத்தளத்தேடு பொறி |
| ❖ இணையப் பயன்பாடு | - | தமிழில் வலைப் பூக்கள் |

அலகு- 4

இலக்கிய வரலாறு

எட்டுத் தொகை, பத்துப் பாட்டு நூல்கள்

அலகு- 5

இலக்கணம்

- ❖ தமிழர் வாழ்வில் அகமும் புறமும்
- ❖ ஐவகை நிலங்களின் முதல், கரு, உரிப் பொருட்கள்
- ❖ அறத்தொடு நிற்பல்
- ❖ களவு, கற்பு விளக்கம்

புறத்திணைகள் : 12 அறிமுகம்

பார்வை நூல்கள்

தமிழ் இலக்கிய வரலாறு

முனைவர் சு.ஆனந்தன்

கண்மணி பதிப்பகம்

திருச்சி - 620002.

இணையத் தமிழ் (தமிழ்த்துறை வெளியீடு)

சதக்கத்துல்லாஹ் அப்பா கல்லூரி

திருநெல்வேலி.

Part - I ARABIC			
Applicable for Group II Courses (Two Year Language Courses) such as B.A. English, B.A. Tamil, B.A. Islamic Studies, B.Sc., Mathematics, B.Sc., Physics, B.Sc., Chemistry, B.Sc, Zoology, B.Sc, Microbiology and B.Sc., Nutrition and Dietetics.			
PAPER-I	APPLIED GRAMMAR AND TRANSLATION-I	15UARL 11	
Hrs/ Week: 6	Hrs/ Sem: 90	Hrs/ Unit: 18	Credits: 3

Unit I :-

Lessons 1 to 5 (Reader)

Unit II :-

Lessons 6 to 10

Unit III :-

Grammar Portions

- 1) Al Mufrad wal- muthanna wal jam'
- 2) Huroof ul Jarr
- 3) Asmaa – ul Ishaarah.
- 4) Adawaatul Istifhaam
- 5) Ad Damaair – ul – Munfasilah Val Muthasilah
- 6) Al-Idaafah
- 7) Al Muftada wal khabar
- 8) As-sifatu wal mausoof
- 9) Al mudhakkar wal muannath
- 10) Asmaa-ul-mausool

Unit IV :-

Lessons 11 to 15

Unit V :-

Lessons 16 to 20

TEXT BOOKS

1) *Duroosul Lughatil Arabiya Part – I (Reader) - Lessons 1 to 20 only by Dr.V. Abdur Rahim. Available at Islamic foundation Trust, 78 Perambur High Road , Perambur, Chennai- 600 012.*

2) *An-Nahwul Waadih Ibtidayee – Part I (Grammar, selected topics only) by Ali Al-jaarim and Mustafa Ameen. Available at Hilal Book House , Tirurkad, Angadipuram, Kerala.*

Semester - II			
PAPER-II	APPLIED GRAMMAR AND TRANSLATION-II		15UARL 21
Hrs/ Week: 6	Hrs/ Sem: 90	Hrs/ Unit: 18	Credits: 3

Unit I :-

Lessons 1 to 3 (Reader)

Unit II :-

Lessons 4 to 7

Unit III :-

Grammar Portions

- 1) *Inna wa Akhavaatuha.*
- 2) *Ismut Tafleel*
- 3) *AlMali wal Mularee*
- 4) *Al-Amr wan Nahi*
- 5) *Al Fa-il*
- 6) *Al Maf'ool*
- 7) *Al-Asmaul Mausool*
- 8) *Taqseemu Fihl ila As-saheeh wal Muhtal*
- 9) *Ismul Maf'ool*
- 10) *Ismul Faa'il.*

Unit IV

Lessons 8 to 11

Unit V

Lessons 12 to 15

TEXT BOOKS

1. **Duroosul Lughatil Arabiya** Part – II (Reader) Lessons 1 to 15 only by Dr.V. Abdur Rahim. Available at: Islamic foundation Trust, 78 Perambur High Road , Perambur, Chennai- 600 012.
2. **An-Nahwul Waadiah Ibtidayee** –Part I &II (Selected Grammar Portions only) by Ali Al-jaarim and Mustafa Ameen. Available at: Hilal Book House , Tirurkad, Angadipuram, Kerala.

Semester III			
Paper – III	Prose and Letter Writing		15UARL31
Hrs/Week:6	Hrs/Sem:90	Hrs/Unit : 18	Credits:3

Unit I

Lessons 1 to 9

الحركة - الكلمة - أنواع الكلمة - المركبات - الفراشة والزهرة - الزيارة - في السوق - المحطة - القطار

-

Unit II

Lessons 10 to 17

أسرة العم - دكان الفواكه - جنينة الحيوانات - نزهة طبية - اللعب - السفر بالطائرة - العودة من الحج - حفل ديني

Unit III

Lessons 18 to 25

سرقة الزهرة - نظام الحجرة - العبادة - محادثة - الخطاب - رحلة الي دهلي - منظر الحقول - البريد -

Unit IV

Lessons 26 to 31

حديث الاطفال - دكان البقال - الصيدلية - الزمن - الساعة (ألف) - الساعة (ب)

Unit V

Kinds of letters - رسالة الي الوالد لطلب الفلوس للرسوم - رسالة طلب الاجازة - رسالة طلب وظيفة الي شركة (page no 14) - رسالة الاستفسار عن البضاعة - رسالة شكوي عن نقص البضاعة - رسالة الي مدير البنك - Glossary of Words

TEXT BOOKS

1. **Al Qira't- ul- Waaliha** Part- II By: Waheeduz Zamaan Al-Keeranavi
وحيد الزمان الكيرانوي - الجزء الثاني - القراءة الواضحة - (lessons 1 to 31 only)
Available at: Husainiya Bookstall, Deoband, Utterpradesh.
2. Letter Writing in Arabic (For schools and colleges) (selected letters only) by Dr. Syed Karamathullah Bahmani – Available at: Published by Alif Books & Prints, Chennai – 600 014.

Semester IV			
PAPER-IV	QURAN AND HADEETH		15UARL41
Hrs/ Week: 6	Hrs/ Sem: 90	Hrs/ Unit: 18	Credits: 3

Unit I

Verses from 1 to 9 from (Sura – al – Hujraat)

Unit II

Verses from 10 to 18 from (Sura – al – Hujraat)

Unit III

Codification and Compilation of Hadeeth Literature, Life History of Imam Bukhari, Muslim, Tirmidi, Abu Dawood, Nasaee and Ibn Majah & Hadeeth 1 to 10

Unit IV

Hadeeth 11 - 20

Unit V

Verses from 12 to 19 from (Sura – Luqman)

TEXT BOOKS:

1. **Tafseer Suratul Hujuraath and Suraah Luqman** (verses from 12-19) – A study material prepared by Dept. of Arabic, Sadakathullah Appa College , Rahmath Nagar, Tirunelveli-11.
2. **Hadeeth:** Ahadeeth Sahlah An Explana Hadeeth: *Sharhu Ahadeeth Sahlah An explanatory translation of Dr. V. Abdur Rahim's Ahadeeth Sahlah with grammatical notes.* Available at: Islamic foundation Trust, 78 Perambur High Road , Perambur, Chennai- 600 012.

PART – II ENGLISH
TWO – YEAR LANGUAGE COURSE
B.A. English, History, Islamic Studies, B.Sc. Mathematics, Physics,
Chemistry, Zoology, Microbiology and Nutrition and Dietetics

I SEMESTER			
EN1	PROSE, POETRY AND REMEDIAL GRAMMAR - I		15UENL11
Hrs/ Week: 6	Hrs/ Sem: 90	Hrs/ Unit: 18	Credits: 3

Objectives:

1. To answer comprehensive questions on passages of moderate level of difficulty.
2. To analyse the prescribed prose pieces and to attempt a critical appreciation of the poems.
3. To write grammatically.

UNIT I – PROSE

1. Letter to a Teacher - Nora Rossi and Tom Cole (Trans.)
2. Spoken English and Broken English - George Bernard Shaw
3. Voluntary Poverty - M.K. Gandhi

UNIT II – PROSE

4. A Snake in the Grass - R.K. Narayan
5. The Civilization of Today - C.E.M. Joad
6. Kamala Nehru - Jawaharlal Nehru

UNIT III – POETRY

1. On His Blindness - John Milton
2. Upon Westminster Bridge - William Wordsworth
3. When I have Fears - John Keats

UNIT IV – FUNCTIONAL GRAMMAR

1. Articles and Nouns (Units 68-80 of *Intermediate English Grammar*)
2. Pronouns and Determiners (Units 81-90 of *Intermediate English Grammar*)

UNIT V – FUNCTIONAL GRAMMAR

3. Reported Speech (Units 46-47 of *Intermediate English Grammar*)
4. Questions and auxiliary verbs (Units 48-51 of *Intermediate English Grammar*)
5. 'ing' and the infinitive (Units 52-67 of *Intermediate English Grammar*)

TEXTBOOKS:

1. T. Srirama, Colin Swatridge. ed. *College Prose and Poetry*. TRINITY, New Delhi: Trichy, 1989 (rpt. 2014).
2. Raymond Murphy. ed. *Intermediate English Grammar*. New Delhi : Cambridge University Press, 1994 (rpt. 2006).

II SEMESTER			
EN2	PROSE, POETRY AND REMEDIAL GRAMMAR - II		15UENL21
Hrs/ Week: 6	Hrs/ Sem: 90	Hrs/ Unit: 18	Credits: 3

Objectives:

1. To answer comprehensive questions on passages of moderate level of difficulty.
2. To analyse the prescribed prose pieces and to attempt a critical appreciation of the poems.
3. To write grammatically.

