

# COURSES HAVING FOCUS ON EMPLOYABILITY/ ENTREPRENEURSHIP/ SKILL DEVELOPMENT

Skill

Employability


Entrepreneurship





**Subhash Chandra Bose Shixan Sankul, Chh-5,  
Children's University, Sector 20, Gandhinagar,  
Gujarat**

July-2023

## Skill

	<b>Children's University – Gandhinagar</b>	Academic Year 2022-23				
<b>Certificate Course in Instrument Music (Tabla/Harmonium/Keyboard)</b>						
<b>CCIMTT-101 : General theory of Tabla</b>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Credit</td> <td style="width: 10%;">4</td> </tr> <tr> <td>Hours</td> <td>64</td> </tr> </table>	Credit	4	Hours	64
Credit	4					
Hours	64					
<b>Objectives :</b> 1) Impart knowledge about the basic framework of TablaVadya and Vaadan. 2) Introduce students to the various percussion instruments of India. 3) Introduction to the Notation System (how to read, write and understand) 4) Introduce students to the different terminologies of Tabla.						
<b>Unit-1</b>	<b><u>Introduction to the basic terminologies of Tabla</u></b>  ❖ Defination of the following terms : Taal, Laya, Matra, Vibhag, Sam, Tali, Khali, Kaida, Palta, Avartan, Tukda.	16 hours				
<b>Unit-2</b>	<b><u>Knowledge about the mechanism of Tabla&amp;Baya</u></b>  ❖ Detail study about the various parts of Tabla and Baya and its usability.	16 hours				
<b>Unit-3</b>	<b><u>Introduction to the Pt.Bhatkhande Notation System</u></b>  ❖ Basic information about the notation system ❖ System of writing different taals in single,dugun, tigung and chaugun	16 hours				
<b>Unit-4</b>	<b><u>Introduction to the various Indian Percussion Insruments</u></b> ❖ Brief notes on the following instruments : Pakhawaj,Dholak, Naal, Khol . ❖ Usability of the following Percussion instruments	16 hours				
<b>REFERENCES</b>						
1.	TaalParichay Part 1to 4 by Pt. GirishchandraShrivastav					
2.	TaalKosh by Pt. GirishchandraShrivastav					
3.	BharatiyaSangeetVadya by					
Course Co-ordinator : <b>Dr. ChiragSolanki</b> , Assistant Professor, Department of Vidyaniketan, Children's University - Gandhinagar. Mobile : +91 9558268585						

 <p>Children's University सत्यम् ऋतम् बृहत्</p>	<b>Children's University – Gandhinagar</b>	Academic Year 2022-23	
<b>Certificate Course in Instrument Music (Tabla/Harmonium/Keyboard)</b>			
<b>CCIMTP-102 : Practical Study of Tabla– I</b>		Credit	4
		Hours	128
<b>Objectives :</b> 1) Impart knowledge about Taal Dadra, Keherva and Teentaal. 2) Understanding of various compositions of Tabla and its padhant (systematic recitation) 3) Introduce students to the different Gharanas and Eminent artists of Tabla			
<b>Unit-1</b>	<b><u>Introduction to Dadra and Keherva</u></b>  ❖ Introduction to basic syllables of dadra and keherva. ❖ Recitation of syllables in thah, dugun and chaugun ❖ Variations in both the taals and its usability. ❖ Simple Laggis in both the Taals	32hours	
<b>Unit-2</b>	<b><u>Introduction to Teentaal</u></b>  ❖ Introduction to basic syllables of Teentaal. ❖ Recitation of syllables in thah, dugun and chaugun ❖ Basic kayda in teentaal with five paltas and tihai. ❖ Tihais in teental from different matras.	32hours	
<b>Unit-3</b>	<b><u>Introduction to various compositions of Tabla with examples</u></b>  ❖ Mohra ❖ Mukhda ❖ Tukda ❖ Chakradhaar	32hours	
<b>Unit-4</b>	<b><u>Introduction to basic gharanas of Tabla and its eminent artists</u></b>  ❖ Introduction to the word Gharana ❖ Introduction to Delhi and Ajrada Gharana of Tabla ❖ Lifesketches of 1) Ut.Nathu Khan 2) Ut.Habibuddin Khan	32hours	
<b>REFERENCE BOOKS</b>			
1.	Taal Parichay Part 1 to 3 by Pt. Girishchandra Shrivastav.		
2.	Taalkosh by Pt. Girishchandra Shrivastav		
3.	Bharatiya Sangeet Vadya by Dr. Lalmani Mishra		
4.	Tabla aur Pakhawaj ke Gharane evum Paramparaye by Dr. Aban Mistry		
Course Co-ordinator : <b>Dr. Chirag Solanki</b> , Assistant Professor, Department of Vidyaniketan, Children's University - Gandhinagar. Mobile : +91 9558268585			

	<b>Children's University – Gandhinagar</b>	Academic Year 2022-23	
<b>Certificate Course in Instrument Music(Tabla/Harmonium/Keyboard)</b>			
<b>CCIMTP - 103: Practical Study of Tabla – II</b>		Credits	4
		Hours	128
<b>Objectives :</b> 1) Impart knowledge about TaalRoopak and Jhaptaal. 2) Develop skills of Accompaniment with different genres of Music. 3) Develop sense of playing composition in systematic manner in Roopak and Jhaptaal			
<b>Unit-1</b>	<b><u>Introduction to TaalRoopak and Jhaptaal</u></b>  ❖ Introduction to basic syllables of Roopak and Jhaptaal ❖ Recitation of syllables in thah, dugun and chaugun ❖ Variations in both the taals and its usability. ❖ Tihai in both the Taal from different matras	32 hours	
<b>Unit-2</b>	<b><u>Detail study in TaalRoopak</u></b> ❖ One Kayda in Taal Ropak with five paltas and tihai ❖ Simple mukhda and mohra in taalRoopak ❖ Simple Tukda in TaalRoopak	32 hours	
<b>Unit-3</b>	<b><u>Detail study in TaalJhaptaal</u></b> ❖ One Kayda in TaalJhaptaal with five paltas and tihai ❖ Simple mukhda and mohra in taalJhaptaal ❖ Simple Tukda in TaalJhaptaal	32 hours	
<b>Unit-4</b>	<b><u>Introduction to Accompaniment with different forms of Music</u></b>  ❖ Accompaniment with Classical Vocal Music ❖ Accompaniment with Light Vocal Music ❖ Accompaniment with Instrumental Music ❖ Accompaniment with Dance	32 hours	
<b>REFERENCES</b>			
1.	TaalParichay Part 1to 4 by Pt. GirishchandraShrivastav.		
2.	Taalkosh by Pt. GirishchandraShrivastav		
3.	BharatiyaSangeetVadya by		
Course Co-ordinator : <b>Dr. ChiragSolanki</b> , Assistant Professor, Department of Vidyaniketan, Children's University - Gandhinagar. Mobile : +91 9558268585			

**Children's University, Gandhinagar**  
**Department of Vidyaniketan**  
**Certificate Course**  
**Subject: - VOCAL MUSIC**

Course Title : <b>Certificate Course in vocal music</b>	
Course Code : CCVM	Credits : 12
Department : Vidyaniketan	Faculty : Music
Admission Eligibility : Std. 5 <sup>th</sup> Pass	Co-requirement: Course Code : : CCVM
Hours of learning: 272 (Practical – 160 & Theory – 112 Hours)	
Student quota : <b>35</b>	
Course Type : Certificate Course Main/Elective/ Objective / Foundation	

**2. Curriculum overview and objectives :**

**Curriculum overview :**

The course is specifically designed to inculcate an interest in music in children and students, which can contribute to the holistic development of a new generation of Indians. The course mainly focuses on vocal skills to enable learners to acquire skills that enable him / her to work from an artistic perspective in the field of education from pre-primary education to higher education. This course emphasizes the transformation of ancient Indian art and modern art.

This course is designed to keep our culture and heritage alive in the coming time and to innovate in various fields of art.

**Curriculum Objectives:**

- The student connects with the art of music through the efforts of tone and rhythm instrumentation from his childhood.
- The student participates in his / her co-curricular activities very easily and quickly understands and absorbs various subjects.
- In order to make sense of the statement that every child has a latent power, he has been cultivating vocal skills since his student days.
- Our Indian heritage recognizes and introduces a diverse culture, singing, art heritage and artists as well as takes pride in it and creates a noble value of protecting it.
- The student enjoys the company of music from his childhood to eternity and experiences eternal bliss in the place of the frustration felt by the students in today's time.

Unit	Topic	Content	Unit wise SLO	Hours
1	Understanding the words used in music	1.1 Music, Nad, Sound and Noise 1.2 Swar -Alankar,Saptak, rhythm, Taal,Matra, Sam, Tali, Khali, Taal Section , Frequency 1.3 Aaroh, Avroh, Pakad., Sthai, Stranza 1.4 Raag, Vadi-Samvadi , Anuvadi Vivadi, ,Alankar And Taan	Be aware of the importance of music and the different words used in music.	16
2	Understanding the Raag Gayki (Singing)	1.1 Sargam Song 1.2 Khyal Gayaki Chhota Khyal and Bada Khyal 1.3 Tarana	Familiarize yourself with the types of classical music and its specialties.	08
3	Understanding the types of folksong	3.1 Terminology of Folksong 3.2 Bhajan, Kirtan, Dhol & Lullabies Lagnageet & Marsiya	Will introduce the types of folk music and its features	08
4	Introduce of Musician and Instrument	3.1 Introduction to musician and Biography 3.2 Introduction of Gujarat musicians 3.3 Musical instruments and its instrumentalists	Develop an understanding of the instruments used in music. Will receive information about musicians	16
<b>Total Hours</b>				<b>48</b>

**Paper Code : - CCVMT - 102      Paper Name : - Introduce of Swar, Raag & Taal      Credit – 3**

<b>Unit</b>	<b>Topic</b>	<b>Content</b>	<b>Unit wise SLO</b>	<b>Hours</b>
1	Introduction to notation	2.1 notation pf Pandit Vishnu Narayan Bharkhande 2.2 Indian Music Method 2.3 Western Music Method 2.4 Teaching Swar in written form	The concept of Indian notation and method will be understood.	16
2	Introduce of Raag	1.1 Raag Bhupali 1.2 Raag Yaman To teach the information of all the above ragas as well as to teach the captives of ragas in written form	Introduce the features of ragas and understand the script of Bandish.	08
3	Introduce of Taal	2.1 Taal Trital 2.2 Taal Dadra 2.3 Taal kaherva 2.4 Taal Ektal Teaching information of all the above locks and teaching the locks in written form	The rhythm becomes stronger and the understanding of rhythm and its script will develop.	08
4	Essay	4.1 A brief history of music 4.2 The relationship of Ras and rhythm 4.3 Rule of song composition	Cultivate an understanding of the divinity in Indian music.	16
<b>Total Hours</b>				<b>48</b>

Unit	Topic	Content	Unit wise SLO	Hours
1	Swar	1.1 Singing with seven pure Swar to teach. 1.2 Teaching pure Swar in rhythmic Singing. 1.3 Taal Trital based on pure Swar Singing in Singal and Double rhythms to teach.	Will learn to sing with seven pure Swar and The throat will open	16
2	Taal	2.1 Taal Trital 2.2 Taal Dadara 2.3 Taal Kaherava 2.4 Taal Ektaal To teach all the above Taals in Tali-Khali as well as in Singal and double rhythm	Understand rhythms experimentally and learn to sing in rhythm	32
3	Alankar	4.1 Singing rhythmically Pure Swaras Alankars to teach. 4.2 To teach singing Pure Swaras Alankars in Singal & Double rhythm. 4.3 Creating Alankars and teaching singing	Learn to read and write the Swar as well as develop a creative outlook in music	32
4	Geet	4.1 Prayer 4.2 Patriotic song 4.3 Geet 4.4 Folk Song	Introduce songs and learn to sing	16
<b>Total Hours</b>				<b>96</b>



Unit	Topic	Content	Unit wise SLO	Hours
1	Singing of Raag Bhupali Swra	1.1 Aaroh 1.2 Avaroh 1.3 Pakad 1.4 Swar Vistar	Will understand the singing of the raga	16
2	Singing of Bandish in Raag Bhupali	2.1 Swarmalika of Raag Bhupali 2.2 Chhota Khyal of Raag Bhupali 2.3 Introduce of Different Songs in Raag Bhupali	Bandish of Raag as well as learn to sing the songs sung in it	32
3	Singing of Raag Yaman	3.1 Aaroh 3.2 Avaroh 3.3 Pakad 3.4 Swar Vistar	Will understand the singing of the raga	16
4	Singing of Bandish in Raag Yaman	2.1 Swarmalika of Raag Yaman 2.2 Chhota Khyal of Raag Yaman 2.3 Introduce of Different Songs in Raag Yaman	Bandish of Raag as well as learn to sing the songs sung in it	32
<b>Total Hours</b>				<b>96</b>

**Reference Books**

Syllabus - Bruhad Gujarat Sangeet Samiti (Praveshika Purna)

Sanpurna Visharad – Bruhad Gujarat Sangeet Samiti, Author – Dr. Sefali Shah

Sangeet kanthya and Swarvadya Pathyapustak, Gujarat State Tax book Board – Std.9,10,11,12

**Exam Marking Style :**

Exam Writing					
Paper	Paper Name	Code	Internal Marks	External Marks	Total
1	Sangeet Pravesh	CCVMT - 101	20/50	20/50	40/100
2	Swar,Raag & Taal Parichay	CCVMT - 102	20/50	20/50	40/100
Exam Practical					
1	Swar & Taal Sadhana	CCVMP – 103	20/50	20/50	40/100
2	Raag Sadhana	CCVMP – 104	20/50	20/50	40/100
<b>Grand Total</b>			<b>80/200</b>	<b>80/200</b>	<b>160/400</b>

**Contact Hours & Credits :**

Hours & Credits	CCVMP– 101	CCVMP – 102	CCVMT -103	CCVMT - 104	TOTAL
Contact Hours	32	32	64	64	192
Contact Credits	2	2	2	2	8
Non- Contact Hours	16	16	32	32	96
Non- Contact Credits	1	1	1	1	4
Total Hours	48	48	96	96	288
<b>Total Credits</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>12</b>