UNIT I – PROSE

- | | |
|--------------------------|-----------------------|
| 1. With the Photographer | - Stephen Leacock |
| 2. Professions for Women | - Virginia Woolf |
| 3. On Letter Writing | - Alpha of the Plough |

UNIT II – PROSE

- | | |
|-------------------------------|-------------------------|
| 4. The Night the Ghost Got In | - James Thurber |
| 5. The Donkey | - Sir. J.Arthur Thomson |
| 6. A Cup of Tea | - Katherine Mansfield |

UNIT III – POETRY

- | | |
|---------------------------|------------------------|
| 1. The Flower | - Alfred Lord Tennyson |
| 2. Homage to a Government | - Philip Larkin |
| 3. Obituary | - A.K. Ramanujan |

UNIT IV – FUNCTIONAL GRAMMAR

1. Present and Past (Units 1-6 of *Intermediate English Grammar*)
2. Present Perfect and Past (Units 7-18 of *Intermediate English Grammar*)
3. Future (Units 19-22 of *Intermediate English Grammar*)

UNIT V – FUNCTIONAL GRAMMAR

4. Future (Units 23-25 of *Intermediate English Grammar*)
5. Modals (Units 26-36 of *Intermediate English Grammar*)
6. Conditionals and 'Wish' (Units 37-40 of *Intermediate English Grammar*)
7. Passive (Units 41-45 of *Intermediate English Grammar*)

TEXTBOOKS:

1. T. Srirama, Colin Swatridge. ed. *College Prose and Poetry*. TRINITY, New Delhi: Trichy, 1989 (rpt. 2014).
2. Raymond Murphy. ed. *Intermediate English Grammar*. New Delhi: Cambridge University Press, 1994 (rpt. 2006).

III SEMESTER			
EN3	ONE – ACT PLAYS AND WRITING SKILL		15UENL31
Hrs/ Week: 6	Hrs/ Sem: 90	Hrs/ Unit: 18	Credits: 3

Objectives:

1. To expose the conversational patterns to students and enable them to make use of the patterns in a given practical situation.
2. To write sentences in English grammatically.

UNIT I – ONE – ACT PLAYS

1. Refund - Fritz Karinthy
2. Reunion - W.ST.John Tayleur
3. The Never Never Nest - Cedric Mount

UNIT II – ONE – ACT PLAYS

4. Aladdin and His Magic Lamp - Y. Sayed Mohammed
5. Tippu Sultan - Y. Sayed Mohammed
6. The Merchant of Evergreen Venice - Y. Sayed Mohammed

UNIT III – WRITING SKILL

1. **Messages** (Pages 1-9 of *Written English for You* be taught and the tasks given be accomplished in the *Record of Writing*)
 - i) What is a message?
 - ii) When do we write messages?
 - iii) Why do we write messages?
 - iv) How do we write messages?
2. **Letters – 1** (Pages 10-19 of *Written English for You* be taught and the tasks given in pages 17 and 19 should be accomplished in the *Record of Writing*)
 - i) Letters for Ordering Supply of Goods
 - ii) Letters of Complaint
 - iii) Letters of Applications
3. **Letters – 2** (Pages 36-40 of *Written English for You* be taught and the tasks given in pages 38 and 40 should be accomplished in the *Record of Writing*)
 - i) Letters to inform your plan of visits
 - ii) Letters of Request
 - iii) Letters of Apology

UNIT IV – WRITING SKILL

4. **Essays** (Pages 66-79 be taught and the tasks 1-3 given in pages 79 - 80 should be accomplished in the *Record of Writing*)
 - i) What is an Essay?
 - ii) Types of Essays.
 - iii) The structure of an Essay.
 - iv) Introductory paragraph.

- v) Supporting paragraph.
 - vi) Transitional paragraph.
 - vii) Concluding paragraph.
 - viii) What can be the length of an Essay?
 - ix) Why am I writing this Essay?
 - x) Who am I writing for?
 - xi) How to begin an Essay?
 - xii) How to organize an Essay?
 - xiii) What to avoid in writing an Essay?
5. **Narrating** (Pages 109-116 of *Written English for You* be taught. The tasks 1 and 2 given in pages 115 - 116 should be accomplished in the *Record of Writing*)
- i) Describing events in a chronological order
 - ii) Narrating events from different points of view
 - iii) Narrating events from a different viewpoint in time

UNIT V – WRITING SKILL

6. **Reporting** (Pages 127-136 be taught. The tasks given in pages 129-134 and 136-137 must be accomplished in the *Record of Writing*)
- i) News Reports.
 - ii) Reporting Events or Developments
 - iii) Reporting Interviews and Press Conferences
 - iv) Reports of Meetings
7. **Summarizing** (Pages 164-172 of *Written English for You* be taught and the tasks 1 - 3 given in pages 172 -178 should be accomplished in the *Record of Writing*)
- i) What is a Summary?
 - ii) How to write a Summary?
 - iii) How long should a Summary be?
 - iv) Should the Summary be in a paragraph?
 - v) Analysis of the process of Summarizing.

NOTE:

Questions for Units III, IV and V should be framed from the tasks given in the text book **Written English**.

TEXTBOOKS:

1. Y. Sayed Mohammed. ed. *The Lamp of India*. Tirunelveli: Muhammed Taahaa Publications, 2011.
2. G. Radhakrishna Pillai. ed. *Written English for You*. Chennai: Emerald Publishers, 1990 (rpt. 2008).
3. Compiled by a Board of Editors. *A Book of Plays*. Chennai: Orient Blackswan, 2010.

IV SEMESTER			
EN4	A PRACTICAL COURSE IN SPOKEN ENGLISH	15UENL41	
Hrs/ Week: 6	Hrs/ Sem: 90	Hrs/ Unit: 18	Credits: 3

Objectives:

1. To express students' needs orally in a fluent, simple and direct style.
2. To pronounce words intelligibly.
3. To use the right intonation pattern in speech.

UNIT I

Interactive Expressions and Pronunciation Practice :Consonants
(Chapters 1- 3 of *A Course in Spoken English*)

UNIT II

Introducing oneself / others, patterns for greeting, requesting, expressing and responding to thanks, etc., & Pronunciation Practice :
Vowels
(Chapter 4 – 8 of *A Course in Spoken English*)

UNIT III

Developing descriptive competency, narrative competency, arguing competency, comparing competency and Pronunciation Practice:
Diphthongs (Chapter 9 – 13 of *A Course in Spoken English*)

UNIT IV

Practising continuous speech, group discussion and Pronunciation Practice :
Word Accent and Intonation
(Chapters 14 – 19 of *A Course in Spoken English*)

UNIT V – LISTENING PRACTICE

Students will listen to audio and video materials for 10 – 12 hours.

Textbook, Workbook, Record Note:

1. Nihamathullah. A. et al. *A Course in Spoken English*. Tirunelveli: MSU, 2005. (rpt. 2010).
2. A Workbook for A Course in Spoken English.
3. Spoken English Practice Record.

Evaluation Scheme:

I Internal Oral Examination	: 15 Marks	} The best two of the three CIA test marks will be added up
II Internal Oral Examination	: 15 Marks	
III Internal Oral Examination	: 15 Marks	
Loud Reading	: 5 Marks	
Listening Test	: 5 Marks	
Internal Marks	: <u>40 Marks</u>	
External Oral Examination	: 50 Marks	
Record Note	: 05 Marks	
Workbook	: 05 Marks	
	: <u>60 Marks</u>	

B.Sc. (Nutrition and Dietetics) – CBS Syllabus (2015-2018) (Applicable for students admitted in June 2015 onwards) PART III – CORE, CORE ELECTIVE & PROJECT			
I SEMESTER			
C 1	FOOD SCIENCE		15UNDC11
Hrs/Week: 4	Hrs/Sem: 4 x 15 =60	Hrs./Unit:12	Credits : 5

Objectives:

To enable students

- To understand the vital link between nutrition and health.
- To gain knowledge of nutrition and their role in body's smooth functioning.
- To gain practical experience in different methods of cooking.
- To get insights on food adulterants
- To gain knowledge and skill in planning diet for normal and various therapeutic conditions.

Unit I - Introduction to Foods

- a) Nature of food study – aim, functions, specific nutrients, objectives.
- b) Food – Definition – Health – Definition
- c) Classification of nutrients
- d) Basic five food groups

Unit II - Food Preparation Techniques

- a) Preliminary techniques
- b) Different methods of cooking and their influence on nutrient retention

Unit III - Plant foods I

- a) Cereals – rice, wheat – milling, parboiling, by products, nutritive value.
- b) Pulses – nutritive value, milling, germination
- c) Fruits – nutritive value, fruit preservation

- d) Vegetables – Classification according to structure, nutritive value, effect of heat, acid and alkali, storage and conservation of nutrients

Unit IV - Plant Foods II

- a) Nuts and Oilseeds – Nutritive value and its importance in the diet
- b) Spices and condiments – uses and abuses
- c) Beverages - Classification and their role in the diet.

Unit V - Animals Foods

- a) Milk and milk products – nutritive value, types of milk importance of milk and milk products in our diet
- b) Flesh Foods - Meat, Fish and Poultry – classification, nutritive value – methods of cooking
- c) Egg - Structure, composition, uses in diet

REFERENCE BOOKS:

1. DR.M. Swaminathan, Advanced Text – Book on Food & Nutrition, Bappco, Bangalore. 1985
2. N. Shakuntala Manay, M. Shadaksharaswamy, Foods Facts and principles, New age International (P) Ltd., Publishers Second Edition, 2001
3. Seema Yadav, Basic principles of Nutrition, Anmol publication Pvt. Ltd., First Edition, 1997
4. B. Srilakshmi., Food Science, New age International (P) Ltd., 2001
5. Vijay Kaushik, Food Science and Nutrition, Mangal Deep publications, 2001
6. Meera Vashisht, Introduction to Food , Nutrition and Food processing, Anmol publications pvt. Ltd, 1998
7. S.R. Sharma Vijay Kaushik, Food Nutrition and Cookery, Anmol Publications Pvt. Ltd, 1994.
8. Practical Manuel- Mohini Sethi
9. Practical Manuel- Sri lakshmi
10. Nutritive value of Indian foods- G. Gopalan

I SEMESTER			
C-2	HUMAN PHYSIOLOGY		15UNDC12
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 4

Objectives:

- To understand the structure and physiology of various organs in the body.

Unit I Circulatory System

- a. Blood – Composition, functions, blood groups, RH factors - Blood coagulation, blood circulation.
- b. Heart-Anatomy and Physiology, blood vessels – artery, vein, capillaries, and cardiac cycle.

Unit II Digestive system

- a. Digestive system-Anatomy, process of digestion and absorption liver and its functions.

Unit III Respiratory system and Excretory system

- a. Respiratory system-structure and mechanism of respiration.
- b. Excretory system-physiology of kidney, nephron, structure and function, formation of urine.

Unit IV Endocrinology and Reproductive system

- a. Functions of pituitary, thyroid, parathyroid, adrenals, pancreas and sex hormone
- b. Reproductive system-male and female anatomy, Physiology, menstrual cycle, fertilization, pregnancy and lactation process.

Unit V Nervous system

- a. Spinal cord – Structure and functions - reflex action.
- b. Brain – structure and functions of cerebrum, cerebellum, medulla oblongata, thalamus, hypothalamus and sympathetic and parasympathetic nervous system.

REFERENCE BOOKS

1. Best and Taylor the living body chapman and hall ltd London
2. Mitchell General Physiology Mc Graw Hill
3. D amount Basic physiology oxford an IBH publishing co
4. Best C.H. Taylor B.B. The Human body Its Anatomy an Physiology Holt Rineshart and Winston Inc.
5. Chatterjee C.C. Human Physiology medical allied agency Kolkata
6. Chembhlingam Medical Physiology
7. Ambika Shanmugam Food Biochemistry

II SEMESTER			
C-3	PRINCIPLES OF NUTRITION		15UNDC21
Hrs/Week: 4	Hrs/Sem: 4 x 15 = 60	Hrs/Unit: 12	Credits: 5

Objectives:

- To understand the role of Nutrition in the maintenance of good health
- To study nutritional deficiencies and their prevention.

Unit I - Energy

- a) Definition- calories, Joules-Determination of energy value of food, Bomb calorimeter, Physiological value of food
- b) Determination of energy expenditure in man –Direct-indirect-max plank respirometer, specific dynamic action (thermic effect) of food respiration quotient method (RQ)
- c) BMR, factors affecting BMR, calculation of energy requirement of an individual (Reff- Man and Woman)

Unit II

- a) Carbohydrates – Classification, digestion, absorption, metabolism, functions, sources and requirements
- b) Protein - Classification, functions, digestion, absorption, metabolism, sources, requirements and deficiency – PEM

Unit III

- a) Lipids - Classification, functions, digestion, absorption, metabolism, sources, requirements and
- b) Role of EFA
- c) Role of fibre and water in human diet, functions and requirements.

Unit IV

- a) Fat soluble Vitamins – A, D, E and K- functions, requirements and effects of deficiency.
- b) Water soluble vitamins- B complex vitamins and Vitamin-C- History

Unit V

- a) Minerals- functions, sources, requirements and deficiency – Calcium, Phosphorus, Iron – factors affecting absorption
- b) Importance of trace elements – Copper, Cobalt, iodine, sodium, Potassium, Fluorine, Zinc, Selenium, Magnesium
- c) Inter relationship among nutrients.

REFERENCE BOOKS

1. Dr. M. Swaminathan Advanced Text – Book on Food and Nutrition Bappco, 1985
2. N. Shakuntala Many, M. Shsdaksharaswamy, Foods Facts and Principles, Newage International (P) Ltd. Publishers Second Edition 2001
3. Seema yaday, Basic Principles of Nutrition Anmol publication Pvt. Ltd., First Edition 1997
4. Robinson, C.H and Lawler, R.M , Normal and Therapeutic Nutrition, Maxmillan publication & Co., New Delhi,1995
5. Sri Lakshmi, B, Dietetics, New Age International Private Ltd., New Delhi,1995
6. Mahtab, S. Bamji, pralhab Rao, R and Vinodhin, Text Book of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, 1996.

II SEMESTER			
C-4	FOOD CHEMISTRY		15UNDC22
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 4

Objectives:

- Understand the meaning and chemical preparation of Carbohydrates in foods.
- Explain the role of lipids and protein in foods.
- Acquire knowledge on the chemical changes occurring in foods.

Unit I - Carbohydrates in food

- a) Introduction to food chemistry.
- b) Monosaccharides – structure, properties & derivatives.
- c) Dissaccharides - structure, properties & derivatives.
- d) Polysaccharides and their role in food.
- e) Functions of sugars in foods.

Unit II - Lipids in food

- a) Classification and composition.
- b) Properties of fats and oils
- c) Saturated, Unsaturated fats & Trans fats
- d) Rancidity – Types

Unit III – Proteins in Food

- a) Protein structure – Primary, Secondary, Tertiary & Quaternary
- b) Structure of essential amino acids.
- c) Denaturation of proteins.

Unit IV – Colloids

Types of colloids, emulsions, emulsifying agent, milk as an emulsion, mayonnaise, factors affecting foam and emulsion.

Unit V – Pigments in food

Chlorophyll, Carotenoids, Anthocyanins, Anthoxanthin, Myoglobin & Haemoglobin – Tanin, Phenols & Poly Phenols – Changes during cooking & processing.

Reference Books:

1. Seema Yadav, 1997, Food chemistry, Anmol Publications Pvt Ltd, New Delhi
2. Meyer. L.H, Food Chemistry
3. Sri Lakshmi . B, 2002, Food Science, New Age International (P) Ltd., New Delhi
4. Shankuntala Manay, 2001, Food Principles, New Age International (P) Ltd., New Delhi.

I & II SEMESTER		
CP - 1	NUTRITION AND DIETETICS CORE PRACTICAL - I	15UNDC2P
Hrs/Week: 3	Hrs/Sem: 3 x 15 =45	Credits : 3

* Examination at the end of II semester

SEMESTER - I

PRACTICALS ON FOOD SCIENCE

1. Identification of foods and food groups.
2. Preparation of cereals and pulses
3. Preparation of fruits
4. Preparation of vegetables
5. Egg cookery and milk cookery
6. Meat poultry and fish
7. Sugar cookery
8. Visits: Food analysis unit, Bakery, Dairy Unit etc..

HUMAN PHYSIOLOGY PRACTICAL

1. Identification of blood groups.
2. Differential count (WBC & RBC)
3. Hemoglobin estimation
4. Assessment of blood pressure
 - Rest
 - Exercise
5. Spotter related to human physiology- Muscle, eye etc

SEMESTER - II

PRINCIPLES OF NUTRITION PRACTICAL

1. Qualitative test for Sugar
2. Qualitative test for Proteins
3. Qualitative estimation of Vitamin C in Lime Juice
4. Qualitative estimation of reducing sugar in honey
5. Qualitative estimation of calcium

FOOD CHEMISTRY PRACTICAL

1. Qualitative test for carbohydrate
2. Estimation of reducing sugar.
3. Determination of Acidity.
4. Determination of Gluten content
5. Purity test for oils/ Fats
6. Study the various attitudes on the stability of egg white foam.
7. Determination of Taste Threshold for sweet, Sour, Salt.

III SEMESTER			
C-5	DIETETICS		15UNDC31
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 4

Objectives:

To enable students to

- To learn the responsibilities of a Dietitian in a hospital
- To plan and prepare therapeutic diets for various disease condition.
- To acquire skills on diet counseling for various disease conditions

Unit I

- a) Definition of dietetics – purpose of diet therapy – factors considered in planning therapeutic diets – Types and role of dietitian.
- b) Routine hospital diets – clear fluid diet, full fluid diet – soft, diet, regular normal diet – preoperative diet, postoperative diet. Special feeding methods – Enteral & Parental feeding advantages and disadvantages.

Unit II

- a) Balanced diet – principles of planning diet for different age groups – Infancy, preschool, School going, adolescents, adult, pregnancy, lactation and old age.
- b) Factors to be considered while planning diet.

Unit III

Diet in fevers - causes, types, general dietary consideration in fever, Principles of dietary management

Unit IV

- a) Obesity and under nutrition- etiology, assessment and classification of obesity and nutritional modification.
- b) Importance of fiber.

Unit V

Peptic ulcer, diarrhea, constipation: Principles of planning diet, etiology, and nutritional modification.

REFERENCE BOOKS:

1. Krause's text book of nutrition and diet therapy, (2004), Macmillan Publishers.
2. Gopalan, C. Ramashasthri, B.V. and Balasubramanian - Nutritive Value of Indian Foods, NIN, ICMR, 1998.
3. Guthrie and Boston, Introductory Nutrition, 1989, VIII Edition.
4. Robinson C.H. and Lawery M. Normal and therapeutic nutrition, Macmillan Publishing Co., New York, 1990.
5. Sri Lakshmi, B., Dietetics, Wiley eastern limited, 1993.

IV SEMESTER			
C-6	MEDICAL NUTRITION THERAPY		15UNDC41
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 4

Objectives:

To enable students to

- To plan and prepare therapeutic diets for various disease condition.
- To acquire skills in diet counseling for various disease condition

Unit I - Diabetes Mellitus

Definition, Etiology - IDDM, NIDDM-Environmental factors - Types - Symptoms - diagnosis-GTT- Management of Diabetes - Nutritional Requirements – Dietary Guidelines –Foods to be included - avoided-Complications.

Unit II - Diseases of kidney

Functions- Glomerulonephritis- Nephritic syndrome- Types- Acute and Chronic Renal failure, Causes, symptoms of Renal disease- Principles of dietary management- dialysis and Calculi Dietary management.

Unit III - Diseases of cardio vascular system

Risk factors - Principles of dietary management in atherosclerosis, hypertension–Causes, types, principle of diet, hypercholesterolemia and management.

Unit IV - Diseases of the liver

Agents responsible for liver damage, causes, Infective Hepatitis - symptoms and Principles of dietary management, cirrhosis of the liver – Aetiology, symptoms and clinical findings, principles of diet, dietary treatment.

Unit V - Cancer

Classification, Risk factors, dietary factors, symptoms, Nutritional requirements and dietary guidelines.

AIDS- causes, signs and symptoms, and dietary modification.

Burns: degree of burns - Principles of dietary management in burns

REFERENCE BOOKS:

1. Gopalan, C. Ramashasthri, B.V. and Balasubramanian- Nutritive Value of Indian Foods, NIN, ICMR, 1998.
2. Guthrie and Boston, Introductory Nutrition, 1989, VIII Edition.
3. Robinson C.H. and Lawery M. - Normal and therapeutic nutrition, Macmillan Publishing Co., NewYork, 1990.
4. Sri Lakshmi, B., Dietetics, Wiley eastern limited, 1993.
5. Vidya Rao, D.B. A text book of Nutrition, Discovery publishing house, 1996.