Master of Social work	
Course code	Course (Paper) Title
MSWCC101	Core-History, philosophy and Ideology of social work
MSWCC102	Working with people
MSWCC103	Communication skill
MSWEC104	Women and child welfare
	OR
MSWEC104	Family social work
MSWIC105	Interdisciplinary-Indian sociology for Indian social work
	OR
MSWIC105	Psychopathology
MSWP-106	Field Work Practicum Two Days in week Agency Visit Report Writing-75 marks viva-voce-75 marks

**Emplopability**

<b>Course code</b>	<b>Course (Paper) Title</b>
MSWCC201	Social Work Research
MSWCC202	Rural Community &Panchayati Raj
MSWCC203	Human Resource Management
MSWEC204	Social Defense &Correctional Services
	OR
MSWEC204	Family Social Work
MSWIC205	Human Rights & Justice System
	<u>Field work (Rural Area)-Two Days in a Week</u> viva- Voce= 75 MarksReport Evaluation=75 Marks
MSWIC205	<u>Rural/Tribal Camp(Minimum 5 working Days)</u> Viva- Voce= 25 Marks ReportEvaluation=25 Marks

<b>Course code</b>	<b>Course (Paper) Title</b>
MSWCC301	Human Growth & Development
MSWCC302	Urban Development
MSWCC303	Industrial Relation & Labour Welfare
MSWEC304	Politically Economy & Planning in India
	OR
MSWEC304	Management of Development & Welfare Services
MSWIC305	Corporate Social Responsibilities
	OR
MSWIC305	Disaster Management
MSWP306	<u>Field work – Two Days in a week</u> <u>(GO/NGO/Co-Op/Industry)</u> Viva-Voce= 75Marks Report Evaluation=75 Marks

Course code	Course (Paper) Title
MSWCC401	Social work for differently able and deprived group
MSWCC402	Counseling practices
MSWCC403	Medical and Psychiatric Social Work
MSWEC404	Social Work Personnel Training & Development
	OR
MSWEC404	Management of NGO's
MSWP405	<u>Block Placement(30 Working Days)</u> Viva-Voce= 75 Marks Report Evaluation=75 Marks
	<u>Dissertation</u> Theory= 100Marks Viva-Voce =100Marks

## Emplopability

### M A Child Psychology

Skill Based Program with Effect From 2017 and from time to time

Sr. No .	Program name	Sem	Paper name & Code	Related to Skills/employment
1.	M A Child Psychology	II	Research Project MAPSYEG 205A	Research
2.	M A Child Psychology	II	Counselling Psychology	Counselling/Employment
3.	M A Child Psychology	I & II	Research Methods in child Psychology	Research
4.	M A Child Psychology	I & II	Statistics in psychology	Data Analysis
5.	M A Child Psychology	III & IV	Psychological Testing and Practical's	Behavioral problem
6.	M A Child Psychology	IV	Dissertation	Research/ Behavioral problems

## PGDSC-102 Guidance for Personality Development and Adjustment NSP

### Objectives:

After going through this course, students will be able to:

- Understand the life span development of human and development as life long process.
- Know about various factors affecting growth and development in context of counseling.
- Understand about concept and characteristics of personality.
- Discuss and explain about the various approaches of personality development.
- Understand about human behavior specifically about adjusted behavior and mal-adjusted behavior.
- Understand about various factors related to human development and personality development.

Unit	Guidance for Human Development and Adjustment	
<b>1</b>	<b>Personality: Concept and factors</b>	<b>DVV</b>
1.1	Concept of Personality, Types of Personality	
1.2	Growth and Development of Personality	
1.3	Factor affecting Personality Development	
1.4	Principles for Personality Development	
<b>2</b>	<b>Theories of Personality Development</b>	<b>ANP</b>
2.1	Psychoanalytic Theory of Personality Development	
2.2	Eric Erikson Theory of Personality Development	
2.3	Allport's Theory of Personality Development	
2.4	Meslow's Theory of Personality Development	
<b>3</b>	<b>Adjustment and Maladjustment</b>	<b>DR</b>
3.1	Meaning of Adjustment and Maladjustment	
3.2	Characteristics of Adjustment	
3.3	Barriers in Adjustment and role of teacher/counselor	
3.4	Principle of Adjustment	
<b>4</b>	<b>Defense Mechanism and Role of Motivation</b>	<b>MBJ</b>
4.1	Defense Mechanism: Meaning and Classification	
4.2	Projection, Compensation, Rationalization, Identification, Regression	
4.3	Motivation: Meaning, Concept and Nature	
4.4	Maslow's Self Actualization Theory	

### Practicum :-

1. Present seminar on given topic related to life span development
2. Prepare exhibition in group of five on various aspect of human development and remedies for the proper development.
3. Prepare a report on two well known personalities with distinguished personality type and its impact on success in life/profession

4. Write an essay on importance of adjustment in life with special reference to student life
5. Prepare article on various defense mechanism and remedies thereof

### **References**

- Adler A. (1927), The Practice and Theory of Individual Psychology, Harkotra Brass Jovanivak, New York
- Allport, G. (1961), Pattern and Growth in Personality, HotwrinheartWiston, Newyork
- Beck, L. E. (2003), Child Delegation Group (Sixth Edition). Pritas-Hall of India, New Delhi.
- Fay Dumannay, R. s. (2000), Day Values Across the Life Pen (Financial Instruction) Princes - Hall, You Jasir.
- Harlock, E. B. (1980), Developmental Psychology: A Life Pan Approach (fifth edition). Tata McGraw-Hill Limited, New York, New Delhi.
- Sa Talk, J. D.U. (2001), Child development (Ninth Edition). McGraw-Hill, York

# ચિલ્ડ્રન્સ યુનિવર્સિટી, ગાંધીનગર

સર્ટિફિકેટ કોર્સ



કોર્સ ઓન કમ્પ્યુટર કન્સેપ્ટ (CCC)

વર્ષ : ૨૦૨૧-૨૦૨૨

**SKILL DEVELOPMENT CENTER**

**SCHOOL OF INDIC STUDIES**

**CHILDREN'S UNIVERSITY**

**GANDHINAGAR**

## પ્રકરણ ૧ : કમ્પ્યુટરનો પ્રાથમિક પરિચય

- ૧.૧ કમ્પ્યુટર ની વ્યાખ્યા
- ૧.૨ કમ્પ્યુટરની પેઢીઓ અને પ્રકાર
- ૧.૩ કમ્પ્યુટરની લાક્ષણિકતા
- ૧.૪ કમ્પ્યુટર ડિવાઈસ
  - ૧.૪.૧ સ્ટોરેજ
  - ૧.૪.૨ ઈનપુટ
  - ૧.૪.૩ આઉટપુટ
- ૧.૫ સોફ્ટવેર અને તેના પ્રકાર
- ૧.૬ કમ્પ્યુટરના ઉપયોગો અને મર્યાદા
- ૧.૭ લેખિત અને પ્રાયોગિક સ્વાધ્યાય

## પ્રકરણ ૨ : MS- Windows 7

- ૨.૧ વિન્ડોઝ ૭ ઓપરેટીંગ સિસ્ટમ
- ૨.૨ ડેસ્કટોપનો પરિચય
  - ૨.૨.૧ ટાસ્કબાર
  - ૨.૨.૨ સ્ટાર્ટ મેનુ
  - ૨.૨.૩ ગેઝેટ
  - ૨.૨.૪ ટૂલબાર
- ૨.૩ ડાયલોગ બોક્સ
- ૨.૪ વિન્ડોઝ એસેસરીઝ
- ૨.૫ નોટિફિકેશન એરિયા
- ૨.૬ સિક્યુરીટી સેટિંગ્સ
- ૨.૭ સિક્યુરીટી સોફ્ટવેર
- ૨.૮ લેખિત અને પ્રાયોગિક સ્વાધ્યાય

## પ્રકરણ – ૩ MS-Word 2010

- ૩.૧ MS-Word નો પરિચય
- ૩.૨ ડોક્યુમેન્ટની બનાવટ
- ૩.૩ ડોક્યુમેન્ટ ફોર્મેટિંગ
- ૩.૪ ડોક્યુમેન્ટ પ્રિન્ટીંગ
- ૩.૫ લેખિત અને પ્રાયોગિક સ્વાધ્યાય



## પ્રકરણ – ૪ MS-Excel 2010

- ૪.૧ MS-Excel પરિચય
- ૪.૨ ડેટા ઇન્સર્ટ
- ૪.૩ ડેટા ફોર્મેટિંગ
- ૪.૪ સ્પ્રેડશીટ સેવિંગ
- ૪.૫ રો, કોલમ અને સેલ
- ૪.૬ ફોર્મ્યુલા અને ફંક્શન
- ૪.૭ ટેબલ બનાવવું અને ફોર્મેટ કરવું
- ૪.૮ સોર્ટિંગ અને ફિલ્ટર
- ૪.૯ પ્રિન્ટિંગ
- ૪.૧૦ પિવોટ ટેબલ
- ૪.૧૧ ચાર્ટ અને ગ્રાફિક્સ
- ૪.૧૨ લેખિત અને પ્રાયોગિક સ્વાધ્યાય

## પ્રકરણ – ૫ MS-Power Point 2010

- ૫.૧ MS-Power Point નો પરિચય
- ૫.૨ પ્રેઝન્ટેશન બનાવવું
- ૫.૩ પ્રેઝન્ટેશન સેવિંગ
- ૫.૪ પ્રેઝન્ટેશન પ્રિન્ટિંગ
- ૫.૫ સ્લાઇડ ટ્રાન્ઝિશન
- ૫.૬ સ્લાઇડ સ્માર્ટઆર્ટ્
- ૫.૭ સ્લાઇડ ચાર્ટનો ઉપયોગ
- ૫.૮ સ્લાઇડ એનિમેશન
- ૫.૯ સ્લાઇડ હાયપર લીંક
- ૫.૧૦ સ્લાઇડમાં ઇક્વેશન
- ૫.૧૧ સ્લાઇડ શો
- ૫.૧૨ લેખિત અને પ્રાયોગિક સ્વાધ્યાય

## પ્રકરણ – ૬ કમ્પ્યુટર નેટવર્કિંગ

- ૬.૧ કમ્પ્યુટર નેટવર્કનો પરિચય
- ૬.૨ કમ્પ્યુટર નેટવર્કના પ્રકાર અને ફાયદા
- ૬.૩ પ્રસારણના વિવિધ માધ્યમ
- ૬.૪ કમ્પ્યુટર નેટવર્કના ઉપકરણો
- ૬.૫ કમ્પ્યુટર નેટવર્ક ટોપોલોજી
- ૬.૬ નેટવર્ક મોડલ
- ૬.૭ લેખિત અને પ્રાયોગિક સ્વાધ્યાય

## પ્રકરણ – ૭ ઈન્ટરનેટ અને તેના ઉપયોગો

- ૭.૧ ઈન્ટરનેટ એટલે શું?
- ૭.૨ ઈન્ટરનેટના વિવિધ ઉપયોગ
- ૭.૩ ઈન્ટરનેટ એક્સ અને ડોમેઇન
- ૭.૪ ઈન્ટરનેટ કનેક્શન માટેની પદ્ધતિઓ
- ૭.૫ બ્રાઉઝર અને તેના પ્રકાર
- ૭.૬ આઉટલુક
- ૭.૭ ઈ-મેઇલ એકાઉન્ટ બનાવવું
- ૭.૮ ઈ-મેઇલમાં અટેચમેન્ટ
- ૭.૯ VPN (વર્ચ્યુઅલ પ્રાઇવેટ નેટવર્ક)
- ૭.૧૦ ઈન્ટરનેટ સુરક્ષા વિશે માહિતી
- ૭.૧૧ ફાયરવોલ અને તેનો ઉપયોગ
- ૭.૧૨ નેટવર્ક ટ્રબલશૂટિંગ
- ૭.૧૩ લેખિત અને પ્રાયોગિક સ્વાધ્યાય

DEPARTMENT OF GUJARATI  
CHILDREN'S UNIVERSITY, GANDHINAGAR



Emplopability

Structure With Effect From :June, 2020

Course Name : Proof Reading Certificate Course	
Total Credit:12	Total Paper :03

Teaching Days in week :03

Per Day Teaching Hours :03

Sr. No.	Paper Name	Credit	Total Teaching in Hours
1.	ગુજરાતી ભાષાનો પરિચય	04	64
2.	ગુજરાતી ભાષાનું બંધારણ અને વ્યાકરણ	04	64
3.	પ્રૂફરીડિંગ: સજ્જતા અને કાર્યક્ષેત્ર	04	64
Total		12	192 Hours



SYLLABUS EFFECTIVE FROM: JUNE, 2020

Programme: Proof Reading Certificate Course

Paper Code: CC101

Total Credit: 04

Title of Paper: ગુજરાતી ભાષાપરિચય

Weight age

યુનિટ:01	25%
<ul style="list-style-type: none"><li>● ગુજરાતી ભાષાનો ઉદભવ અને વિકાસ</li><li>● ગુજરાતી ભાષાનો ઉત્તર ભારતીય ભાષાઓ સાથેનો સંબંધ</li></ul>	
યુનિટ:02	25%
<ul style="list-style-type: none"><li>● ભાષા અને બોલી વચ્ચેની ભિન્નતા</li><li>● ગુજરાતની પ્રાદેશિક બોલીઓ<ol style="list-style-type: none"><li>1. ઉત્તર ગુજરાત (પટ્ટણી બોલી)</li><li>2. મધ્ય ગુજરાત (ચરોતરી બોલી)</li><li>3. દક્ષિણ ગુજરાત (સુરતી બોલી)</li><li>4. સૌરાષ્ટ્ર પ્રાંત (કાઠિયાવાડી બોલી)</li></ol></li></ul>	
યુનિટ:03	25%
<ul style="list-style-type: none"><li>● ગુજરાતી ભાષાનું શબ્દભંડોળ<ol style="list-style-type: none"><li>1. તત્સમ શબ્દો</li><li>2. તદ્ભવ શબ્દો</li><li>3. દેશ્ય શબ્દો</li><li>4. પર-પ્રાંતીય શબ્દો</li><li>5. વિદેશી ભાષાના શબ્દો</li></ol></li><li>● ગુજરાતી ભાષાની લિપિ</li></ul>	
યુનિટ:04	25%
<ul style="list-style-type: none"><li>● અસાઈમેન્ટ</li><li>● પ્રોજેક્ટ કાર્ય</li><li>● પ્રાયોગિક કાર્ય</li></ul>	