III & IV SEMESTER		
CP - 2	CORE PRACTICAL - II	15UNDC4P
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Credits :3
(Examination at the end of fourth semester)		

SEMESTER - III

DIETETICS PRACTICAL

1. Preparation of clear fluid diet
2. Preparation of full fluid diet
3. Preparation of soft diet
4. Planning and preparing the following diets
 - Weight reduction
 - Ulcer
 - High calorie and High protein diets.

Visits: Hospitals for live demonstration of tube feeding and Visit to dietary department in a multi specialty hospital to observe the serving of hospital diets.

SEMESTER - IV

MEDICAL NUTRITION THERAPY PRACTICAL

A) Planning preparing and serving diet

- a. Diabetes mellitus
- b. Atherosclerosis
- c. Hepatitis
- d. Glomerulonephritis
- e. Nephrosis
- f. Formula preparation for tube feeding (demonstration only)

B) Visits to the following

- a. Dietary department in a hospital.
- b. AIDS positive network centre.
- c. Kidney care hospital, Diabetic care centers and cancer institute to observe the patients.

C) One week hospital internship

V SEMESTER			
C-7	COMMUNITY NUTRITION		15UNDC51
Hrs/Week: 6	Hrs/Sem: 6 x 15 = 90	Hrs/Unit: 18	Credits: 6

Objectives:

- To get acquainted with special cultural and political characterized of village community.
- To understand the status and problem of woman in rural areas.
- To know the facilities programmers and opening for uplifting women.

Unit I - Assessment of Health Status

- a. Assessment of Nutritional status – Anthropometric method, Biochemical, Clinical Examination and Dietary survey.
- b. Malnutrition – Etiology, measures to overcome malnutrition

Unit II - Nutritional Intervention Programmes

- a. School Lunch Programmes – ICDS, TINP
- b. National Research Institutions – ICMR, CFTRI, NIN

Unit III

- a) International organizations – WHO, FAO, UNICEF, World Bank
- b) Voluntary services – AIWC, AFPRO, HSAI

Unit IV - Education

- a. Nutrition education
- b. Counseling – meaning, aims, objectives, training programs.

Unit V

- a. Approaches and methods of socio – economic analysis
- b. Rapid Assessment Procedures, rapid rural appraisal, surveys, case studies, observation and participant observations.

REFERENCE BOOKS:

1. Wal Ruchi Mishra. S, Encyclopedia of Health Nutrition and Family welfare, Published by Sarup and Sons, new Delhi 2000.
2. Srilakshmi, B. Nutrition Science, New Age International (P) Ltd, New Delhi, 2012
3. Swaminathan, M. Handbook of Food and Nutrition, The Bangalore Printing and Publishing Co. Ltd, Fifth Edition, 2003
4. Reddy, R.s. Nutrition Education, Common Wealth Publisher, First Edition, 2004
5. Park & park, Parks Textbook of Prevention and Social Medicine, 18th edition, M/S Banarasids Bhanot, Jabalpur.

V SEMESTER			
C8	CLINICAL BIOCHEMISTRY		15UNDC52
Hrs/Week: 5	Hrs/Sem: 5 x 15 = 75	Hrs/Unit: 15	Credits: 5

Objectives:

- To study different tests for diseases.
- To know the biochemical composition of bloods and different parts of the body.

Unit I - Blood Sugar

- a. Level of blood glucose – glucose in normal conditions, Maintenance of blood glucose level,
- b. Inborn errors of Carbohydrate metabolism – Ketosis, Diabetic Coma, pentasuria, Galactosomia, Glycosuria and glucose 6 – phosphate, Glycogen storage diseases

Unit II - Blood Lipids

- a. Types and level of lipids in blood. Hyper and hypo lipidemia – Inborn errors of fat metabolism
- b. Determination of serum cholesterol.

Unit III - Plasma Protein

- a. Plasma – Functions and determination of total plasma proteins.
- b. Inborn errors of amino acids metabolism – Phenyl ketonuria, Albiminism, Alkaptonuria and Maple syrup diseases.

Unit IV - Gastric Disorders

- a. Bile Salt – Functions, formations of bile acids and bile salts, bile pigments from haemoglobin.
- b. Test for liver function.

Unit V - Urine

- a. Urine examination – their significance in health and disease,
- b. Test for kidney function, creatinine clearance test, urea clearance, insulin clearance, Dye test, dilution test, and dialysis.

REFERENCE BOOKS

1. Lehninger, A.L., (2000) Biochemistry worth publishers INC New York.
2. Ambiga Shanmugam, (2002) Fundamentals of biochemistry for Medical students, Karthik printers.
3. Nutritional Biochemistry 2nd edition Tom Bridt, Academic press 2006.
4. Powar and Chatwal, Biochemistry, Himalaya publishing house, 2000.
5. Rangantha Rao, K, Text book of Biochemistry, prentice Hall of India New Delhi, (2000)

V SEMESTER		
C 9	FOOD PACKAGING	15UNDC53
Hrs / Week : 5	Hrs / Sem :5 x 15 =75	Credits : 5

OBJECTIVES :

This course is designed to enable students to:

- Gain knowledge about various packaging materials and importance of packaging
- Be familiar with packaging laws and regulations
- Be familiar with testing and evaluation of packing media

Unit :1

Labelling - Types and uses. Packaging and marketing process.

Unit :2

- a) Flexible Packaging Materials- Paper, films, aluminium foils and laminations.
- b) Uses of flexible packaging materials as wrapper, pouches and sacks.

Unit : 3

- a) Semi Rigid Packaging Materials - Aluminium containers, set up paper board cartons, folding paper board cartons, moulded pulp and plastic containers.
- b) Rigid Packaging Materials- Glass containers, composite containers, and cans, aerosol containers, solid and corrugated fibre board containers.

Unit : 4

- a) Wooden boxes and crates, shipping containers.
- b) Fruits and Vegetables-Packaging requirements, and packaging materials.

Unit : 5

- a) Packaging requirements and materials for chocolates, confectionaries, jam and jelly, snack foods chips .
- b) Special Packaging Methods- Vaccum, gas and shrink packaging. Problems in packaging Product-package compatability, toxicity, tainting and corrosion.
- c) General methods of disposing food package materials.

References

1. Sachrow & Griffin, Food Packaging – AVI Publications
2. Kitchikness Food & Packaging Interaction – American Chemical Society
3. Robertson G.L. Food Packaging – New York, Marcell Dekker, INC
4. Bhatia S.C. Canning & Preservations of Fruits & Vegetables – New Delhi, India

V SEMESTER			
CE 1A	BAKERY		15UNDE5A
Hrs/Week: 5	Hrs/Sem: 5 x 15 = 75	Hrs/Unit: 15	Credits: 6

Objectives:

1. Understand basic concepts of baking.
2. Acquaint with the role of various major and minor ingredients in bakery products.
3. Familiarize with baking process and operations.

Unit I

- A. Introduction : Principles of baking
- B. Flour – types of flour, composition, quality assessment. (Biscuit, cake, pastry, self – rising flour, whole wheat flour)
- C. Leavening Agents

Unit II - Other Ingredients and Their Function In Baking:

- A. Yeast: types, function, uses effects of over and under fermentation.
- B. Egg: Function in bakery.
- C. Sugar: types uses.
- D. Fats – function, application in baking
- E. Milk and Milk products, emulsifiers, dried fruits
- F. Water and salt

Unit III - BAKING PROCESS:

Baking process – basic concepts, batch or continuous dough mixing, dividing, moulding, proofing, and baking. Formation and expansion of gases. Coagulation of protein, gelatinization of starches, evaporation of water, melting of shortening, browning of the sugar. Baking temperature & time.

Unit IV

A) CAKES

Preparation of cake, different methods, icings, faults and remedies. preparation of biscuits, cookies and its types.

B) Bread Making

Preparation of bread, bun – Quantity – Portioning, Sizing, Baking Temperature -Defects in bread making

Unit V – Application of baking in other food products

- a) Baked custards
- b) Baked eggs
- c) Baked puddings
- d) Baked vegetable dishes

REFERENCE BOOKS:

1. Vijaya khader, Text book of Food science and Technology, Indian council of Agricultural Research, New Delhi, 2001.
2. Kumud khanna etal, The art and science of cooking, A students manual, 3rd edition. Published by pr. Ouseph for phoenix, publishing House Pvt. Ltd, 1998.
3. Earl R. Palan, Judith A. Studler, preparing for the service industry, An introductory approach, AVI publishing co., Inc 1986.
4. Swaminathan . M, Food science, chemistry and experimental foods, The Bangalore printing and the publishing co Ltd, 2000.
5. William C practical in baking, 2000.
6. Lillian Hoagland Meyer, Food chemistry CBS publishers and Distributors, 2004.

V SEMESTER			
CE 1B	DEVELOPMENT OF FOOD PRODUCT	15UNDE5B	
Hrs/Week: 5	Hrs/Sem: 5 x 15 = 75	Hrs/Unit: 15	Credits: 6

UNIT I

Introduction and scope, need, importance and objective of formulation for new product development.

UNIT II

Formulation of new product, ideas, business philosophy and strategy of new product, formulation based on sources availability and cost competitiveness for concept developments of ne products

UNIT III

Technology for new product, adaptable technology and sustainable technology for standardized formulation for process development.

UNIT IV

Scale up and trials, process control parameters and scale-up, production trials for new product development at lab and pilot scale

UNIT V

Marketing, economic of new product, commercialization and launching, market testing and marketing plan, costing and economic evaluation of developed products, commercialization/ product launch for marketing

REFERENCE BOOKS:

1. New food products design and development : Beckley, Blackwell publishing oxford UK
2. Sensory and consumer research In food Moskowitz, Blackwell product design and development publishing oxford UK

VI SEMESTER			
C-10	FOOD MICROBIOLOGY		15UNDC61
Hrs/Week: 6	Hrs/Sem: 6 x 15 = 90	Hrs/Unit: 18	Credits: 6

Objectives:

- To instruct students who are having their first experience with microbiology on the nature of micro organism.
- To outline the source of contamination and their aspects of foods
- To understand the principles of food preservation
- To gain knowledge of the methods to prevent contamination.