DEPARTMENT OF GUJARATI  
CHILDREN'S UNIVERSITY, GANDHINAGAR



SYLLABUS EFFECTIVE FROM: JUNE, 2020

Programme :Proof Reading Certificate Course

Paper Code:CC102

Total Credit:04

Title of Paper:ગુજરાતી ભાષાનું બંધારણ અને વ્યાકરણ

Weight age

યુનિટ:01	25%
<ul style="list-style-type: none"><li>● ગુજરાતી વર્ણમાળાનો પરિચય ( સ્વર અને વ્યંજન )</li><li>● ધ્વનિઘટક અને શબ્દઘડતર</li><li>● જોડણીના નિયમો</li><li>● અક્ષરશુદ્ધિ અને શબ્દશુદ્ધિ</li></ul>	
યુનિટ:02	25%
<ul style="list-style-type: none"><li>● જોડાક્ષરોના ઉચ્ચાર અને લેખન સમજ</li><li>● વાક્યશુદ્ધિ</li><li>● પદક્રમ અને પદસંવાદ</li><li>● વિભક્તિ</li></ul>	
યુનિટ:03	25%
<ul style="list-style-type: none"><li>● કૃદંત</li><li>● સંયોજકો અને સંધિ</li><li>● વિરામચિહ્નો</li><li>● નિપાતો</li></ul>	
યુનિટ:04	25%
<ul style="list-style-type: none"><li>● અસાઈમેન્ટ</li><li>● પ્રોજેક્ટ કાર્ય</li><li>● પ્રાયોગિક કાર્ય</li></ul>	

DEPARTMENT OF GUJARATI  
CHILDREN'S UNIVERSITY, GANDHINAGAR



SYLLABUS EFFECTIVE FROM: JUNE, 2020  
Programme :Proof Reading Certificate Course

Paper Code:CC103

Total Credit:04

Title of Paper:પ્રૂફરીડિંગ: સજ્જતા અને કાર્યક્ષેત્ર

Weight age

યુનિટ:01	25%
<ul style="list-style-type: none"><li>પ્રૂફરીડિંગની નિશાનીઓનો પરિચય</li><li>પ્રૂફરીડિંગની નિશાનીઓનો સ્થાનનિર્દેશ</li></ul>	
યુનિટ:02	25%
<ul style="list-style-type: none"><li>પ્રૂફરીડિંગ કરતી વખતે ધ્યાનમાં રાખવાની બાબતો</li><li>પ્રૂફરીડરની સજ્જતા</li></ul>	
યુનિટ:03	25%
<ul style="list-style-type: none"><li>વ્યવસાયિક ધોરણે પ્રૂફરીડરની આવશ્યકતાઓ</li><li>આધુનિક યુગમાં પ્રૂફરીડિંગની ભૂમિકા</li></ul>	
યુનિટ:04	25%
<ul style="list-style-type: none"><li>અસાઈમેન્ટ</li><li>પ્રોજેક્ટ કાર્ય</li><li>પ્રાયોગિક કાર્ય</li></ul>	

## CHILDRENS UNIVERSITY COURSE TEMPLATE

### SEMESTER-WISE DISTRIBUTION OF CREDITS FOR PG FN COURSES

Course No.	Course Title	Credits
<b>SEMESTER I</b>		
CCFN 101	Human Nutrition	4
CCFN 102	Diet Therapy	4
CCFN 103	Practical 1	4
ECFN 104-A	Food Preservation and Basic Microbiology	4
ECFN 104-B	Or Nutritional Epidemiology	
EGFN 105	Physiology (Basic)	4
<b>FN 106</b>	<b>Prerequisite Course for B.A. Home Science and B.R.S. Home Science Students</b> Biology, Chemistry, Physics	
<b>SEMESTER II</b>		
CCFN 201	Maternal and Child Nutrition	4
CCFN 202	Food Science I	4
CCFN 203	Practical 2	4
ECFN 204-A	Project OR	4
ECFN 204-B	Nutritional Biochemistry	
EGFN 205	Research Methodology And Bio statistics	4
<b>SEMESTER III</b>		
CCFN 301	Public Health Nutrition	4
CCFN 302	Food Science II	4
CCFN 303	Practical 3	4
ECFN 304-A	Food Production Costing & Hospital Management	4
ECFN 304-B	OR Instrumentation	
EGFN 305	Prenatal care and Development	4
<b>SEMESTER IV</b>		
CCFN 401	Clinical Therapeutic Nutrition	4
CCFN 402	Modern Cookery	4
CCFN 403	Practical 4	4
ECFN 404-A	Dissertation OR	4
ECFN 404-B	Project	
EGFN 405	Internship	4
<b>TOTAL</b>		<b>80</b>

**COURSE OUTLINES FOR COURSES OFFERED IN  
SEMESTER I**

**Entrepreneurship**





**Children's University**  
**School of Nutrition and Health**  
**Department of Home Science**  
**Gandhinagar.**

**ACADEMIC YEAR**  
**2020-2021**

**M.Sc.- FN**

<b>Year</b>	<b>I</b>	<b>Course Type: Core Compulsory</b> <b>Course No:CCFN101</b> <b>Course Title: Human Nutrition</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>I</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		<ol style="list-style-type: none"><li>1. To enable the students to understand Needs of nutrition for human and their role in living healthy life</li><li>2. To present and discuss methods of determining nutrient requirements for humans and discuss the current figures of nutritional requirements</li><li>3. To enable them to translate the knowledge into practical guidelines for dietary needs of humans at different stages of life</li><li>4. To enable them to understand the application of the recent knowledge of nutrition.</li></ol>		

**COURSE CONTENT / SYLLABUS-THEORY & PRACTICAL**

<b>Unit I</b>	<p><b>Energy Metabolism &amp; Carbohydrates</b></p> <ol style="list-style-type: none"><li><b>1. Energy:</b><ul style="list-style-type: none"><li>• Definition and Components of Energy Requirement</li><li>• Factors Affecting Energy Expenditure and Requirement</li><li>• Methods of Estimation of Energy Expenditure and Requirements</li><li>• Current recommendations for energy intake of different age, sex groups</li><li>• Disorders of energy metabolism : Obesity and under nutrition</li><li>• Short term and long term weight maintenance (Gut fill cues, Glucostat theory, Lipostattheory)</li></ul></li><li><b>2. Carbohydrates</b><ul style="list-style-type: none"><li>• Digestion, absorption and utilization ,</li><li>• Functions&amp;Classification of Carbohydrates</li><li>• Regulation of Blood Glucose Concentration</li><li>• Simple and Complex carbohydrates, Non-starch polysaccharides and fibre constituents and their role in Nutrition.</li><li>• Glycaemic Index , Glycaemic load and Satiety index: Clinical implications</li><li>• Disorders related to carbohydrate metabolism</li><li>• Modification of Carbohydrate Intake for Specific Disorder</li></ul></li></ol>
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<p><b>UnitII</b></p>	<p><b>Proteins&amp; Lipids</b></p> <p><b>1. Proteins</b></p> <ul style="list-style-type: none"> <li>• Classification, Food Sources</li> <li>• Digestion, Absorption and Transport, Functions</li> <li>• Improvement of Quality of Protein in the Diet</li> <li>• Human requirements for proteins (RDA)</li> <li>• Methods of Estimating and Assessing protein Requirements at Different StagesLife Cycle</li> <li>• Protein Deficiency</li> </ul> <p><b>2. Lipids</b></p> <ul style="list-style-type: none"> <li>• Basic Facts</li> <li>• Types of Fats and its Metabolism (digestion, absorption, transport)</li> <li>• Functions of Fat and Oils</li> <li>• Assessment of Lipid status</li> <li>• Nutritional Requirements of Fats and Oils, Visible and invisible fats in diets</li> <li>• Excessive Fat Intake: Changing Trends in Dietary IntakeEating Out</li> <li>• Diseases: Association and Preventive Measures</li> </ul>
<p><b>UnitIII</b></p>	<p><b>Fat Soluble Vitamins – A, D, E, K&amp; Water Soluble Vitamins (Thiamine, Riboflavin Niacin, Pyridoxine, Folic acid, Ascorbic acid, Biotin</b></p> <p><b>1. Fat Soluble Vitamins – A, D, E, K</b></p> <ul style="list-style-type: none"> <li>• Basic Facts</li> <li>• Structures of vitamins</li> <li>• Digestion, absorption, transport and metabolism</li> <li>• Food Sources of Vitamins</li> <li>• Bioavailability : Modulators</li> <li>• Function</li> <li>• Assessment of vitamin status</li> <li>• Interaction with other nutrients</li> <li>• Toxicity and deficiency</li> <li>• RDA</li> </ul> <p><b>2. Water Soluble Vitamins (Thiamine, Riboflavin ,Niacin, Pyridoxine, Folic acid, Ascorbic acid, Biotin</b></p> <ul style="list-style-type: none"> <li>• Basic Facts</li> <li>• Structures of vitamins</li> <li>• Digestion, absorption, transport and metabolism</li> <li>• Food Sources of Vitamins</li> <li>• Bioavailability : Modulators</li> <li>• Function</li> <li>• Assessment of vitamin status</li> <li>• Interaction with other nutrients</li> <li>• Toxicity and deficiency</li> <li>• RDA</li> </ul>

<b>Unit IV</b>	<b>Minerals (Calcium, Phosphorous, Iron, Copper, Zinc, Iodine)&amp; Trace elements (Selenium, Chromium, sodium, Potassium)</b> <ul style="list-style-type: none"> <li>• Sources</li> <li>• Digestion, absorption, transport, metabolism</li> <li>• Biochemical function</li> <li>• Deficiency and toxicity</li> <li>• RDA</li> <li>• Interaction with other nutrients</li> </ul>
<b>References</b>	
<b>Books</b>	
<ol style="list-style-type: none"> <li>1. Mahan KL and Stump SE (2007). Krause's Food and Nutrition Therapy (12th ed.).</li> <li>2. Saunders Publishing Shils ME, Olson JA, Shike M, Ross AC, Cabellaro B and Cousins RJ (2006). Modern nutrition in health and diseases. (10<sup>th</sup> ed.). Lippincott, Williams and Wilkins publications.</li> <li>3. Indian Council of Medical Research. Nutrient requirements and Recommended Dietary Allowances for Indians. Latest edition.</li> <li>4. Bredanier C. Advanced Nutrition</li> <li>5. Human energy requirement (2004). Report of a joint FAO/WHO/UNU Expert consultation, Rome, 17-24 October 2001. FAO, Food &amp; Nutrition technical Report series 1.</li> <li>6. Longvah, T., Ananthan, R., Bhaskarachary, K., &amp; Venkaiah, K. (2017). Food Composition Tables. Hyderabad: National Institute of Nutrition.</li> <li>7. ફાસ્ટમેન્ટલ્સ ઓફ ફૂડ્સ એન્ડ ન્યુટ્રિશન</li> </ol>	
<b>Journals</b>	
<ol style="list-style-type: none"> <li>1. Journal of Nutrition</li> <li>2. American Journal of Clinical Nutrition.</li> <li>3. International Journal of Food Science and Nutrition.</li> <li>4. Nutrition Research.</li> </ol>	



**Children's University**  
**School of Nutrition and Health**  
**Department of Home Science**  
**Gandhinagar**

**ACADEMIC YEAR**  
**2020-2021**

**M.Sc.-FN**

<b>Year</b>	I	<b>Course Type: Core Compulsory</b> <b>Course No: CCFN 102</b> <b>Course Title: Diet Therapy</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	I		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To enable the students to understand processes involved in nutritional care,</li> <li>2. To enable them to know purpose(s) of therapeutic diet adaptations,</li> <li>3. To enable them to understand relationship between nutrition and infection,</li> <li>4. To enable them to understand protocol for prescribing these nutritional support</li> </ol>			
<b>COURSE CONTENT / SYLLABUS-THEORY</b>				
<b>UNIT - I</b>	<b>Medical Nutrition Therapy</b> <ul style="list-style-type: none"> <li>• Definitions and Role of Dietician in Health Care <ul style="list-style-type: none"> <li>• Dietetics the Science and Art of Human Nutrition Care</li> <li>• Role of Dietician in Health Care</li> </ul> </li> <li>• The Nutrition Care Process (NCP) <ul style="list-style-type: none"> <li>• Nutrition Assessment</li> <li>• Nutritional Diagnosis</li> <li>• Nutrition Intervention</li> <li>• Nutrition Monitoring and Evaluation</li> <li>• Documentation</li> </ul> </li> <li>• Importance of Coordinated Nutritional and Rehabilitation Services</li> <li>• Patient Care and Counselling <ul style="list-style-type: none"> <li>• Patient Care</li> <li>• Counselling</li> </ul> </li> </ul>			
<b>Unit II</b>	<b>Therapeutic Diets</b> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Types of Dietary Adaptations for Therapeutic Needs</li> <li>• Normal Nutrition: A Base of Therapeutic Diet</li> <li>• Diet Prescription</li> <li>• Constructing Therapeutic Diets</li> <li>• Routine Hospital Diet <ul style="list-style-type: none"> <li>• Normal or General Diets</li> <li>• Liquid Diets</li> <li>• Soft Diets</li> </ul> </li> <li>• Mode of Feeding <ul style="list-style-type: none"> <li>• Oral Feeding</li> <li>• Tube or Enteral Feeding</li> <li>• Peripheral Vein Feeding</li> <li>• Total Parenteral Nutrition</li> </ul> </li> </ul>			

<p><b>Unit III</b></p>	<p><b>Nutritional Management in Fever and infection</b></p> <ul style="list-style-type: none"> <li>• Defence Mechanism in the Body</li> <li>• Nutrition and Infection</li> <li>• Metabolic Changes during Infection</li> <li>• Classification and Etiology of Fever infection</li> <li>• Typhoid</li> <li>• Chronic Fever / Infection <ul style="list-style-type: none"> <li>• Tuberculosis</li> <li>• HIV (Human Immuno Deficiency Virus) Infection and AIDS (Acquired Immune Deficiency Syndrome)</li> </ul> </li> </ul>
<p><b>Unit IV</b></p>	<p><b>Medical Nutritional Therapy in Critical Care</b></p> <ul style="list-style-type: none"> <li>• Nutritional management of Critically Ill</li> <li>• Special feeding method in nutritional Support <ul style="list-style-type: none"> <li>• <b>Enteral Nutrition</b>(EN) benefits advantages of EN Indications for enteric tube feeding for adults and children, Enteral feeds and their specific characteristics</li> <li>• <b>Parenteral Nutrition</b> Daily intravenous nutritional requirements in infants and children, PN products available in Indian market Transitioning to Oral Feeding</li> </ul> </li> <li>• Nutrition care in immune deficiency diseases <ul style="list-style-type: none"> <li>• Care during HIV aids</li> <li>• Care during Cancers</li> </ul> </li> </ul>
<p><b>Reference</b></p>	
<ol style="list-style-type: none"> <li>1. Robinson CH, Laer MR, Chenoweth WL and Garovich AE (1998). Normal and Therapeutic Nutrition (17th ed.). Macmillan Publishing Company, New York</li> <li>2. Mahan KL and Stump SE (2007). Krause's Food and Nutrition Therapy (12th ed.) Saunders Publishing</li> <li>3. Association of Physicians of India (1998). API Textbook of Medicine, Vol. I and II. Published by Association of Physicians of India</li> <li>4. થેરાપ્યુટિક ન્યુટ્રિશન By ભાવના વૈધ</li> <li>5. ફન્ડામેન્ટલ સબોફિઝિયોલોજી અને ન્યુટ્રિશન</li> </ol>	



**Children's University**  
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**Department of Home Science**  
**Gandhinagar.**

**ACADEMIC**  
**YEAR**  
**2020-2021**

**M.Sc.- FN**

<b>Year</b>	<b>I</b>	<b>Course Type: Core Compulsory</b>	<b>Credits</b>	<b>4</b>
		<b>Course No: CCFN103</b>		
		<b>Course Title: Practical-1</b>		
<b>Semester</b>	<b>I</b>		<b>Hours/wk</b>	<b>8</b>
<b>COURSE CONTENT / SYLLABUS- Practical</b>				
<b>Unit I</b>	<b>Human Nutrition</b>			
	<ol style="list-style-type: none"> <li>1. Plan and prepare normal Balance diet sheet.(for Adult Male, Female)</li> <li>2. Plan, prepare Recipe with low and high glycemic index foods and calculate its nutritive value</li> <li>3. Plan, prepare high Fiber and low Fiber Recipe and calculate its nutritive value</li> <li>4. Plan, prepare low Fat Recipe and calculate its nutritive value</li> <li>5. Plan, prepare high Protein Recipe and calculate its nutritive value</li> </ol>			
<b>Unit II</b>	<b>Diet Therapy</b>			
	<ol style="list-style-type: none"> <li>1. Market survey of commercial nutritional supplements and nutritional support substrates.</li> <li>2. Planning and preparation of diets for patients <ul style="list-style-type: none"> <li>- Liquid diet</li> <li>- Soft diet</li> <li>- Tube or Enteral Feeding</li> </ul> </li> <li>3. Nutritional Management in Fever and infection</li> </ol>			
<b>Unit III</b>	<b>Food Preservation and Basic Microbiology</b>			
	<ol style="list-style-type: none"> <li>1. Instruments used in microbiology laboratory – Incubator, Hot air oven, centrifuge, Ph. meter, Autoclave</li> <li>2. Microscope and its parts</li> <li>3. Gram Staining</li> <li>4. Observation of micro-organism from fruit, vegetables, bread</li> <li>5. Sterilization methods</li> <li>6. Food preparations by using any two physical methods of preservation</li> </ol>			
<b>Unit IV</b>	<b>Physiology (Basic)</b>			
	<ol style="list-style-type: none"> <li>1. Demonstration of Barr body</li> <li>2. Blood Grouping and Rh factor</li> <li>3. Measurement of Blood Pressure (After exercise and during rest)</li> <li>4. Measurement of body temperature and pulse rate (After exercise and during rest)</li> </ol>			



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<b>Year</b>	<b>I</b>	<b>Course Type: Elective Compulsory</b> <b>Course No: ECFN 104 A</b> <b>Course Title: Food Preservation and Basic Microbiology</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>I</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To provide basic knowledge about microorganisms, their environment and factors affecting their growth</li> <li>2. To enable students to know about the historical developments and taxonomy of microorganisms</li> <li>3. To provide knowledge on the principals involved in destruction of microorganisms in meaning foods</li> <li>4. To understand role of microorganism in disease and immunity</li> </ol>			
<b>COURSE CONTENT / SYLLABUS - THEORY</b>				
<b>Unit I:</b>	<b>Need for Food Preservation</b> <ul style="list-style-type: none"> <li>• Food Preservation</li> <li>• Food Spoilage</li> <li>• Food Infection</li> <li>• Taxonomy of microorganisms</li> </ul>			
<b>Unit II</b>	<b>Role and Significance of Microorganisms in Foods</b> <ul style="list-style-type: none"> <li>• Bacteria</li> <li>• Yeast</li> <li>• Mold</li> </ul>			
<b>Unit III</b>	<b>Methods of Isolation, Detection and Destruction of Microorganism.</b> <ul style="list-style-type: none"> <li>• Newer and Rapid Methods of Isolation and Detection of Microorganisms in Foods               <ul style="list-style-type: none"> <li>• Conventional methods</li> <li>• Rapid methods (newer techniques)</li> <li>• Microbiological criteria for various food products</li> </ul> </li> <li>• Principals Involved in Destruction of Microorganisms for Prolonged Storage of Foods               <ul style="list-style-type: none"> <li>• Physical methods: drying, freezing, cell storage, heat treatment, irradiation, high pressure processing.</li> <li>• Chemical preservation and natural antimicrobial compounds.</li> </ul> </li> <li>• Importance of Prebiotics and Probiotics in human health</li> </ul>			
<b>Unit IV</b>	<b>Immunity</b> <ul style="list-style-type: none"> <li>• Definition of antigen and antibody</li> <li>• Types of immunity – natural and artificial</li> <li>• Three stages of immunity – primary , secondary and tertiary</li> <li>• Auto immune disease – rheumatoid arthritis, Type 1 Diabetes, Psoriasis</li> <li>• Immune body formation</li> </ul>			

	Reference	
	<ol style="list-style-type: none"><li>1. Microbiology by Pelczar and reid</li><li>2. Microbiology by Pawar and Daginawala</li><li>3. Microbiology by Chakravorty</li><li>4. સુક્ષ્મજીવાણુશાસ્ત્રલેખકગીરાબેનમાંકડ</li><li>5. Jay JM (2004). Modern Food Microbiology (7thed.). CBS Publishers and Distributors. Springer Publications, Delhi</li><li>6. Banwart GJ (1998). Basic Food Microbiology (2nded.). CBS Publishers and Distributors, New Delhi</li><li>7. William Frazier (2008). Food Microbiology (4thed.). The McGraw Hill Co Inc.,New York</li><li>8. Dr. K. Vijaya Ramesh (2007). Food Microbiology. MJP Publishers, Chennai.</li><li>9. માઈક્રોબાયોલોજી તથા ખાદ્ય વિજ્ઞાન માં તેની અગત્યતા</li><li>10.</li></ol>	





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<b>Year</b>	<b>1</b>	<b>Course Type: Elective Compulsory</b>	<b>Credits</b>	<b>4</b>
		<b>Course No: ECFN 104 B</b>		
		<b>Course Title: Nutritional Epidemiology</b>		
<b>Semester</b>	<b>1</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		1. To enable the students to understand the role of epidemiological research in improving health systems and nutritional status. 2. To understand recent developments in nutritional/ health status assessment methods and their strengths and limitations		
<b>COURSE CONTENT / SYLLABUS - THEORY</b>				
<b>Unit I</b>	<b>Introduction to Epidemiology- Aims of epidemiology</b>			
	<ul style="list-style-type: none"> <li>● Aims &amp; concepts</li> <li>● Role &amp; strategies</li> <li>● Strengths &amp; weaknesses</li> </ul>			
<b>Unit II</b>	<b>Types of Epidemiological Studies</b>			
	<ul style="list-style-type: none"> <li>● Observational studies</li> <li>● Experimental studies (Randomized Control Trials &amp; Quasi Experimental trials)</li> <li>● Non Experimental (Descriptive, Analytical Cohort, case control &amp; cross-sectional)</li> </ul>			
<b>Unit III</b>	<b>Determinants of Epidemiological Studies</b>			
	<ul style="list-style-type: none"> <li>● Direct and indirect parameters of assessment of nutritional status used in community survey</li> <li>● Use of epidemiological data, recent developments</li> <li>● Planning of health and nutritional surveys</li> <li>● Interpretation of epidemiological studies</li> </ul>			

<p><b>Unit IV</b></p>	<p><b>Use of Epidemiological Research in Strengthening Nutritional Interventions, National Programmes and Health Systems</b></p> <ul style="list-style-type: none"> <li>• Approaches and Programmes for the control of <ul style="list-style-type: none"> <li>• Under nutrition , Stunting &amp; wasting</li> <li>• Vitamin A Deficiency.</li> <li>• Iodine Deficiency Disorders.</li> <li>• Other programmes for control of NCD's</li> </ul> </li> <li>• Use of surveillance data for program improvement. e.g. National Nutrition Monitoring Bureau, National Family Health Survey, Census data</li> </ul> <p>Spermatogenesis and oogenesis</p>
<p><b>References</b></p>	
<ol style="list-style-type: none"> <li>1. Measuring and Interpreting Malnutrition and Mortality (2005) : A Manual by CDC &amp; WFP )</li> <li>2. Bonita.R, Beaglehole.R, Kjellstrong.T (2006) Basic Epidemiology- WHO</li> <li>3. Sathe , P.V. Sathe, A.P. (1991) Epidemiology and Management for health Care Popular Prakashan, Mumbai</li> <li>4. Willett W. Nutritional Epidemiology (2nd edition). New York: Oxford University Press, 1998.</li> <li>5. Margetts BM, Nelson M. Design Concepts in Nutritional Epidemiology. New York: Oxford University Press, 1997.</li> <li>6. Food and nutrition surveillance systems Technical guide for the development of a food and nutrition surveillance system, WHO regional publication, Eastern Mediterranean series, WHO 2013</li> <li>7. Policies for the control of nutritional anemia, vitamin A deficiency, iodine deficiency disorders, Govt. of India.</li> <li>8. National and State Nutrition / Population Education Policies, Govt.of India.</li> <li>9. Maternal &amp; Child Nutrition Series, Lancet 2008 &amp; 2013</li> <li>10. Census 2011, Government of India</li> <li>11. National Nutrition Monitoring Bureau (Latest data)</li> <li>12. SRS, NFHS III &amp; IV Reports, CES, RSOC Reports for India &amp; Gujarat</li> <li>13. Global Nutrition Reports ( Latest)</li> </ol>	
<p><b>Journals</b></p>	
<ol style="list-style-type: none"> <li>1. Journal of Epidemiology</li> <li>2. Ecology of Foods and Nutrition.</li> <li>3. Indian Journal Med. Research.</li> <li>4. Asia Pacific journal of Nutrition.</li> <li>5. Tropical Pediatrics.Human Physiology by C C Chatterjee</li> </ol>	



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<b>Year</b>	<b>1</b>	<b>Course Type: Foundation Course</b> <b>Course No: EGFN 105</b> <b>Course Title: Physiology (Basic)</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>1</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		<ol style="list-style-type: none"><li>1. To enable the students to understand the relevant issues and topics of human physiology.</li><li>2. To enable them to understand the integrated functions of all systems and the grounding of nutritional sciences in physiology.</li><li>3. To understand general structure and functions of various systems in human body.</li><li>4. To understand structure and functions of various systems in human body under diseased condition.</li></ol>		
<b>COURSE CONTENT / SYLLABUS - THEORY</b>				
<b>Unit I</b>	<b>Digestive and Excretory System</b> <ul style="list-style-type: none"><li>• Homeostasis</li><li>• Regulation of Body temperature</li><li>• Digestion &amp; absorption of food</li><li>• Structure and function of Kidney</li><li>• Nephron and Urine formation</li></ul>			
<b>Unit II</b>	<b>Circulatory and Respiratory System</b> <ul style="list-style-type: none"><li>• Blood, blood groups, blood pressure, blood clotting</li><li>• Structure of Heart and junctional tissues of heart</li><li>• Cardiac cycle and Types of circulation</li><li>• Mechanism of respiration</li><li>• Transport of oxygen and carbon dioxide</li></ul>			

<b>Unit III</b>	<b>Nervous and Endocrine System</b> <ul style="list-style-type: none"> <li>• Types of nervous system</li> <li>• Types of neuron and Reflex action</li> <li>• Transmission of nerve impulse in nerve fiber and synapse</li> <li>• Types of endocrine glands and its functions Pituitary, thyroid, Para thyroid, and adrenal gland</li> <li>• Hormones its action and feedback mechanism</li> </ul>
<b>Unit IV</b>	<b>Reproductive System</b> <ul style="list-style-type: none"> <li>• Types of Chromosome, Kariotype</li> <li>• Spermatogenesis and oogenesis</li> <li>• Male and Female reproductive system</li> <li>• Fertilization of ovum and different stages of fetus</li> <li>• Parturition, Stages of labor, Development of breast and secretion of milk</li> </ul>
<b>References</b>	
18. Human Physiology by C C Chatterjee 19. Textbook of medical physiology by Guyton 20. Human physiology by Agrawal 21. માનવ શરીર રચના અને શરીર ક્રિયા અને સુતીકા શાસ્ત્ર લેખક દિલીપ મહેતા - 22. જીવ વિજ્ઞાન લેખક સંઘ્યાબેન પરીખ -	



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<b>Year</b>	<b>1</b>	<b>Course Type: Prerequisite Course</b> <b>Course No: FN 106</b> <b>Course Title: Biology, Physics, Chemistry</b>	<b>Credits</b>	<b>0</b>
<b>Semester</b>	<b>1</b>		<b>Hours/wk</b>	<b>0</b>
<b>Objectives</b>	<b>Prerequisite Course for B.A. Home Science and B.R.S. Home Science Students</b>			

**COURSE CONTENT / SYLLABUS - THEORY**

<b>Biology</b>	<ul style="list-style-type: none"><li>• Cell structure,</li><li>• Human body parts and</li><li>• Various systems,</li><li>• Blood components</li></ul>
<b>Physics</b>	<ul style="list-style-type: none"><li>• Temperature and its measurements</li><li>• Guarantee and warrantee of household equipment</li><li>• Precautions while using</li></ul>
<b>Chemistry</b>	<ul style="list-style-type: none"><li>• Solutions, concept of acid, base and salt,</li><li>• Neutralization reactions,</li><li>• PH</li><li>• Buffer solutions</li></ul>