Unit I - General Characteristics

General Characteristics of main group micro organisms –
Bacteria, fungi, yeast

Unit II - contamination of Cereals, Vegetables and Fruits

- a. Contamination and prevention of cereal and cereal products.
- b. Contamination, spoilage and prevention of vegetables and fruits

Unit III - Contamination of milk, fish and meat

- a. Contamination, spoilage and prevention of milk and milk products
- b. Contamination, spoilage and prevention of meat, fish and other sea foods.

UNIT IV - Contamination of Eggs and Poultry

- a. Contamination and prevention of spoilage of eggs
- b. Contamination and prevention of spoilage of poultry

UNIT V - Food Poisoning

- a. Types – Salmonella, staphylococcus, clostridium – causative factors, symptoms and prevention
- b. Sterilization techniques – Boiling, pressures cooking, autoclaving

REFERENCE BOOKS:

1. Anna K. Joshua. (1994) Microbiology, India printing works.
2. Goss, R.C. Experimental Microbiology. Guide laboratory, Kalyani Publishers.
3. Frazier, W.C. Food Microbiology, Tata McGraw-Hill Book Company, Mumbai, 1988.
4. Adams, M.R and Moss M.O. Food Microbiology Royal Society of Chemistry, Cambridge, 1995.

VI SEMESTER			
C11	PRESERVATION TECHNIQUES	15UNDC62	
Hrs/Week: 5	Hrs/Sem: 5 x 15 = 75	Hrs/Unit: 15	Credits: 5

Objectives:

- To understand the role of microorganisms in food spoilage
- Learn the suitable methods of preservation with special reference to our country
- Understand the types of spoilage and the various methods of preventing spoilage.

Unit I - Introduction to Food Preservation

- a. Need & Importance of food preservation & use of high temperature in preservation. Basic principles of food preservation.
- b. Preservation by the use of high temperature – canning, steps involved in canning, Types of cans, Spoilage encountered, HTST (flask & holding method)

Unit II - Preservation by Use of Low Temperature

- a. Refrigeration – Advantages, factors to be considered in low temperature, Common spoilage of low temperature preservation. Refrigeration load.
- b. Preservation by use of very low temperatures – freezing, difference between refrigeration and freezing, Methods of freezing – Freeze drying and dehydro freezing - advantages. Steps involved in freezing common foods and spoilages
- c. Preservation by removal of moisture – Sun drying and dehydration, merits and demerits.

Unit III - Preservation by Using Sugar

- a. Sugar Concentrates – Principles of gel formation, Preparation of jam, jelly, marmalades, Preserves, Candies, Glazed & Crystallized fruits, fruit product order specification.
- b. Problem encountered and spoilage of sugar preserved foods.
- c. Preparation of squashes, syrup, fruit juices, RTS.

Unit IV - Preservation by Using Chemicals, Salt and Fermentation

- a. Chemical Preservation – Definition, role of preservation, permitted preservatives.
- b. Pickling – Principles involved and types of pickles, definition, advantages and types of fermentation. Common fermented foods – wine and cheese making

Unit V - Preservation by Irradiation

- a. Irradiation – Advantages and properties of irradiation.
- b. Mechanism, effect of food, permitted doses, Dose determination factors of irradiation

REFERENCE BOOKS:

1. Gould G.W (1995) “New Methods in Food Preservation” Springer, New York
2. Marcus Karnal and Lund D.B (2003) “Physical Principles of food Preservation” Rutledge, USA.
3. Rahman M.S (1999) “Handbook of Food Preservation”, Marcel Dekker, New York
4. Ranganna, S. (2000) “handbook of Canning Aseptic Packaging” Vol I, II & III, Tata Mc Graw – Hill, New Delhi
5. Van Grade, S.J and Woodburn (2001) “Food Preservation and Safety principles and Practice” M. Surbhi Publications, New Delhi

VI SEMESTER		
C 12	PROJECT	15UNDP61
Hrs/Week: 5	Hrs/Sem: 5 x 15 = 75	Credits: 5

OBJECTIVES:

At the end of the semester the students should be able to:

1. Identify the potential areas of research in his/her field.
2. Collect data from various sources including the internet or experiments, analysis the make new connections and link them to life
3. Read and write originally and usefully

GUIDELINES:

1. The project may be done individually or in groups not exceeding five per group
2. The minimum pages of the project should be 30 pages in A4 size.
3. Project should be cheap within the expense of students limit
4. Marks for the project report will be 100 divided as 80% for the presentation of project and 20% for viva-voce

Evaluation scheme:

The project will be evaluated by both Internal and External Examiners. Each Examiner will evaluate for 100 marks. The allocation of marks for project is as follows:

Project	Internal	External
Word of title	5	5
Objectives / Formulation including Hypothesis	5	5
Review of literature	10	10
Relevance of project to social needs	5	5
Methodology / Technique / Procedure adopted	20	20
Summary / Findings / Summation	5	5
Works cited / Annexure / Footnotes	10	10
Total	60	60

V & VI SEMESTER		
CP 3	CORE PRACTICAL – III	15UNDC6P1
Hrs/Week: 3	Hrs/Sem: 3 x 15 =45	Credits: 2

(Examination at the end of VI semester)

SEMESTER - V

COMMUNITY NUTRITION PRACTICAL

1. Assessment of nutritional status of an individual community using anthropometry and dietary survey.
2. Visit to local health centers to identify clinical signs and symptoms of nutritional problems.
3. Visit to an ICDS block.
4. Development of audio visual aids.
5. Planning, implementation and evaluation of nutrition education for a target group.

SEMESTER - VI

FOOD MICROBIOLOGY PRACTICALS

1. Identify some micro organisms
2. Identification of preservatives
3. Observe & Note the spoilage in cereals and pulses
4. Observe & Note the spoilage in fruits and vegetables
5. Observe & Note the spoilage in milk
6. Observe & Note the spoilage in fish
7. Observe & Note the spoilage in egg and poultry
8. Preservation of bacterial culture.
9. Observation of micro organisms by hanging drop methods.

V & VI SEMESTER		
CP 4	CORE ELECTIVE PRACTICAL – IV	15UNDC6P2
Hrs/Week: 3	Hrs/Sem: 3 x 15 =45	Credits : 2

(Examination at the end of sixth semester)

SEMESTER – V

CLINICAL BIOCHEMISTRY PRACTICAL

- 1) To study general properties of the enzyme Urease & Achromatic time of salivary amylase.
- 2) Estimation of glucose in urine by Benedict's methods.
- 3) Urine analysis – normal & abnormal constituents of urine.
- 4) Blood glucose estimation.

SEMESTER - VI

PRESERVATION TECHNIQUES PRACTICAL

- 1) Preparation of Jam
 - a) Pineapple
 - b) Multi fruits
 - c) Orange
 - d) Papaya
- 2) Preparation of Jelly
 - a) Guava
 - b) Synthetic jelly
- 3) Preparation of Squash
 - a) Mango
 - b) Grapes
 - c) Pineapple
 - d) Lime & Ketchup
- 4) Preparation of Sauces
- 5) Preparation of pickles
 - a) Mix vegetables
 - b) Mango
 - c) Lemon
 - d) Chillies
 - e) Fish
- 6) Preparation of vadam & Vathals
 - i. Sago vadam
 - ii. Rice vadam
 - iii. Chilli vathal
 - iv. Ladies finger vathal

VI SEMESTER			
CE2 A	FOOD SAFETY AND QUALITY CONTROL	15UNDE6A	
Hrs/Week: 5	Hrs/Sem: 5 x 15 = 75	Hrs/Unit: 15	Credits: 6

Objectives:

To enable students to:

- Gain knowledge about various food quality managements and standards
- Impart various detection of different adulterants of food with evaluation

Unit I - Concepts of Food Quality

- a) Introduction to concepts of food quality, food safety, food quality assurance and food quality management.
- b) Objectives:, importance and function of quality control, current challenges to food safety

Unit II - Food Adulteration

- a) Food adulteration, nature of adulterant, methods of evaluation of food adulterants
- b) Toxic constituents of food

Unit III - Food Quality and Safety Management

- a) Principles of food quality assurance, Total Quality Management (TQM) – Good manufacturing/ management practices, good hygienic practices, Good lab practices, General awareness and role of management practices, General awareness and role of management practices in quality control
- b) Food safety management, applications of HACCP in food safety, concept of food traceability for food safety.

Unit IV - Food Safety and Standards

- a) Microbial Quality Control: Determination of micro organisms in foods by cultural, microscopic, physical, chemical methods. Statistical quality control in food industry
- b) Food safety and Standards Act 2006. Salient provision and prospects

Unit V

- a) Role of National and International Regulatory Agencies, Bureau of Indian Standards (BIS), AGMARK, Food Safety and Standards Authority of India (FSSAI), Codex alimentations commission.
- b) International Organization for Standards (ISO) and its standards for food quality and safety (ISO 9000 series, ISO 22000, ISO 15161, ISO 14000)

REFERENCE BOOKS

1. Early.R. (1995): Guide to Quality Management Systems for the Food Industry, Blackie, Academic and Professional, London
2. Gould, W.A and Gould, R.W. (1998). Total Quality Assurance for the Food Industries, CTI Publications INC. Baltimore.
3. Food and Agricultural Organization (1980): Manuals of Food Quality Control and Additives Contaminants Techniques, Rome.

VI SEMESTER			
CE2 B	POST HARVEST TECHNOLOGY		15UNDE6B
Hrs/Week: 5	Hrs/Sem: 5 x 15 = 75	Hrs/Unit: 15	Credits: 6

UNIT I

HISTORY, NEED and scope of post harvest management, physiology of maturity, ripening and senescence

Unit II

Importance of post harvest management of food, causes of pre and post harvest losses, Maturity, ripening and biochemical change after harvesting; Importance of micro organism in food industry

Unit III

General principles and method of preservation; Principle and applications of modern techniques in food processing.

Unit 1 V

Post-harvest loss reduction technology including aspects of packaging storage, post-harvest treatment

Unit V

Post harvest management as an enterprise 1. Processing sector in India and Kerala; An overview 2. Food laws and regulations 3. Setting up a processing unit 4. Fruit and Vegetable Processing unit Equipment 5. Quality assurance and legislation

REFERENCE BOOKS:

1. Spices-vol. II- Parry j.w.
2. spice and condiments- pruthi J.S
3. Herbs and spices- rosemary hemphill
4. The book of spices – rosen garten , F.and Livingston Jr.
5. Spices and herbs for the food industry- Lewies, Y.S
6. Spices vol. I And II; tropical agril. Series- purse-glove, J.W.Brown
E.G., Green c.l and robbins SRJ.

V & VI SEMESTER		
CEP-A	CORE ELECTIVE PRACTICAL - A	15UNDE6PA
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Credits : 2

(Examination at the end of sixth semester)

SEMESTER - V

PRACTICAL ON BAKERY

1. Visit to bakery unit and report writing.
2. Preparation of biscuits
 - a) Melting marvels
 - b) Shrewsbury biscuits
 - c) Salt and sweet biscuits
3. Preparation of bread
4. Preparation of cakes
 - a) Plain vanilla cake
 - b) Cup cake
 - c) Swiss Roll
5. Demonstration of Cake icing

SEMESTER - VI

FOOD SAFETY AND QUALITY CONTROL PRACTICAL

1. Determining adulterants in various foods
 - a) Coffee
 - b) Turmeric
 - c) Sugar
 - d) Chilli powder
 - e) Tea Leaf
 - f) Pepper
2. Preparation of score card
3. Different quality assessment of food
 - a) Taste
 - b) Texture
 - c) Color
 - d) Appearance
 - e) Flavour
4. Egg quality Tests
5. Flour quality Tests – Density test

V & VI SEMESTER		
CEP-B	CORE ELECTIVE PRACTICAL - B	15UNDE6PB
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Credits : 2

SEMESTER- V

DEVELOPMENT OF FOOD PRODUCT PRACTICAL

1. Market survey of existing various products.
2. Formulation of new products based on corporate decision/need based.
 - a) Protein-energy rich.
 - b) Low calorie (fat replacer).
 - c) Low sodium content.
3. Quality assessment.
 - a) Infant / weaning foods.
 - b) Geriatric.
 - c) Physiological status.

SEMESTER-VI

POST HARVEST TECHNOLOGY PRACTICAL

1. Determination of the volatile oil.
2. Adulteration detection of the spices.
3. Determination of pigments of the spices.
4. Preparation of curry powder.
5. Visit to spice processing industry Laboratory.

PART III – ALLIED – I – ZOOLOGY
(For B.Sc. Nutrition and Dietetics students)
I SEMESTER

AI – 1	HUMAN DEVELOPMENT	15UNDA11
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9
		Credits: 4

Objectives:

- Gain practical experience by observation and participation in the preschool.
- Understand the development in fetus, demands and growth of the pre-school, school going, and adolescent children.
- Understand the functioning of the family and the interpersonal relations within the family.

Unit I - Fundamentals of growth and development

- c. The principle of growth and development factors that influence the development.
- d. Methods of child study

Unit II - Pregnancy

- a. Signs discomforts and complications, physical and psychological care of the mother during pregnancy, Types of delivery and complications.
- b. Stages of pre-natal life, parental influences, preparation of parenthood.

Unit III - The period of Late Childhood (1-4 Yrs)

- a. Physical motor and language development
- b. Intellectual, emotional and social development
- c. Ailments, accidents and common diseases, prevention and curative measures.

Unit IV - Adolescence

- a. Physical and psychological changes during adolescence
- b. Needs-Physical and psychological- Interest, problems of the adolescents, peer pressure and stress managements

Unit V - Family Relationship

- a. Types of family – Nuclear Family, Joint Family, Extended Family
- b. The role of the family- Parents, Children, grand parents
- c. Old-age psychology, family attitudes towards the ageing.
- d. Geriatric care.

REFERENCES

1. Breakenridge, M.E. & Vincent, E.LEE – Child Development, W.B.Saunders &CO., 1956.
2. Hurlock, E.B. Child Development Mcgraw Hill Co., New York 1950
3. Breakenridge; Mariaan. E. Murphy; Margaret Neatitt – Growth and Development of the young child W.D. Saunders & Co., philadelphia; 1958
4. Read, KH. The nursery school, W.B. Saunders & Co., 1955
5. Crow and cros – Adolescent Development and Adjustment, McGraw Hill Book Co., 1956
6. Malm and Jamison – Adolescent, McGraw Hill Book Co., 1952
7. Burgess, E.W. The Family American Book Co., New York 1953.
8. Foster, Roberts – Marriage Family relationships, Macmillan Co., 1952
9. Skindmore, Rex.A. Cannon, Arthur, S. Building your marriage.
10. Muralidharan R. (Edited) – System Pre – School education in Indi. IAPE, New Delhi, 1972
11. **Journals:** 1 Childhood Education – Journal of the Association for childhood.

II SEMESTER			
AI – 2	FAMILY RESOURCE MANAGEMENT	15UNDA21	
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 4

Objectives:

- To attain a thorough knowledge of understanding values and goals in house keeping
- To gain a basic knowledge of planning and constructing a house
- To understand a basic design and art.

Unit – I

HOUSING: Functions of House and its environment, House planning – site selection factors to be considered, Features of House, contributing Livability, orientation, grouping roominess.

Unit – II

- a) **KITCHEN PLANNING:** Different types of kitchen- work triangle house plans- low, middle and high income groups.
- b) **HOUSE HOLD MAINTENANCE:** Daily , weekly and periodical cleaning to keep the house in good condition. Insect and pest control- preventive and remedial measures to be adopted.

Unit – III

- a) Elements of design –line, size, shape, texture, value
- b) Design – Structural and Decorative
- c) Principles of design – Meaning and its application – Harmony, Proportion, balance, emphasis and rhythm

Unit –IV

- a) **Colour Scheme:** Primary, Secondary, Tertiary, Complimentary.
- b) Qualities of colour- hue, value, intensity of colours and emotions, advancing and receding colours - use of colours- proportions, balance, harmony, and rhythm in colour, Use of colour in interior decoration.

Unit – V

ACCESSORIES, FURNITURE, FLOWER ARRANGEMENT: Selection, use and care of accessories, picture and wall hangings, basic knowledge of flower arrangements- principles, types of flower arrangement.

REFERENCE BOOKS

1. Desh Pande, R.S., Modern Ideal Homes for India – United Book Corporation, Poone – 1971
2. Stella Soundararaj. A., A Textbook of House hold Arts, Orient Longmans, Bombay – 1968.
3. Margaret Kaye. A., A Students hand book of House Wifery, J.M. Dent Sons LTD., London

I & II SEMESTER		
AI - P	Nutrition and Dietetics Allied Practical - I	15UNDA2P
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Credits : 2
(Examination at the end of second semester)		

I SEMESTER

HUMAN DEVELOPMENT PRACTICALS

EX: 1: Preparation of low cost and high cost toys for preschool children (0-3)

- a. Toys for Intellectual development.
- b. Toys for Hearing & motor development
- c. Toys for Language development
- d. Toys for Physical development

EX: 2: Preparation of different Teaching aids for (3 -6)

- a. Charts
- b. Models
- c. Flipcharts
- d. Flash card
- e. Action songs
- f. Story telling
- g. Rhymes

EX: 4: Visit to schools/ Homes for visually, intellectually and physically challenged children

EX: 5: Visit to an old age home to understand the geriatric problem with the report writing

II SEMESTER

FAMILY RESOURCE MANAGEMENT PRACTICAL

- a) Draw the house plan for Low, Middle and High Income groups
- b) Different types of flower arrangement
 - U Shaped
 - V Shaped
 - L Shaped
 - Inverted U and V
 - Mass
 - Japanese
- c) Window display – Formal and informal
- b) Colour Scheme

III SEMESTER			
AII – 1	INTRODUCTION TO TEXTILES		15UNDA31
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 4

Objectives:

To help the students to

- Study the science of Textiles and use this knowledge in wise buying
- Select clothing appropriate for various family members.
- Learn the techniques involved in garment construction.

Unit I - Textile Fibre

- a) Definition, Classification study of major and minor fibres - Jute, Hemp, coir, Cotton, Silk, Wool and Rayon.
- b) Characteristic, identification of fibres, use and care of textile fibre – Cotton, Silk, Wool, and Rayon.

Unit II - Yarn and Weaves

- a) Yarn – Definition and Types –Warp and Weft.
- b) Types of Weaves – Plain, Twill, Satin and Decorative Weaves.

Unit III - Fabric Finishes and Decoration

- a) Finishes – Definition- Sizing, Calendaring and mercerizing.
- b) Dying and Printing – Tie and Die , Batik, Stencil, Block, Roller

Unit IV - Basic and Decorative stitches

- a) Basic Stitches –Running, Hemming, back Stitch.
- b) Decorative Stitches – Chain, Lazy daisy, Stem, Back, Button Hole, Herring Bone, French Knot, Feather and Satin, mirror work, bead work, Stone Work.

Unit V - Surface Decoration

- a) Seams, neckline – bias – binding & facing, plackets & gathers
- b) Fasteners – Types, uses & dis advantages

REFERENCE BOOKS:

1. Booth J.E,(1968) principles of textile testing, Butterworth Fundamentals of Textiles and their use (Orient Longman Ltd.,)
2. Dankar and Mary Mathew, Household Textiles and laundry work, Macmillan and Co, Clothing for modern.
3. Seema Sekrhi, Fundamental of Fabric Science, PHI publication, 2012.

IV SEMESTER			
AII 2	MEDICAL LABORATORY TECHNIQUES	15UNDA41	
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 4

Objectives:

- Explain the knowledge of medical laboratory science
- Perform medical laboratory procedures according to standard practice
- Consider safety of self and surrounding while working in the lab
- Play a professional role as an MLT
- Cooperate well and effectively in the organization
- Respond quickly and accurately in solving lab procedural problems in the lab

Unit 1

- a) Organization of clinical laboratory and role of medical laboratory technician
- b) Safety measures - clinic borne infection and personnel hygiene

Unit II

- a) Incubator, Hot Air Oven, Water Bath -Anaerobic Jar, Centrifuge, Autoclave
- b) Microscope - Fundamentals of Microscopy, Resolution & Magnification, Light Microscopy, Electron Microscopy-

Unit III

- a) Glassware – Description of Glassware, its use, handling and care
- b) Methods of measuring liquids

Unit IV

- a) Requirement of Blood Collection - Blood collection - Phlebotomy - Sampling errors
- b) Collection and preservation of biological fluids -Anticoagulants - Preservation of samples

Unit V

- a) Process of analysing the specimens generating the laboratory report.
- b) Safe disposal methods

REFERENCE BOOKS:

1. Fischbach, 2005. Manual of lab and diagnostic tests, Lippincott Williams Wilkins, New York.
2. Gradwohls, 2000. Clinical laboratory methods and diagnosis. (ed) Ales C. Sonnenwirth and Leonard jarret, M.D.B.I., New Delhi.
3. J Ochei and Kolhatkar, 2002. Medical laboratory science theory and practice, Tata McGraw- Hill, New Delhi.
4. Kanai L. Mukherjee, 2007, Medical laboratory technology Vol.1.Tata McGraw Hill.