**COURSE OUTLINES FOR COURSES OFFERED IN  
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<b>Year</b>	<b>I</b>	<b>Course Type: Core Compulsory</b> <b>Course No: CCFN 201</b> <b>Course Title: Maternal and Child Nutrition</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>I</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		<ol style="list-style-type: none"> <li>1. To aware the student about complication, Psychological changes and nutritional requirement during pregnancy and lactation.</li> <li>2. To provide the knowledge about importance of breast milk, Supplementary and weaning food and health and nutrition of mother and child to the students.</li> <li>3. To provide the knowledge about direct nutritional assessment of Human groups.</li> </ol>		
<b>COURSE CONTENT SYLLABUS-THEORY</b>				
<b>Unit I</b>	<b>Physiology and psychological changes during pregnancy</b> <ul style="list-style-type: none"> <li>• Importance of Maternal Nutrition. <ul style="list-style-type: none"> <li>• Physiology and psychological changes</li> <li>• Complication during pregnancy</li> <li>• Problems and Treatment during Pregnancy.</li> </ul> </li> <li>• Embryonic and Fetal growth and Development. <ul style="list-style-type: none"> <li>• Stages of pregnancy.</li> <li>• Types of delivery</li> </ul> </li> </ul>			
<b>Unit II</b>	<b>Nutrition During pregnancy and lactation</b> <ul style="list-style-type: none"> <li>• Foods needs and nutritional consideration during pregnancy and lactation. <ul style="list-style-type: none"> <li>• Human Milk Composition.</li> <li>• Nutritional Requirement during pregnancy.</li> <li>• Meal planning for pregnant women.</li> <li>• Nutritional Requirement for lactating women.</li> <li>• Meal planning for pregnant lactating women.</li> </ul> </li> </ul> <b>Nutrition During Infancy</b> <ul style="list-style-type: none"> <li>• Nutrition During Infancy, <ul style="list-style-type: none"> <li>• Breast feeding,</li> <li>• weaning foods,</li> <li>• Common diseases and diet feeding the premature baby.</li> <li>• Bottle feeding,</li> <li>• Supplementary diet.</li> </ul> </li> </ul>			

<b>Unit III</b>	<b>Pediatric Problems and Nutritional Management</b> <ul style="list-style-type: none"> <li>• Congenital Heart Disease (CHD)</li> <li>• Preterm /Low Birth Weight</li> <li>• Lactose Intolerance</li> <li>• Celiac Disease</li> <li>• Inborn Errors of Metabolism</li> </ul>
<b>Unit IV</b>	<b>Nutritional program</b> <ul style="list-style-type: none"> <li>• Nutritional program for promoting maternal and child nutrition and health. <ul style="list-style-type: none"> <li>• National program for prevention of blindness</li> <li>• National Anemia control program</li> <li>• Goiter prevention program</li> <li>• Integrated Child Development program</li> <li>• Midday meal program</li> <li>• Matru vandanayojana</li> <li>• Kasturba Poshansahay yojana</li> <li>• Janni surksha yojana</li> <li>• Chiranjivi yojana</li> </ul> </li> </ul>
<b>Reference</b>	
<ol style="list-style-type: none"> <li>1. કૌટુંબિક આહાર આયોજન.લેખક: પ્રા. સુશીલાબેન આઈ.પટેલ.</li> <li>2. આહાર અને પોષણના મૂળ તત્વો.લેખક : પ્રા. સુશીલાબેન આઈ.પટેલ.</li> <li>3. Robinson C.H. , Lawler, M.R., Chenoweth, W.L., Garwich, A.E. Normal and Therapeutic Nutrition 7th Edition, Macmillan Publishing Co. New York 1994.</li> <li>4. Davidson, S. Passmore, R. Brook, J.F. and Truswell, Human Nutrition and Dietetics, 9th edition, F. and S Livingstone Ltd., Edinburgh and London 1993</li> <li>5. Shanti Gosh, The feeding and care of infants and young children, voluntary health association of India,, New Delhi 6th edition 1992.</li> <li>6. Rao, D.H and Vijayaraghavan, K (1996), Anthropometric assessment of nutritional status in “Text Book of Human Nutrition”, New Delhi; (eds. Bamji, M.S, Rao, N.P and Reddy, V.); Oxford and IBH Publishing Co. Pvt. Ltd., P 515.</li> <li>7. Srilakshmi, B (2008), “Dietetics”, New Delhi; New Age International (P) Ltd. Publishers, Pp 319-325.</li> <li>8. Thimmayamma, B.V.S and Rao, P (1996), Dietary assessment as part of nutritional</li> </ol>	



status in "Textbook of Human Nutrition", New Delhi

9. Indian Council of Medical Research (2010), "Nutrient requirements and Recommended Dietary Allowances for Indians", Hyderabad; National Institute of Nutrition.
10. Mahan, L.K and Stump, S.E (2004), "Krause's Food Nutrition and Diet therapy", Philadelphia; WB Saunders Co., Pp 534-555.
11. Emma, M.L (2008), "Handbook of Nutrition and Food", London; CRC Press, Taylor and Francis group.
12. FAO/WHO/UNU (1985),"Energy and Protein Requirements", Geneva; World Health Organisation. . 11. Gopalan, C; Sastri, B.V.R and Balasubramanian, S.C (1989), "Nutritive Value of Indian Foods", Hyderabad; National Institute of Nutrition, ICMR,
13. JOURNALS
14. Reports of the State of World's Children, Who and UNICEF, Oxford University.
15. Reports of National Family Health Survey, International Institute for Population Science, Mumbai.
16. World Development Reports, Investing in Health, World Development Indication.
17. Indian Journal of Medical Research, ICMR, New Delhi,



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<b>YEAR</b>	<b>I</b>	<b>Course Type: Core Compulsory</b> <b>Course No: CCFN 202</b> <b>Course Title: Food Science-I</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>II</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To provides an understanding of composition of various foodstuff</li> <li>2. To familiarize students with changes occurring in various foodstuffs as a result of processing and cooking</li> <li>3. To enable students to use the theoretical knowledge in various applications and food preparations</li> </ol>			
<b>COURSE CONTENT / SYLLABUS - THEORY</b>				
<b>Unit I</b>	<b>Introduction to Food Science</b> <ul style="list-style-type: none"> <li>• Definitions</li> <li>• Functions of Food</li> <li>• Food Groups</li> <li>• Food Relations to health</li> <li>• Cooking Methods</li> <li>• Evaluation of Food               <ul style="list-style-type: none"> <li>• Sensory Evaluations</li> <li>• Objective Evaluation</li> </ul> </li> </ul>			
<b>Unit II</b>	<b>Cereal and Cereal Products</b> <ul style="list-style-type: none"> <li>• Cereal grains : Structure, composition, classification and grading</li> <li>• Specific Cereals</li> <li>• Cereal products ,Breakfast Cereals                Role of Cereal in cookery, role in bakery; Batters and dough.</li> </ul>			
<b>Unit III</b>	<b>Pulses</b> <ul style="list-style-type: none"> <li>• Nutritive value composition,</li> <li>• processing, Storage and infestation               <ul style="list-style-type: none"> <li>• Milling or Decortications</li> <li>• Soaking</li> <li>• Germination</li> <li>• Fermentation</li> </ul> </li> <li>• Effect of Cooking and Factors affecting cooking quality</li> <li>• Toxic constituents.</li> <li>• Role of Pulses in cookery</li> </ul>			

<b>Unit IV</b>	<b>Sugar and Related product</b> <ul style="list-style-type: none"> <li>• Nutritive value</li> <li>• Properties</li> <li>• SugarRelated products</li> <li>• Role of Sugar in Cookery</li> <li>• Artificial Sweeteners</li> </ul>
<b>References</b>	
<ol style="list-style-type: none"> <li>1. Food Science (fifth Edition) By B.Srilakshmi</li> <li>2. Charley H (1982). Food Science (2nded.). John Wiley &amp; Sons, New York.</li> <li>3. Potter N and Hotchkiss JH (1996). Foods Science (5thed.). CBS Publication &amp; Distributors, New Delhi.</li> <li>4. Pomeranz Y (1991). Functional properties of food components (2nded.). Academic Press, New York.</li> <li>5. Park Pauline G and Palmer H (1972). Food theory and applications. John Wiley &amp; Sons, New York.</li> <li>6. Goel RK (1979). Technology of Food Products Series No. 29. Small Business Publications, New Delhi.</li> <li>7. SwaminathanM(1979).FoodScienceandExperimentalFoods.Ganeshand Co.,Madras.</li> <li>8. Bowers J (1992). Food Theory and Applications (2nded.). MacMillan Publishing Co., New York.</li> <li>9. Food Science and Technology Series of Monographs.</li> <li>10. Annual Reports of CFTRI.</li> <li>11. Journal of Food Science.</li> <li>12. Journal of Food Science and Technology.</li> <li>13. Indian Food Packer</li> </ol>	



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<b>Year</b>	<b>I</b>	<b>Course Type: Core Compulsory</b> <b>Course No: CCFN 203</b> <b>Course Title: Practical-2</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>II</b>		<b>Hours/wk</b>	<b>8</b>
<b>Objectives</b>		<ol style="list-style-type: none"> <li>1. To aware the student about complication, Psychological changes and nutritional requirement during pregnancy and lactation.</li> <li>2. To provide the knowledge about importance of breast milk, Supplementary and weaning food and health and nutrition of mother and child to the students.</li> <li>3. To provide the knowledge about direct nutritional assessment of Human groups.</li> </ol>		
<b>COURSE CONTENT / SYLLABUS- THEORY</b>				
<b>Unit I</b>	<b>Maternal Nutrition</b> <ol style="list-style-type: none"> <li>1. Plan a diet for pregnant women. (One week)</li> <li>2. Plan a diet for a low, Middle and high–income pregnant women.</li> <li>3. Plan a diet for lactating women. (One week)</li> <li>4. Plan a diet for a low, Middle and high income lactating women. (One week)</li> </ol>			
<b>Unit II</b>	<b>Child Nutrition</b> <ol style="list-style-type: none"> <li>1. Plan and prepare balanced diet and calculate nutrition for the following group.           <ul style="list-style-type: none"> <li>• Preschool children.(Breakfast, lunch and dinner)</li> <li>• School children.(Breakfast, lunch and dinner)</li> <li>• Adolescent girl and boy.(Breakfast, lunch and dinner)</li> </ul> </li> </ol>			
<b>Unit III</b>	<b>Food Science I</b> <ol style="list-style-type: none"> <li>1. Conduct Tests           <ul style="list-style-type: none"> <li>• To know the Sensitivity</li> <li>• Acceptability of a new product</li> <li>• To know likes and dislikes</li> </ul> </li> <li>2. Prepare Recipe using fermented food product</li> </ol>			
<b>Unit IV</b>	<b>Food Science I</b> <ol style="list-style-type: none"> <li>1. Prepare recipe where crystallization of Sugar take place and avoided</li> <li>2. Prepare recipe Caramelisation Takes place</li> <li>3. Prepare Recipes where one –Thread and three Thread consistency is utilized</li> <li>4. Market survey of Artificial Sweeteners</li> </ol>			



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<b>Year</b>	<b>I</b>	<b>Course Type: Elective Compulsory</b> <b>Course No: ECFN 204 B</b> <b>Course Title: Nutritional Biochemistry</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>II</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	1. Develop an understanding of principles of biochemistry 2. Develop an understanding of major nutrients and its physiological importance 3. To Understand mechanism of metabolic pathways			
<b>COURSE CONTENT / SYLLABUS- THEORY</b>				
<b>Unit I</b>	<b>Carbohydrates</b> <ul style="list-style-type: none"><li>● Carbohydrates Definition and classification</li><li>● Isomerism in monosaccharides D L form, Optical isomerism, ring structure and aldose ketose isomerism</li><li>● Glycolysis and krebs cycle and its energetics</li><li>● Errors in metabolism of carbohydrates</li><li>● Metabolic disorders Diabetes</li></ul>			
<b>Unit II</b>	<b>Proteins</b> <ul style="list-style-type: none"><li>● Proteins and amino acids definition and classification</li><li>● Structure and functions of Protein and amino acids</li><li>● Urea cycle, Trans amination, deamination and decarboxylation</li><li>● Protein Synthesis</li><li>● Metabolic disorders and errors in protein metabolism</li></ul>			
<b>Unit III</b>	<b>Fats</b> <ul style="list-style-type: none"><li>● Fatty Acids definition and classification</li><li>● Fats definition and classification</li><li>● Some important steroids</li><li>● <math>\beta</math> oxidation of fatty acids</li><li>● Ketosis and errors in fat metabolism</li></ul>			

<b>Unit IV</b>	<b>Enzyme</b> <ul style="list-style-type: none"><li>● Enzyme definition, physical and chemical properties</li><li>● Factors affecting enzyme reaction</li><li>● Nomenclature and classification of enzymes</li><li>● Enzyme Inhibitors</li><li>● Physiological importance of enzyme in disease condition</li></ul>
<b>References</b>	
<ol style="list-style-type: none"><li>1. Biochemistry by A C Deb</li><li>2. Biochemistry by Lehninger</li><li>3. Biochemistry by West and Todd</li><li>4. Biochemistry by Best and Taylor</li><li>5. Biochemistry by Swaminathan</li></ol>	



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<b>Year</b>	<b>I</b>	<b>Course Type: Elective Compulsory</b> <b>Course No: ECFN 204A</b> <b>Course Title: Project</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>II</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	1. To impart knowledge about basic concepts of ProjectWork. 2. To identify the areas of Research Project and Methods of Foods and Nutrition			

**COURSE CONTENT / SYLLABUS- THEORY**

**General Guideline for project work:**

- Area and topic to be selected in consultation with the concerned faculty.
- Project work should be based on primary data collection.
- Project work should have analysis of data along with other standard inputs.
- Project report should not be less 30-60 typed pages following APA Style of Report writing.
- The assessment of project work: 50 Marks for internal viva-voice
- 50 Marks External (30 Report and 20 External Viva-voice)
- Assessment pattern:
- The Project will be examined by two examiners, one internal (Guide) and other external and the average of the Marks given by two examiners will be the final marks.
- The Viva will be conducted by two examiners who have examined the Project of the student concerned.



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**M.Sc. - FN**

<b>Year</b>	<b>I</b>	<b>Course Type: Foundation Course</b> <b>Course No: EGFN205</b> <b>Course Title: Research Methodology and Biostatistics</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>II</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		<ol style="list-style-type: none"><li>1. To provide knowledge and skills for conducting research from planning a study to report writing.</li><li>2. To strengthen abilities of students with regard to identifying research problems, formulating research objectives, experimental designs, sampling, data collection and analysis and writing research reports.</li><li>3. To critique some recent research studies from the perspectives of – research methodologies, program applications, interdisciplinary approaches, gender sensitivity</li></ol>		
<b>COURSE CONTENT / SYLLABUS- THEORY</b>				
<b>Unit I</b>		<b>Basics of research</b> <ul style="list-style-type: none"><li>● Science and scientific method</li><li>● Research – definition, types, and research design</li><li>● Role of home science in research and statistics</li><li>● Objectives of research</li><li>● Ethics and plagiarism in research</li></ul>		
<b>Unit II</b>		<b>Steps in research</b> <ul style="list-style-type: none"><li>● How to select a research topic</li><li>● Hypothesis – definition and types, hypothesis testing</li><li>● Review of literature</li><li>● Planning of research</li><li>● Methodology and tools</li></ul>		



<b>Unit III</b>	<p><b>Research Procedure</b></p> <ul style="list-style-type: none"> <li>● Population and Variables – definition and types</li> <li>● Sampling – definition and types, Sampling methods</li> <li>● Data gathering instrument – Interview, questionnaire, observation</li> <li>● Representation of data – editing, classification, tabulation and coding</li> <li>● Graphical representation – Bar, Column, Histogram, Pie, Frequency polygon, Ogive</li> </ul>
<b>Unit IV</b>	<p><b>Statistical analysis</b></p> <ul style="list-style-type: none"> <li>● Basics of statistics – use of appropriate measurement tools in research</li> <li>● Frequency distribution – continuous and discrete series</li> <li>● Measurement of central tendency – mean, median, mode</li> <li>● Measurement of dispersion – range, mean deviation, quartile deviation, standard deviation</li> <li>● Student “t” test, chi square test, ANOVA</li> </ul>
<b>References</b>	
<ol style="list-style-type: none"> <li>6. Research Methodology by C R Kothari</li> <li>7. Research methods by Kahn</li> <li>8. Statistics by Sharma</li> <li>9. સંશોધન પદ્ધતિ અને પ્રવિધિ યુનીવર્સિટી ગ્રંથ નિર્માણ બોર્ડ</li> <li>10. શિક્ષણ અંને સામાજિક વિજ્ઞાનોમા સંસોધનોમાં સંસોધનનુ પદ્ધતિ શાસ્ત્ર By D.A.Uachat</li> <li>11. શિક્ષણ માં આંકડાશાસ્ત્ર યુનીવર્સિટી ગ્રંથ નિર્માણ બોર્ડ</li> </ol>	

**COURSE OUTLINES FOR COURSES OFFERED IN  
SEMESTER - III**



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<b>Year</b>	<b>II</b>	<b>Course Type: Core Compulsory</b>	<b>Credits</b>	<b>4</b>
		<b>Course No: CCFN 301</b>		
		<b>Course Title: Public Health And Nutrition</b>		
<b>Semester</b>	<b>III</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		<ol style="list-style-type: none"> <li>1. To associate with an existing nutrition health program in the community and conduct situational analysis of the existing program and plan relevant interventions and actions.</li> <li>2. To explain the significance of nutritional anthropometry,</li> <li>3. To discuss various methods of anthropometric classification, and</li> <li>4. To carry out some of the nutritional anthropometric methods</li> <li>5. To understand the condition of severe-acute malnutrition (SAM) and its management</li> </ol>		
<b>COURSE CONTENT / SYLLABUS - THEORY</b>				
<b>Unit I</b>	<b>Community Nutrition Understanding Public Nutrition Problems and Programmes</b> <ul style="list-style-type: none"> <li>• Concept</li> <li>• Scope</li> <li>• Role of Public Nutritionists in Health Care Delivery</li> <li>• Nutritional problems in India               <ul style="list-style-type: none"> <li>• Anemia,</li> <li>• vitamin A- deficiency,</li> <li>• PEM,</li> <li>• goiter,</li> </ul> </li> <li>• Government programmes for prevention               <ul style="list-style-type: none"> <li>• National Nutrition Mission</li> <li>• NIPI</li> <li>• Vit-A prophylaxes programme</li> <li>• Goiter control programme</li> </ul> </li> </ul>			

<p><b>Unit II</b></p>	<p><b>Assessment of Nutritional Status –1</b></p> <ul style="list-style-type: none"> <li>● Goals and Objectives</li> <li>● Methods of Nutritional Assessment <ul style="list-style-type: none"> <li>• Indirect Assessment of Nutritional Status</li> <li>• Direct Assessment of Nutritional Status</li> </ul> </li> <li>● Nutritional Anthropometry <ul style="list-style-type: none"> <li>• Uses of Anthropometry</li> <li>• Common Measurements Used in Nutritional Anthropometry</li> <li>• Methods of Assessing Nutritional Status in Individuals</li> <li>• Determination of Nutritional Status using MUAC</li> <li>• Determination of Nutritional Status using Weight and Height</li> <li>• Methods of Assessment of Nutritional Status of Community</li> <li>• Functional indicators such as grip strength, respiratory fitness, Harvard Step test, squatting test.</li> </ul> </li> </ul>
<p><b>Unit III</b></p>	<p><b>Assessment of Nutritional Status –2</b></p> <ul style="list-style-type: none"> <li>● Clinical Assessment <ul style="list-style-type: none"> <li>• Training and Standardization</li> <li>• Clinical Signs of Nutritional Disorders</li> </ul> </li> <li>● Biochemical Assessment <ul style="list-style-type: none"> <li>• Biochemical Tests-An Overview</li> <li>• Biochemical Tests for Nutritional Deficiencies</li> </ul> </li> <li>● Dietary Assessment <ul style="list-style-type: none"> <li>• Family Diet Survey</li> <li>• Assessment of Dietary Intakes of Individuals</li> <li>• Qualitative Diet Surveys</li> <li>• Institutional Diet Surveys</li> <li>• Food Balance Sheets (FBS)</li> </ul> </li> </ul>
<p><b>Unit IV</b></p>	<p><b>Sever Acute Malnutrition (SAM) And MAM and its Management</b></p> <ul style="list-style-type: none"> <li>● Severe Acute Malnutrition (SAM) Moderate Acute Malnutrition (MAM) prevalence and causes in India <ul style="list-style-type: none"> <li>• Indicators of SAM and MAM</li> <li>• Selective feeding programme guidelines.</li> <li>• Management strategies for addressing SAM -complicated and uncomplicated cases including home based care</li> </ul> </li> <li>● Monitoring of SAM and its treatment <ul style="list-style-type: none"> <li>• A critique of various control strategies for SAM in national programs –</li> <li>• Child Malnutrition Treatment Centres CMTC</li> <li>• Nutrition rehabilitation centres (NRC )in Gujarat)</li> </ul> </li> </ul>
<p><b>References</b></p>	
<ol style="list-style-type: none"> <li>1. National guidelines and consensus on Management of SAM-2014</li> <li>2. Community based Management of children with severe acute malnutrition,</li> <li>3. Operational &amp; Technical guidelines, Ministry of health &amp; Family Welfare,Nirman</li> <li>4. Gujarat State Nutrition Policy, Govt of Gujarat, Gandhinagar, 2003</li> <li>5. National Family Health Surveys, IIPS and Macro International, 2005-2006</li> </ol>	

6. Global Nutrition report (Latest)
7. Nutrition & the Post – 2015 Development Agenda: Seizing the opportunity(2015), SCN News, No 41
8. Essential Nutrition Actions: Improving Maternal, Newborn, Infant & Young Child Nutrition, WHO 2013
9. Food and Nutrition Security, BY Dr. Seema Sankar Dorcas L. Essiamah
10. Mason, J.B., Habich, J.P., Tabatabai, H. and Valverde, V. (1984): Nutritional Surveillance, WHO.
11. Lee, R.D. and Nieman, D.C. (1993): Nutritional Assessment, Brown and Benchmark Publishers..
12. FAO Nutritional Studies No.4 (1953): Dietary Surveys: Their Technique and Interpretation, FAO.
13. Bingham, S.A. (1987): The Dietary Assessment of Individuals, Methods, Accuracy, new Techniques and Recommendations. Nutrition Abstracts and Reviews, 57: 705-743.
14. Collins, K.J. (Ed.)(1990) handbook of Methods for the Measurement of work performance, Physical Fitness and Energy Expenditure in Tropical Populations. International Union of Biological Sciences.
15. Lohman, T.G.; Roche, A.F.; and Martorell, R. (Ed.) Anthropometric Standardization Reference manual, Human kinetics Books, Illinois.



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**ACADEMIC  
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**M.Sc. – FN**

<b>YEAR</b>	<b>II</b>	<b>Course Type: Core Compulsory</b> <b>Course No: CCFN 302</b> <b>Course Title: Food Science- II</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>III</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		<ol style="list-style-type: none"> <li>1. To provides an understanding of composition of various foodstuff</li> <li>2. To familiarize students with changes occurring in various foodstuffs as a result of processing and cooking</li> <li>3. To enable students to use the theoretical knowledge in various applications and food preparations</li> </ol>		
<b>COURSE CONTENT / SYLLABUS - THEORY</b>				
<b>Unit I</b>	<b>Milk and Milk Products</b> <ul style="list-style-type: none"> <li>• Composition,</li> <li>• Physical and functional properties.</li> <li>• Denaturation,</li> <li>• Effects of processing and storage.</li> <li>• Dairy products.</li> <li>• Milk substitutes</li> </ul>			
<b>Unit II</b>	<b>Nuts and Oilseeds and Fats and Oils</b> <ul style="list-style-type: none"> <li>• Nuts and Oilseeds               <ul style="list-style-type: none"> <li>• Nutritive value</li> <li>• Properties</li> <li>• Composition, selection(Specific nuts and oil seeds),</li> <li>• Protein concentrates and Toxins</li> </ul> </li> <li>• Fats and Oils               <ul style="list-style-type: none"> <li>• Sources, composition,</li> <li>• effect of composition on fat,</li> <li>• classification,</li> <li>• physical and chemical properties,</li> <li>• Rancidity changes, anti-oxidants and</li> </ul> </li> </ul>			
<b>Unit III</b>	<b>Fruits andVegetables</b> <ul style="list-style-type: none"> <li>• Classification,</li> <li>• Composition structural features.</li> <li>• Enzymes in fruits and vegetables, browning reactions.</li> <li>• Pigments : constituents,</li> <li>• Effect of cooking, acid, alkali, etc. on pigments.</li> <li>• Texture of fruits and vegetables during ripening.</li> </ul>			

<b>Unit IV</b>	<p><b>Spices and Herbs and Evaluation of food Quality</b></p> <ul style="list-style-type: none"> <li>• Spices and Herbs <ul style="list-style-type: none"> <li>• Specific Spices</li> <li>• Herbs</li> </ul> </li> <li>• Evaluation of food Quality <ul style="list-style-type: none"> <li>• Sensory properties of foods</li> <li>• Sensory Evaluation of food</li> <li>• Types of tests</li> <li>• Objective evaluation</li> </ul> </li> <li>• Food Adulteration <ul style="list-style-type: none"> <li>• Types of adulteration</li> <li>• Food standards and regulation in India</li> </ul> </li> </ul>
<b>References</b>	
<ol style="list-style-type: none"> <li>1. Food Science (fifth Edition) By B.Srilakshmi</li> <li>2. Charley H (1982). Food Science (2nded.). John Wiley &amp; Sons, New York.</li> <li>3. Potter N and Hotchkiss JH (1996). Foods Science (5thed.). CBS Publication &amp; Distributors, New Delhi.</li> <li>4. Pomeranz Y (1991). Functional properties of food components (2nded.). Academic Press, New York.</li> <li>5. Park Pauline G and Palmer H (1972). Food theory and applications. John Wiley &amp; Sons, New York.</li> <li>6. Goel RK (1979). Technology of Food Products Series No. 29. Small Business Publications, New Delhi.</li> <li>7. SwaminathanM(1979).FoodScienceand Experimental Foods.Ganeshand Co. Madras.</li> <li>8. Bowers J (1992). Food Theory and Applications (2nded.). MacMillan Publishing Co., New York.</li> <li>9. Food Science and Technology Series of Monographs.</li> <li>10. Annual Reports of CFTRI.</li> <li>11. Journal of Food Science.</li> <li>12. Journal of Food Science and Technology.</li> <li>13. Indian Food Packer</li> </ol>	







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M.Sc.- FN

Year	II	Course Type: Core Compulsory Course No: CCFN 303 Course Title: Practical- 3	Credits	4
Semester	III		Hours/wk	8

**COURSE CONTENT / SYLLABUS- Practical**

<b>Unit I</b>	<b>Public Health And Nutrition I</b> <ol style="list-style-type: none"><li>1. Training in all assessment techniques applicable for individuals and community, including ones used for hospital – based patients, Validity and reliability of these techniques.</li><li>2. Community based project for assessment of nutritional status of any vulnerable group.</li><li>3. A small evaluation study of a nutrition project.</li></ol>
<b>Unit II</b>	<b>Public Health And NutritionII</b> <ol style="list-style-type: none"><li>1. Visit and training in health care Centre run by Government Health Department.</li><li>2. Planning, conducting and evaluating nutrition education programmes (in a village/community- through, Demonstration puppet show, skit etc.) for vulnerable group-<ul style="list-style-type: none"><li>• Children</li><li>• Adolescent girl and boy</li><li>• Pregnant women</li><li>• Lactating mothers</li></ul></li></ol>
<b>Unit III</b>	<b>Food Science II</b> <ol style="list-style-type: none"><li>1. Study the Factors affecting coagulation of milk protein</li><li>2. Make a survey of different types of milk and milk products available in the market and note nutritive value from the label</li><li>3. Find the smoking point of any oil</li><li>4. Do market survey and find the fat substances available in the market</li></ol>
<b>Unit IV</b>	<b>Food Science and Food Production and management</b> <ol style="list-style-type: none"><li>1. Enzymatic browning in vegetable and fruit and any four method of preventing it</li><li>2. Sensory evaluation of food product</li></ol>

	<p><b>3.</b> Food Adulteration tastes</p>
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	<p><b>4.</b> New product development (a day canteen by student)</p>
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**M.Sc. - FN**

<b>Year</b>	<b>II</b>	<b>Course Type: Elective Compulsory</b> <b>Course No: ECFN 304-A</b> <b>Course Title: Food Production &amp; Hospital Management</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>III</b>		<b>Hours/wk</b>	<b>4</b>
To enable the students to : 1. Develop excellent communication skills to disseminate knowledge. 2. Develop entrepreneurship skills.				