III & IV SEMESTER		
AII – P	Nutrition and Dietetics Allied Practical – II	15UNDA4P
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Credits : 2
(Examination at the end of fourth semester)		

III SEMESTER

INTRODUCTION TO TEXTILES PRACTICALS

1. Embroidery – Stem, Chain, cross, lazy daisy, fly, wheel, couching & blanket
2. Appliqué works
3. Drafting – Panty & A line Frock

IV SEMESTER

MEDICAL LABORATORY TECHNIQUES PRACTICAL

1. Measurement of liquids using
 - i. Measuring Jar
 - ii. Pipettes
 - iii. Standard flask
2. Slides – Observations
3. Sterilization – boiling, autoclaving
4. Centrifugation

PART IV – SKILL BASED ELECTIVE (For B.Sc. Nutrition and Dietetics students) III SEMESTER			
SBE 1	FUNCTIONAL FOODS AND NUTRACUTICALS		15UNDS31
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 2

Unit I

Introduction definition importance Health attributes of functional foods Introduction, health living index provides Information on healthy diet,fitness, Emotional wellness

Unit II

- a. FFN and acute inflection and probiotic - probiotic immune system, sources of micro algal Health supplement
- b. Probiotic functional food and treatment of GI disorders

Unit III

- a) Introduction-terpenoids, polyphenolics, anthocyanins isoflavones silymarin, tangeretin ,sanpaonis
- b) Other dominant phyto chemicals

Unit IV

- a) Other nutraceuticals - PUFAs-polyunsaturated fatty acid-source: natural consistments of animal and vegetable lipids function of PUFAs
- b) Functional foods in the control of aging ,moods and performance, medical foods

Unit V

- A) Colonic functional foods: introduction to colonic foods, metabolism of colonic foods
- B) Probiotic symbiotic, health aspects of functional colonic foods host-microbe interaction.

REFERENCE BOOKS:

1. Mary K. Schimsl and Theodre P. Labuza; essentials of functional foods 2000 ,culinary and hospitality industry publication services
2. C. Remacle and B. Reusens, functional foods, aging and degenerative diseases culinary \$hospitality publications services

IV SEMESTER			
SBE 2	ENTREPRENEURSHIP DEVELOPMENT	15UNDS41	
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 2

Objectives

To enable students to

- Develop entrepreneurship skills
- Understand the process and procedures of setting up small enterprises

Unit I - Entrepreneurship

Definition, need, scope and characteristics of entrepreneurship, entrepreneurship development

Unit II - Opportunities

Employment promotion, Identification of opportunities

Unit III - Project Formulation

Major steps involved in setting up a small scale unit – project identification, formulation

Unit IV - Innovation & Marketing

Creativity and innovation problem solving, personnel management, marketing and sales management

Unit V - legal Issues

Legislation (Licensing, registration, municipal laws, business ethics, income tax, lab law app, consumer compliant redressal)

REFERENCE BOOKS:

1. Deshpande, V. (1984) "Entrepreneurship of small scale food industries, concept, growth and management" Deep and Deep Pub, New Delhi.
2. Parek, U. and Rao, T.V.(1978) "Personal efficacy in developing entrepreneurship" Learning systems, New Delhi
3. Rao, T.V and Parekh, L.U (1982) 'Developing Entrepreneurship, A handbook Learning Systems, New Delhi.

PART-IV – NON MAJOR ELECTIVE			
(Offered by the Department of Nutrition and Dietetics to other major Students)			
III SEMESTER			
NME 1	INTRODUCTION TO BAKERY		15UNDN31
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9	Credits: 2

Objectives:

This course will enable the students to

- Understand basic concepts of baking
- Acquaint with the role of various major and minor ingredients in bakery products
- Familiarize with baking process and operations
- Learn the quality parameters of bakery products

UNIT I

Flour-types of flour(biscuits, cake, pastry, self raising flour, whole wheat flour) composition ,role of consitituents.

UNIT II

Dried fruits ,enzymes , cream, and other leavening agents.

UNIT III

Yeast-types, functions , uses ,effects of over and under fermentation. Sugar-types, different forms and uses.

UNIT IV

Basic concepts, batch the continuous dough mixing, Dividing, Moulding, panning, proofing and baking. Defects in bread making

UNIT V

Icing&types , baked custard

REFERENCE BOOKS:

1. Bennion and Bamford (1973) The Technology of cake making Leonard hill book, bucks, U.K.
2. Hosoney. R.C (1986) Principles of cereal Science and Technology Am. Assoc of cereal chemists, St paul, Minnesota, USA
3. Malik. R.K and dhingra. K.C. (1981) Technology of Bakery products, modern bakery industries small industrial Res institute, new Delhi, india.
4. Matz. S.A (1989) Bakery technology: packaging, Nutrition product development and quality assurance Elsevier Science pub, Ltd, USA.
5. Smith. W.H (1972) Biscuit, crackers,cookies: Technology, production.

PART-IV – NON MAJOR ELECTIVE
(Offered by the Department of Nutrition and Dietetics to other
major Students)
IV SEMESTER

NME 2	FOOD PRESERVATION	15UNDN41
Hrs/Week: 3	Hrs/Sem: 3 x 15 = 45	Hrs/Unit: 9 Credits: 2

Objectives:

- Learn the suitable methods of preservation with special reference to our country
- Understand the types of spoilage and the various methods of preventing spoilage.

Unit I

Food preservation: Objectives: and principles - Asepsis - Food spoilage and its prevention – Principles of sanitation to be observed in food preservation.

Unit II

Preservation by Low temperature - refrigeration and freezing. High temperature – Pasteurization, canning. Radiation - Irradiated foods. Microwave heating of foods.

Unit III

Preservation by the use of chemicals - types of chemical preservatives. Drying – Methods and effect of drying.

Unit IV

Preservation as sugar concentrates - Method of preparation of jam, jelly, Squashes, crystallized or glazed fruits, factors affecting jam and jelly formation, sauces.

Unit V

Preservation by Pickling - Method of preparation of vegetable, fish, mutton pickles.

PRACTICAL EXPERIENCES (No external examination):

1. Hands on training in the preparation of squashes, jams, jellies, candies, different types of pickles and sauce.
2. Visit of food preservation factories.
3. A week's training in food preservation unit.

REFERENCE BOOKS:

1. Destrosier, N.N. 1987. The Technology of Food Preservation, CBS Publishers.
2. Lal and Siddappa, 1986, Fruit and vegetable preparation, ICMR.
3. Srilakshmi, B.2001. Food Science, Chemistry and experimental foods.

PART IV – NON-MAJOR ELECTIVE (UNAIDED COURSES) (2015 – 2018)							
SEM	TITLE OF THE PAPER	S.CODE	H/W	C	MARKS		
					I	E	T
DEPT. OF ENGLISH							
III	<i>Computer Assisted Language Learning: Reading & Writing</i>	15UENN31	3	2	25	75	100
IV	<i>Computer Assisted Language Learning: Listening & Speaking</i>	15UENN41	3	2	25	75	100
DEPT. OF ISLAMIC STUDIES							
III	<i>Arabic for Beginners</i>	15UISN31	3	2	25	75	100
IV	<i>Fundamentals of Arabic Grammar</i>	15UISN41	3	2	25	75	100
DEPT. OF COMMERCE							
III	<i>Principles of Commerce</i>	15UCON31	3	2	25	75	100
IV	<i>Basics in Accounting*</i>	15UCON41	3	2	25	75	100
DEPT. OF COMMERCE (CA)							
III	<i>Development of Small Business</i>	15UCCN31	3	2	25	75	100
IV	<i>Basics in Accounting*</i>	15UCCN41	3	2	25	75	100
DEPT. OF COMMERCE (FINANCE)							
III	<i>Investment Management</i>	15UCFN31	3	2	25	75	100
IV	<i>Advertising</i>	15UCFN41	3	2	25	75	100
DEPT. OF BUSINESS ADMINISTRATION							
III	<i>Basic in Management</i>	15UBAN31	3	2	25	75	100
IV	<i>Retail Management</i>	15UBAN41	3	2	25	75	100

DEPT. OF COMPUTER SCIENCE							
III	<i>Office Automation</i>	15UCSN31	3	2	25	75	100
IV	<i>Desktop Publishing</i>	15UCSN41	3	2	25	75	100
DEPT. OF COMPUTER APPLICATION							
III	<i>Internet & HTML</i>	15UCAN31	3	2	25	75	100
IV	<i>Desktop Publishing</i>	15UCAN41	3	2	25	75	100
DEPT. OF INFORMATION TECHNOLOGY							
III	<i>Introduction to Computers</i>	15UITN31	3	2	25	75	100
IV	<i>MS Office</i>	15UITN41	3	2	25	75	100
DEPT. OF MATHEMATICS							
III	<i>Mathematics for Competitive Examinations – I</i>	15UMAN31	3	2	25	75	100
IV	<i>Mathematics for Competitive Examinations – II</i>	15UMAN41	3	2	25	75	100
DEPT. OF MICROBIOLOGY							
III	<i>General Microbiology</i>	15UMBN31	3	2	25	75	100
IV	<i>Biotechnology</i>	15UMBN41	3	2	25	75	100
DEPT. OF NUTRITION AND DIETETICS							
III	<i>Introduction to Bakery</i>	15UNDN31	3	2	25	75	100
IV	<i>Food preservation</i>	15UNDN41	3	2	25	75	100

* Common to Department of Commerce and Department of Commerce (CA)

** Common to Department of Computer Science and Department of Computer Application.

I SEMESTER			
EVS	ENVIRONMENTAL STUDIES		15UEVS11
Hrs/ Week: 2	Hrs/ Sem: 30	Hrs/ UNIT: 6	Credits: 1

UNIT - I: Nature of Environmental Studies

Goals, Objectives and guiding principles of environmental studies. Towards sustainable development - Environmental segments- Atmosphere, Hydrosphere, Lithosphere, Biosphere – definition. Pollution episodes – Hiroshima – Nagasaki, - Bhopal gas Tragedy, Fukushima – Stone leprosy in Taj Mahal

UNIT - II: Natural Resources

Renewable and Non Renewable resources - classification.