**COURSE CONTENT / SYLLABUS- Practical**

<b>Unit I</b>	<p><b>Food Service Establishments</b></p> <ul style="list-style-type: none"> <li>• History and Development             <ul style="list-style-type: none"> <li>• Factors Affecting Development</li> <li>• Recent Trends</li> </ul> </li> <li>• Types of Food Service Establishments             <ul style="list-style-type: none"> <li>• Commercial Establishments</li> <li>• Non-commercial Establishments</li> </ul> </li> <li>• Understanding Management</li> <li>• Approaches to Food Service Management             <ul style="list-style-type: none"> <li>• Traditional Approach</li> <li>• Classical Approach</li> <li>• Scientific Approach</li> <li>• Management by Objectives</li> <li>• Systems Approach</li> <li>• Quantitative Approach</li> <li>• Behavioural and Human Relations Approach</li> <li>• Contingency Approach</li> <li>• Just-in-Time</li> <li>• Total Quality Management Approach</li> </ul> </li> </ul>
<b>Unit II</b>	<p><b>The Importance of Menu and Menu Planning in Food Service Organization</b></p> <ul style="list-style-type: none"> <li>• Definition and Functions of a Menu             <ul style="list-style-type: none"> <li>• The Need for Menu Planning</li> <li>• Knowledge and Skills Required for Planning Menu</li> </ul> </li> <li>• The Types of Menu and its Applications             <ul style="list-style-type: none"> <li>• Types of Menus</li> <li>• Uses of Menus</li> </ul> </li> <li>• Steps in Menu Planning and its Evaluation             <ul style="list-style-type: none"> <li>• Construction of Menu</li> <li>• How to Plan a Menu?</li> <li>• Characteristics of a Good Menu</li> <li>• Display a Menu</li> <li>• Evaluation of Menu</li> </ul> </li> </ul>

<p><b>Unit III</b></p>	<p><b>Organization and Leadership,</b></p> <ul style="list-style-type: none"> <li>• Organizational Chart, <ul style="list-style-type: none"> <li>• Organizational Charts of Dietary/food service department,</li> <li>• line of staff, authority, responsibility, power, delegation of authority</li> <li>• Centralization and decentralization of food</li> </ul> </li> <li>• Managing an Organization <ul style="list-style-type: none"> <li>• Processes Involved</li> <li>• Principles of Management</li> <li>• Functions of Management</li> </ul> </li> <li>• Leadership, motivation and communication <ul style="list-style-type: none"> <li>• Dietician as a leader, leadership qualities that a dietitian should possess, styles of leadership and their effect on subordinates.</li> <li>• Relation between motivation and performance, Maslow’s Theory of Motivation, Fredrik Hedburg Motivation – Hygieno Theory, Application of Above theories to motivate subordinates communication, need for communication, process of communication, upward, downward and lateral communication, barriers to effective communication,listening.</li> </ul> </li> </ul>
<p><b>Unit IV</b></p>	<p><b>Personal Hygiene and Sanitary Practices in Hospital</b></p> <ul style="list-style-type: none"> <li>• Personal Hygiene and Sanitary Practices <ul style="list-style-type: none"> <li>• Health of Staff</li> <li>• Sanitary Practices</li> </ul> </li> <li>• Sanitation Training and Education for Food Service Workers <ul style="list-style-type: none"> <li>• Sanitation Training and Education</li> <li>• Who should be trained?</li> <li>• What a Training Programme should include?</li> <li>• Employment Practice</li> </ul> </li> <li>• Hazard Analysis and Critical Control Point (HACCP)</li> <li>• Work Place Safety <ul style="list-style-type: none"> <li>• Why Accidents should be prevented?</li> <li>• How Accidents Take Place?</li> <li>• Types of Accidents</li> <li>• Precautions to Prevent Accidents</li> </ul> </li> <li>• Sanitation Regulations and Standards <ul style="list-style-type: none"> <li>• Control of Food Quality</li> <li>• Adulteration and Misbranding</li> </ul> </li> </ul>
<p><b>References</b></p>	
<ol style="list-style-type: none"> <li>1. Thangum Philip – (1994) Modern Cookery for Teaching and Trade (Volume 1 &amp; II), Bombay Orient Langman’s.</li> <li>2. Shankuntala Mane – (1987) – Food Facts and Principles , Bombay, Willey Eastern Ltd.,</li> <li>3. Angela Kay (1978) – Shining Cook Book, London Octopus Books Ltd.</li> <li>4. B. B. Weste&amp; L. Wood – (4th Ed.) – Food Service in Institutions - New York, John Willey &amp; Sons,</li> <li>5. MohiniSethi&amp;SurjeeetMathan – (1993) – Catering Management &amp; Integrated Approach, Bombay, Willey Eastern. Ltd.</li> </ol>	

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<b>M.Sc. - FN</b>					
<b>Year</b>	<b>II</b>	<b>Course Type: Elective Compulsory</b> <b>Course No: ECFN 304-B</b> <b>Course Title: Instrumentation</b>		<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>III</b>			<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	<ol style="list-style-type: none"> <li>To enable the students to be familiar with routinely used laboratory instruments</li> <li>To know the principles and applications of different techniques available for pathological estimations</li> </ol>				
<b>COURSE CONTENT / SYLLABUS - THEORY</b>					
<b>Unit I</b>	<b>Basics of Instrumentation</b> <ol style="list-style-type: none"> <li>Colorimetry &amp; Spectrophotometry</li> <li>Fluorimetry</li> <li>Atomic Absorptiometry</li> <li>Flame Photometry</li> </ol>				
<b>Unit II</b>	<b>Chromatography</b> <ol style="list-style-type: none"> <li>Paper</li> <li>Thinlayer</li> <li>Column</li> <li>Ion-exchange</li> <li>Gas-liquid</li> </ol> High performance liquid chromatography				
<b>Unit III</b>	<b>Electrophoresis</b> <ol style="list-style-type: none"> <li>Gel</li> <li>Disc gel and sledge</li> <li>Immuno electrophoresis and various blotting techniques</li> </ol>				
<b>Unit IV</b>	<b>Principles and applications of the following techniques</b> <ol style="list-style-type: none"> <li>Dialysis</li> <li>Centrifugation</li> <li>Auto Analyzer</li> <li>Elisa</li> <li>RIA and radioisotopes in biology and medicine</li> <li>NMR and its applications</li> <li>MRI and CT scan</li> </ol> Ultra sound and sonography				
<b>References</b>					
		<ol style="list-style-type: none"> <li>Boyer R (2000). Experimental Biochemistry (3<sup>rd</sup>ed.). Modern Person education, Asia</li> <li>Dawes EA (1980). Quantitative Problems in Biochemistry</li> </ol>			

	<p>(6<sup>th</sup>ed.). LongmanGroup Ltd.</p> <ol style="list-style-type: none"><li>3. Khosla BD, Garg VC and Khosla A (1987). Senior Practical Physical Chemistry(5<sup>th</sup>ed.). R.Chand&amp; Sons, New Delhi</li><li>4. Oser BL (1965). Hawk's Physiological chemistry (14<sup>th</sup>ed.).Tata McGraw-HillPublishing Co. Ltd</li><li>5. Raghuramulu N, Nair M and Kalyanasundaram KS (1983). A manual oflaboratory techniques. NIN, ICMR.</li><li>6. Sharma BK (1999). Instrumental methods of chemical Analysis Gel (8<sup>th</sup>ed.).PublishingHouse</li><li>7. Srivastava AK and Jain PC (1986). Chemical Analysis. An InstrumentalApproach (2<sup>nd</sup>ed.). S.Chand Company Ltd.</li></ol>	
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**Children's University**  
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**ACADEMIC  
YEAR  
2020-21**

**M.Sc. FN**

<b>Year</b>	<b>II</b>	<b>Course Type: Foundation Course</b> <b>Course No: EGFN 305</b> <b>Course Title: :Prenatal Care and Development</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>III</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>	<ol style="list-style-type: none"><li>1. To enable the students to understand the concept of pregnancy in Indian perspective.</li><li>2. To enable the students to understand the importance of counseling.</li><li>3. To enable the students to understand the social, cultural and spiritual context of progeny.</li><li>4. To familiarize the students the concept of care and dietary management during prenatal.</li></ol>			
<b>COURSE CONTENT / SYLLABUS- THEORY</b>				
<b>Unit I</b>	<b>Family and Marriage</b> <ul style="list-style-type: none"><li>• <b>Family</b></li><li>• Concept of family</li><li>• Type of Family</li><li>• Role and function of family</li><li>• Family life cycle</li><li>• <b>Marriage</b></li><li>• Definition of Marriage.</li><li>• Types of Marriage</li><li>• Marriage and Marital Adjustment</li></ul>			
<b>Unit II</b>	<b>Prenatal care</b> <ul style="list-style-type: none"><li>• <b>Prenatal care</b></li><li>• Concept</li><li>• Need and Importance in Current Scenario Before Pregnancy</li><li>• Work Issue,</li><li>• Age as an issue</li><li>• Family History</li><li>• Genetic testing and Counseling</li><li>• Emotions</li></ul>			

<p><b>Unit III</b></p>	<p><b>Psychological and social aspect</b></p> <ul style="list-style-type: none"> <li>• <b>Psychological and social aspect</b></li> <li>• psychological stress,</li> <li>• psychological counseling</li> <li>• Social accept</li> <li>• Society and you</li> <li>• Cultural aspect</li> <li>• family history, family expectation</li> </ul>
<p><b>Unit IV</b></p>	<p><b>Preparing for Pregnancy</b></p> <ul style="list-style-type: none"> <li>• <b>Lifestyle changes</b></li> <li>• Nutrition</li> <li>• Exercise</li> <li>• Meditations</li> <li>• Age as an issue</li> <li>• <b>prenatal hazards and remedies</b></li> <li>• Labor and Birth</li> <li>• Birth Process</li> <li>• Stages of birth</li> <li>• Types of birth</li> </ul>
<p style="text-align: center;"><b>Reference</b></p> <ol style="list-style-type: none"> <li>1. Adarsh Mata- UtamSantan.</li> <li>2. Balshikshan</li> <li>3. Park's Textbook of Preventive and social Medicine 23<sup>rd</sup>edi.</li> <li>4. ParivarniPathshala, Children's University, Gandhinager.</li> <li>5. AdhinanShastra.</li> <li>6. Sagarbhavasthaanetmarubalak , Dr.BabalalN.Parikh Ushaben Ba. Parikh, Navneet Education Limited,Dantali, Gujarat</li> </ol>	



**COURSE OUTLINES FOR COURSES OFFERED  
IN SEMESTER IV**



**Children's University  
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**ACADEMIC  
YEAR  
2020-2021**

**P.G.Diploma in Nutrition and Dietetics**

<b>Year</b>	<b>II</b>	<b>Course Type: Core Compulsory</b> <b>Course No: CCFN401</b> <b>Course Title: Clinical Therapeutic Nutrition</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>IV</b>		<b>Hours/wk</b>	<b>4</b>
<b>Objectives</b>		<ol style="list-style-type: none"> <li>1. The course is aimed at giving advanced knowledge in the field of clinical nutrition and dietetics</li> <li>2. The course will enable the students to gain current knowledge about classification, pathogenesis, diagnosis, etiology, symptoms and dietetic management of various diseases</li> </ol>		
<b>COURSE CONTENT / SYLLABUS- Practical</b>				
<b>Unit I</b>	<b>Dietary Management</b> <ul style="list-style-type: none"> <li>●Weight Imbalance -Prevalence and Classification <ul style="list-style-type: none"> <li>• Guidelines for Calculating ideal Body Weight</li> <li>• Obesity and underweight</li> </ul> </li> <li>●Nutrient and Drug Interaction: Basic Concept <ul style="list-style-type: none"> <li>• Effect of Nutrition on Drugs</li> <li>• Drug Effects on Nutritional Status</li> <li>• Drug and Drug Interaction</li> <li>• Clinical Significance and Risk Factors for Drug-Nutrient Interactions</li> <li>• Guidelines to Lower Risk and Wise Use of Drugs</li> </ul> </li> <li>●Gastrointestinal Diseases and Disorders <ul style="list-style-type: none"> <li>• Diarrhoea</li> <li>• Constipation</li> <li>• Oesophagitis</li> <li>• Gastro Oesophageal Reflux Disease (GERD)</li> <li>• Dyspepsia</li> <li>• Gastritis</li> <li>• Diverticular Disease</li> <li>• Peptic Ulcer</li> <li>• Malabsorption Syndrome'</li> </ul> </li> </ul>			
<b>Unit II</b>	<b>Dietary Management in Gout and Diabetes Mellitus</b> <ul style="list-style-type: none"> <li>●Gout <ul style="list-style-type: none"> <li>• Role of Protein and Purines</li> <li>• Etiology</li> <li>• Clinical Features and Complications</li> <li>• Management of Gout</li> </ul> </li> <li>●Diabetes Mellitus <ul style="list-style-type: none"> <li>• Prevalence of Diabetes Mellitus</li> <li>• Classification and Etiology of Diabetes</li> <li>• Factors Affecting Normal Blood Sugar Levels</li> <li>• Diagnosis</li> <li>• Complications of Diabetes</li> </ul> </li> <li>●Management of Diabetes</li> </ul>			

	<ul style="list-style-type: none"> <li>• Management of Diet</li> <li>• Food Exchange System</li> <li>• Glycemic Index (GI)</li> <li>• Sweeteners: Nutritive and Non-Nutritive Sweeteners</li> <li>• Dietetic Foods</li> <li>• Beneficial Effect of Some Foods: Supportive Therapy</li> <li>• Exercise and Drugs</li> </ul>
<b>Unit III</b>	<b>Coronary Heart Diseases and their Management</b> <ul style="list-style-type: none"> <li>• Coronary Heart Diseases (CHD) <ul style="list-style-type: none"> <li>• Prevalence</li> <li>• Etiology: Cardiovascular Risk Factors</li> <li>• Pathophysiology of CHD</li> </ul> </li> <li>• Common Disorders of Coronary Heart Diseases and their Management <ul style="list-style-type: none"> <li>• Dyslipidemia</li> <li>• Atherosclerosis : A Coronary Artery Disease</li> <li>• Hypertension (HT)</li> <li>• Angina Pectoris</li> <li>• Myocardial infarction (MI)</li> <li>• Congestive Cardiac Failure</li> <li>• Rheumatic Heart Disease (RH-CD)</li> </ul> </li> </ul>
<b>Unit IV</b>	<b>Dietary Management in Liver and Renal Diseases</b> <ul style="list-style-type: none"> <li>• Liver disorders <ul style="list-style-type: none"> <li>• Viral hepatitis types A and B, C, E</li> <li>• Cirrhosis of liver</li> <li>• Hepatic coma</li> </ul> </li> <li>• Kidney Function: Diagnostic Tests <ul style="list-style-type: none"> <li>• Common Renal Diseases Etiology and Dietary Management</li> <li>• General Principle of Dietary Management in Renal Diseases</li> <li>• Acute and Chronic Nephritis</li> <li>• Nephritic Syndrome</li> <li>• Acute Renal Failure (ARF )</li> <li>• Chronic Renal Failure (CRF)</li> <li>• End Stage Renal Disease, (ESRD) and Renal Calculi</li> </ul> </li> </ul>
References	
<ol style="list-style-type: none"> <li>1. Mahan KL and Stump SE (2007). Krause's Food and Nutrition Therapy (12th ed.). Saunders Publishing</li> <li>2. B Srilakshmi. Dietetics. New age international publishers.</li> <li>3. Association of Physicians of India (1998). API Textbook of Medicine, Vol. I and II. Published by Association of Physicians of India</li> <li>4. Dr (smt.) Vijaya d. Joshi Handbook of nutrition and dietetics. Vora medical publications, Bombay</li> <li>5. Avantina Sharma Principles of therapeutic nutrition and dietetics</li> </ol>	
Journals	
<ol style="list-style-type: none"> <li>1. Indian Journal of Nutrition and Dietetics.</li> <li>2. Medical Clinics of North America</li> <li>3. American Journal of Clinical Nutrition</li> </ol>	

4. Journal of Human Nutrition
5. Journal of American Medical Association
6. Journal of Ph. Diet. Assoc.
7. Nutrition Reviews
8. World Review of Nutrition and Dietetics.



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School of Nutrition and Health  
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**ACADEMIC  
YEAR  
2020-2021**

**M.Sc.- FN**

<b>Year</b>	<b>II</b>	<b>Course Type: Core Compulsory Course No: CCFN 402 Course Title: Modern Cookery</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>IV</b>		<b>Hours/wk</b>	<b>4</b>

**COURSE CONTENT / SYLLABUS- Practical**

<b>Unit I</b>	<b>Application of Science in cooking</b> <ul style="list-style-type: none"><li>• Cookery as a Science<ul style="list-style-type: none"><li>• Objective of cooking</li><li>• Preliminary Preparations</li></ul></li><li>• Cooking methods<ul style="list-style-type: none"><li>• Moist heat Method and Dry heat method</li><li>• Microwaves cooking</li><li>• Solar cooking</li></ul></li><li>• Advances in food technology</li></ul>
<b>Unit II</b>	<b>Role of food ingredients in cookery</b> <ul style="list-style-type: none"><li>• Foundation ingredients</li><li>• Fats</li><li>• Resigning Agents</li><li>• Salt</li><li>• Liquid</li><li>• Flavouring and Seasoning</li><li>• Sweetening and thickening</li></ul>
<b>Unit III</b>	<b>Food ingredients and Spices used in Indian and Western Cookery</b> <ul style="list-style-type: none"><li>• Importance of spices</li><li>• Basic information about spices</li><li>• Functional foods in cookery</li><li>• Ingredients used in bakery items</li><li>• Points consider while making bakery items</li></ul>
<b>Unit IV</b>	<b>Beverages and Appetizers</b> <ul style="list-style-type: none"><li>• Classification</li><li>• Nutritive value</li><li>• Cooking tips</li><li>• Serving</li></ul>





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**M.Sc.- FN**

<b>Year</b>	<b>II</b>	<b>Course Type: Core Compulsory Course No: CCFN 403 Course Title: Practical- 4</b>	<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>IV</b>		<b>Hours/wk</b>	<b>8</b>
<b>COURSE CONTENT / SYLLABUS- Practical</b>				
<b>Unit I</b>	<b>Dietary Management in</b> <ul style="list-style-type: none"><li>• Obesity and underweight</li><li>• Gastrointestinal Diseases and Disorders</li><li>• Gout</li><li>• Diabetes Mellitus</li></ul>			
<b>Unit II</b>	<b>Dietary Management in</b> <ul style="list-style-type: none"><li>• Coronary Heart Diseases</li><li>• Liver and Renal Diseases</li></ul>			
<b>Unit III</b>	<b>Preparations of</b> <ul style="list-style-type: none"><li>• Beverage (hot and cold)</li><li>• Soup and Sauces</li><li>• Cereals</li><li>• Pulses</li><li>• Vegetables</li></ul>			
<b>Unit IV</b>	<b>Preparations of</b> <ul style="list-style-type: none"><li>• Salads</li><li>• Desserts</li><li>• Snacks</li><li>• Sandwiches</li><li>• Pasta</li><li>• Bakery items</li></ul>			

		<b>Children's University</b> <b>School of Nutrition and Health</b> <b>Department of Home Science</b> <b>Gandhinagar.</b>		<b>ACADEMIC</b> <b>YEAR</b> <b>2020-2021</b>	
<b>M.Sc. - FN</b>					
<b>Year</b>	<b>II</b>	<b>Course Type: Elective Compulsory</b>		<b>Credits</b>	<b>4</b>
		<b>Course No: ECFN 404A or B</b>			
		<b>Course Title: Dissertation or Project</b>			
<b>Semester</b>	<b>IV</b>			<b>Hours/wk</b>	<b>8</b>
<b>Objectives</b>	1. To familiarize the students with the process of research with focus on clinical nutrition 2. To train the students on all steps of research process from problem identification to data dissemination 3. To train students on writing a proposal for funding and ethical approval process.				
<b>COURSE CONTENT / SYLLABUS</b>					
<b>Unit I</b>	Identification of problem of Research in Foods & Nutrition			<b>(5%)</b>	
<b>Unit II</b>	Collecting relevant Review of Literature and developing the experimental design			<b>(10 %)</b>	
<b>Unit III</b>	Proposal development, its approval by technical and ethical committee			<b>(10 %)</b>	
<b>Unit IV</b>	Tool development for Research and pilot testing / standardization of techniques			<b>(15%)</b>	
<b>Unit V</b>	Data Collection / Mid-course corrections			<b>(45%)</b>	
<b>Unit VI</b>	Data entry ; Statistical analysis				
<b>Unit VII</b>	Scientific Writing			<b>(15%)</b>	
<b>REFERENCES</b>					
1.Indian Journal of Endocrinology & metabolism, Medknow publications & media Pvt. Ltd, Mumbai. 2 .Journal of Medical Nutrition & Nutraceuticals, Medknow publications & media Pvt. Ltd, Mumbai. 3.Asia Pacific Journal of Clinical Nutrition, Published by HEC Press.					
<b>Web journals</b>					
1.www.diabetologia – journal.org (Diabetologia) 2.Onlinelibrary.willwg.com/journal/10.1111 (ISSN) 1467 – 789 X (Obesity review) 3.www.adajournal.org (Journal of the Academy of Nut. Of Diabetes) 4.As.wiley.com/wiley CDA/wiley title/product Cd – NDI.html (Nutrition of Dietetics)					

		<b>Children's University</b> <b>School of Nutrition and Health</b> <b>Department of Home Science</b> <b>Gandhinagar.</b>		<b>ACADEMIC</b> <b>YEAR</b> <b>2020-2021</b>	
<b>Year</b>	<b>II</b>	<b>Course Type: Foundation Course</b> <b>Course No EGFN 405</b> <b>Course Title: Internship</b>		<b>Credits</b>	<b>4</b>
<b>Semester</b>	<b>IV</b>			<b>Hours/wk</b>	<b>8</b>
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To familiarize the students with the hospital organization</li> <li>2. To train the students in the dietetics department of hospital</li> <li>3. To have hands on experience in the various OPD of a hospital</li> </ol>				
<b>COURSE CONTENT - PRACTICALS</b>					
<b>Duration of training :</b> 45 working Days <b>Training:</b> Hospital Setting <b>Norms:</b> As per the norms of the hospital <b>Evaluation:</b> The students will be evaluated by the dietician of the hospital. <b>Note:.</b> <ol style="list-style-type: none"> <li>1. The student will have to prepare a report and submit to the department.</li> <li>2. A presentation has to be made in seminar on their work experience.</li> </ol>					



Course: M.A.

Code: MASKF-121

Paper Name: संस्कृत-भाषावबोधनम्- १

Subject Code	Subject Name	Evaluation Components				Total
		EXTERNAL		INTERNAL		
		PASSING MARKS	OUT OF MARKS	PASSING MARKS	OUT OF MARKS	
MASKF-121	Sanskrit Bhashavbodhanam-1	20	50	20	50	40/100

Course Objectives	<ul style="list-style-type: none"> <li>To acquaint students with the basic principles of Sanskrit grammar.</li> <li>To demolish the general wrong concept and mentality as to speak in Sanskrit is the toughest task.</li> <li>To establish the correct concept of Sambhashan (Spoken) Sanskrit, as it is the simplest language to acquire and anyone can speak Sanskrit, is a piece of cake.</li> </ul>
Course Outcomes	<ul style="list-style-type: none"> <li>Students acquire the fundamental rules of spoken Sanskrit grammar.</li> <li>Students will be able to understand Sanskrit subjects in Sanskrit language.</li> <li>Students will easily acquire day to day communication in Sanskrit Language.</li> </ul>

COURSE	Paper Code	Paper Name	Units	
Foundation	MASKF-121	संस्कृत-भाषावबोधनम्- १	१	संस्कृतभाषायाः महत्त्वम् भाषाप्रवेशः पाठः १ तः ६पर्यंतम्
			२	भाषाप्रवेशः पाठः ७ तः १२ पर्यंतम्
			३	भाषाप्रवेशः पाठः १३ तः १८ पर्यंतम्
			४	भाषाप्रवेशः पाठः १९ तः २५ पर्यंतम्

संदर्भग्रन्थः -

- भाषाप्रवेशः, सम्पादकाः- डॉ. चाँदकिरण सलूजा, डॉ. विश्वासः, सुधीष्टकुमार मिश्रः, गिरीशचन्द्र तिवारी, एम्.वि. मोहनः संस्कृत भारती, नव देहली
- प्रथमा दीक्षा , प्रकाशन- राष्ट्रियसंस्कृत संस्थान, देहली
- अनुवाद चन्द्रिका, चक्रधर नौटियाल, मोतीलाल बनारसीदास, चौखम्बा प्रकाशन
- संस्कृत वाक्य संरचना, वसन्तकुमार भट्ट, सरस्वती पुस्तक भण्डार
- संस्कृत पंकजम्, पंकजः ज्ञा, प्रकाशकः - श्री बैद्यनाथ संस्कृत संस्थान, देवघर, झारखंड
- अनुवाद चन्द्रिका, चक्रधर नौटियाल, मोतीलाल बनारसीदास, चौखम्बा प्रकाशन

- संस्कृत वाक्य संरचना, वसन्तकुमार भट्ट, सरस्वती पुस्तक भण्डार
- संस्कृत पंकजम्, पंकजः झा, प्रकाशकः – श्री वैद्यनाथ संस्कृत संस्थान, देवघर, झारखंड
- संस्कृत स्वयं शिक्षक, श्रीपाद दामोदरः सातवालेकरः, प्रकाशकः – राज्यपाल एन्ड सन्स ,देहली
- प्रमुख संस्कृतम्, प्रकाशकः – बी.ए. पी.एस. स्वामीनारायण संस्थान, बोटाद, गुजरात

## Foundation – MSKF-221

Course: M.A.

Code: MASKF-221

Paper Name: Sanskritbhashavbodhanam-2 (संस्कृत-भाषावबोधनम्- २)

Subject Code	Subject Name	Evaluation Components				Total
		EXTERNAL		INTERNAL		
		PASSING MARKS	OUT OF MARKS	PASSING MARKS	OUT OF MARKS	
<b>MASKF-221</b>	<b><u>Sanskrit Bhashavabodhanam – 2</u></b>	20	50	20	50	40/100

Course Objectives	<ul style="list-style-type: none"><li>To acquaint students with the basic principles of Sanskrit grammar.</li><li>To demolish the general wrong concept and mentality as to speak in Sanskrit is the toughest task.</li><li>To establish the correct concept of Sambhashan (Spoken) Sanskrit, as it is the simplest language to acquire and anyone can speak Sanskrit, is a piece of cake.</li></ul>
Course Outcomes	<ul style="list-style-type: none"><li>Students acquire the fundamental rules of spoken Sanskrit grammar.</li><li>Students will be able to understand Sanskrit subjects in Sanskrit language.</li><li>Students will easily acquire day to day communication in Sanskrit Language.</li></ul>

	Paper Code	Paper Name	Units	
Foundation	MASKF-221	Sanskritbhashavbodhanam-2 (संस्कृत-भाषावबोधनम्- २)	१	भाषाप्रवेश: पाठ: -२६ त: ३१ पर्यंतम्
			2.	भाषाप्रवेश: पाठ: -३२ त: ३७ पर्यंतम्
			3.	भाषाप्रवेश: पाठ: -३८ त: ४३ पर्यंतम्
			4.	भाषाप्रवेश: पाठ: -४४ त: ५० पर्यंतम्

संदर्भग्रन्थः -

- भाषाप्रवेशः, सम्पादकाः- डॉ. चाँदकिरण सलूजा, डॉ. विश्वासः, सुधीष्टकुमार मिश्रः, गिरीशचन्द्र तिवारी, एम्। वि। मोहनः संस्कृत भारती, नव देहली
- प्रथमा दीक्षा, प्रकाशन- राष्ट्रियसंस्कृत संस्थान देहली
- अनुवाद चन्द्रिका, चक्रधर नौटियाल, मोतीलाल बनारसीदास, चौखम्बा प्रकाशन
- संस्कृत वाक्य संरचना, वसन्तकुमार भट्ट, सरस्वती पुस्तक भण्डार
- संस्कृत पंकजम्, पंकजः ज्ञा, प्रकाशकः - श्री बैद्यनाथ संस्कृत संस्थान, देवघर, झारखंड
- संस्कृत स्वयं शिक्षक, श्रीपाद दामोदरः साटवालेकरः, प्रकाशकः - राज्यपाल एन्ड सन्स, देहली
- प्रमुख संस्कृतम्, प्रकाशकः - बी.ए. पी.एस. स्वामीनारायण संस्थान, बोटाद, गुजरात