- Forest resources: Use and over - exploitation, Aforrestation and deforestation.
- Water resources: Use and over - utilization and conservation of surface and ground water - Rain harvesting.
- Marine Resources: Fisheries and Coral reefs.
- Mineral resources: Use and exploitation - environmental impacts of extracting and using mineral resources.
- Food resources: Effects of modern agriculture fertilizers - pesticide problem.
- Energy resources: Growing energy needs - use of alternate energy source - Solar cells & wind mills.
- Land resources: Land degradation

UNIT - III: Ecosystem

- Concept of Eco-systems - Tropic level, food chains, food web and Ecological pyramids. Types, structure & Functions of the following:
 - a) Aquatic ecosystem
 - b) Grassland ecosystem
 - c) Forest ecosystem
 - d) Desert ecosystem
 - e) Living conditions on other planets (Briefly)

UNIT - IV: Biodiversity & Its Conservation

Introduction - Definition: eco system diversity, species and Genetic Hot spots of biodiversity - Western Ghats, Eastern Himalayas and Gulf of Mannar. Threats to biodiversity - Habitual Loss, Poaching of wild life and Man - wild life conflicts.

Conversation of biodiversity: Insitu and ex-insitu.

UNIT - V: Environmental Pollution

Sources, effects, prevention and control measures of the following.

- a) Air pollution: Composition of clean air, Global warming, Ozone layer depletion.
- b) Water Pollution: Fresh and Marine water pollution
- c) Noise Pollution
- d) Soil pollution
- e) Bio degradable and Non Bio degradable wastes
 - Air (prevention & Control of Pollution) Act.
 - Environmental Protection Act
 - Water (Prevention & Control of pollution) Act
 - Environmental movements - Green peace and Chipco,
 - Role of State & Central pollution Control Boards.

REFERENCE BOOKS:

1. Basic of Environmental Science. Vijajalakhmi, Murugesan and Sukumaran - Manonmaniam Sundaranar University publications.
2. Environmental Studies. John de Brito, Victor, Narayanan and Patric Raja - published by St. Xavier's College, Palayamkottai.
3. Environmental Science and Biotechnology. A.G. Murugesan and C. Raja Kumar - MJP Publishers.
4. Fundamental of Environmental pollution - Krishnan Kannan - Chand & Company Ltd., New Delhi 1997.
5. Environmental Studies. S. Muthiah, Ramalakshmi publications, Tirunelveli.
6. Environmental Studies. V.M. Selvaraj, Bavani Publications, Tirunelveli.

II SEMESTER			
VE1	VALUE EDUCATION – I		15USVE2A
Hrs/ Week: 2	Hrs/ Sem: 30	Hrs/ Unit: 6	Credits: 1

Objectives:

1. To inculcate moral values in the minds of students.
2. To teach ethical practices to be adopted by students in their life.
3. To make students honest and upright in their life.

UNIT I

Islam – Meaning – Importance – A complete Religion – The religion accepted by God – Five Pillars of Islam – Kalima – Prayers – Fasting – Zakat – Haj.

Iman – Monotheism – Angels – Books – Prophets – Dooms Day – Life after death – Heaven and Hell.

UNIT II

Quran – The Book of Allah – Wahi – Revelation to Prophet Muhammad(sal) – Compilation – Preservance – Structure – Content – Purpose – Source of Islamic Law– Sura Fathiha , Kafirun, Iqlas, Falakh and Nas.

UNIT III

Hadith – Siha Sitha – Buhari – Muslim – Tirmithi – Abu Dawood – Nasai – Ibn Maja – Collection of Hadith – Meaning of 40 Hadith.

UNIT IV

Life History of Prophet Muhammad (sal) – Aiamul Jahiliya – Prophet’s Childhood and Marriage – Prophethood – Life at Mecca – Life at Medinah – Farewell Address – Seal of Prophethood.

UNIT V

Good character – Etiquettes – Halal and Haram – Duties towards Allah – Duties towards fellow beings – Masnoon Duas.

REFERENCE BOOKS:

1. V.A. Moahmed Ashrof – Islamic Dimensions – Reflection and Review on Quranic Themes.
2. The Presidency of Islamic Researchers – Revised & Edited – The Holy Quran.
3. M. Manzoor Nomani – Islamic Faith & Practice.
4. Abdul Hasan Ali Nadvi – Muhammad Rasulullah.
5. K. Ali – A Study of Islamic History.
6. Abdul Rahuman Abdullah – Islamic Dress code for Women.
7. Dr. Munir Ahamed Mughal – Code For Believers.
8. Abdul Malik Mujahid – Gems and Jewels.

II SEMESTER			
VE2	VALUE EDUCATION – II		15USVE2B
Hrs/ Week: 2	Hrs/ Sem: 30	Hrs/ Unit: 6	Credits: 1

UNIT I

Individual Morality – Objective of Moral life – Living in accordance with the code of Morality – the goodness of Morality – Morality and *Thirukural*- The need for faith.

UNIT II

Adherence to higher code of Morality – Fear of God – Good Moral Values – Duty to Parents – Teacher, respecting elders – Moral Etiquettes – Right-minded Principle – High Principles for Proper conduct.

UNIT III

Inculcating good attitudes – Open mindedness – Morale – analysing the pros and cons of good and bad – Service to others – Mind Power, tolerance, respecting others, showing love to others, patience – tranquility – Modesty, kindness and forgiveness.

UNIT IV

Quotations and moral Stories expressing Good characters of Great personalities – Life History of Great people: Mahatma Gandhi, Abraham Lincoln, Dr. A.P.J. Abdul Kalam.

UNIT V

Truth, the importance of uprightness, integrity, friendship – Health awareness on Alcohol and drug abuse – inculcating reading habit – reading good books – Hygiene – Dowry – Corruption.

TEXTBOOK:

Publication of Sadakathullah Appa College.

SCHEME OF EXAMINATIONS UNDER CBCS (2015 - 2018)

The medium of instruction in all UG and PG courses is English and students shall write the CIA Tests and Semester Examinations in English. However, if the examinations were written in Tamil, the answer papers will be valued.

**DISTRIBUTION OF MARKS FOR CIA AND SEMESTER EXAMINATIONS
UNDERGRADUATE, CERTIFICATE & DIPLOMA COURSES**

SUBJECT	TOTAL MARKS	CIA TEST	SEMESTER EXAMINATION	PASSING MINIMUM		
				CIA TEST	SEM. EXAM.	OVER ALL
Theory	100	25	75	Nil	30	40
Practical	100	40	60	Nil	24	40
Project	100	Nil	Report - 60 marks Viva Voce - 40 marks	Nil	40	40

POSTGRADUATE COURSES

SUBJECT	TOTAL MARKS	CIA TEST	SEMESTER EXAMINATION	PASSING MINIMUM		
				CIA EXAM.	SEM. EXAM.	OVER ALL
Theory	100	25	75	nil	38	50
Practical	100	40	60	nil	30	50
Project	100	nil	Report - 60 marks Viva Voce - 40 marks	nil	50	50

DIVISION OF MARKS FOR CIA TEST

SUBJECT	MARKS	ASSIGNMENT FOR UG / ASSIGNMENT OR SEMINAR FOR PG	REGULARITY	RECORD NOTE	TOTAL MARKS
Theory	20	5	--	--	25
Practical	30	--	5	5	40

1. The duration of each CIA Test is ONE hour and the Semester Examination is THREE hours.
2. Three CIA tests of 20 marks each will be conducted and the average marks of the best two tests out of the three tests will be taken.
3. The I test will be based on the first 1.5 units of the syllabus, the II test will be based on the next 1.5 units of the syllabus and the III test will be based on the next 1.5 units of the syllabus.
4. Two assignments for Undergraduate, Certificate, Diploma and Advanced Diploma Courses and two assignments OR two seminars for Postgraduate Courses.
5. The duration and the pattern of question paper for practical examination may be decided by the respective Boards of Studies. However, out of 60 marks in the semester practical examination, 10 marks may be allotted for record and 50 marks for practical.
6. Three internal practical tests of 25 marks each will be conducted for science students in the even semester and the best two out of the three will be taken. The total 50 marks of the best two tests will be converted to 30 by using the following formula:

$$\left(\begin{array}{c} \text{Marks secured in the first best Practical Test (Out of 25)} \\ + \\ \text{Marks secured in the next best Practical Test (out of 25)} \end{array} \right) \times 0.6$$
7. The Heads of Science Departments are requested to keep a record of attendance of practicals for students to assign marks for regularity.

QUESTION PAPER PATTERN FOR CIA TEST (THEORY)

Duration: 1 Hr

Maximum Marks: 20

Section	Question Type	No. of Questions & Marks	Marks
A	No Choice Answer should not exceed 75 words	2 Questions 2 marks each	2 x 2 = 4
B	Internal choice (Either or type) Answer should not exceed 200 words	2 Questions 4 marks each	2 x 4 = 8
C	Open Choice (Answer ANY ONE out of Two) Answer should not exceed 400 words	1 Question 8 marks	1 x 8 = 8
TOTAL			20 MARKS

QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION (THEORY)

Duration: 3 Hrs

Maximum Marks: 75

Section	Question Type	No. of Questions & Marks	Marks
A	No Choice Answer should not exceed 75 words	10 Questions - 2 marks each (2 Questions from each unit)	10 x 2 = 20
B	Internal choice (Either or type) Answer should not exceed 200 words	5 Questions with internal choice. Each carries 5 marks (Two questions from each unit)	5 x 5 = 25
C	Open Choice (Answer ANY THREE out of FIVE) Answer should not exceed 400 words	3 Questions out of 5 - 10 marks each (1 Question from each unit)	3 x 10 = 30
TOTAL			75 MARKS