

To,

13.06.2018

Sri. Sanyiv Kumar  
OSI (Universities)  
Raj Bhawan, Patna

Sub: Implementation of Choice Based Credit System


Sir,

In reference to your letter No. BSU (Regulation)-  
20/2018-1510/GS(I), dt. 05.06.2018, a meeting of the  
panel of experts in Home Science was held today  
(13.06.2018) at 10.30 am to finalise the CBCS <sup>curriculum</sup>  
in Home Science.


We went through the syllabus provided to us. We  
found that the syllabus was in order. However,  
two additional sheets added as cover pages.

We recommend that it may be placed before  
the authorised body.

Yours sincerely,

  
13.06.2018  
Associate Prof. (HOD)  
Dept. of Home Science  
Patna University

9334121405

  
12.06.18  
Coordinator, NOU

Patna.  
9304261226  
9123187723

### **Core Course (CC):**

A course which should compulsorily be studied by a candidate as a core requirement on the basis of subject of MA studies and is termed as a Core course.

### **Elective Course (EC):**

Generally a course which can be chosen from a pool of courses (Basket) and which may be very specific or specialized or advanced or supportive to the subject/discipline of study or which provides an extended scope or which enables an exposure to some other subject/discipline/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

### **Discipline Specific Elective Course (DSE):**

Elective courses may be offered by the main discipline/subject of study is referred to as **Discipline Specific Elective**. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

### **Generic Elective (GE) Course:**

An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a **Generic Elective**.

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and *vice versa* and such electives may also be referred to as Generic Elective.

### **Ability Enhancement Courses (AEC):**

The Ability Enhancement Courses (AEC) / Skill Enhancement Courses (SEC). "AEC" courses are the courses based upon the content that leads to life skill enhancement.

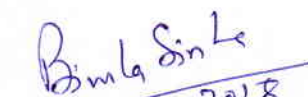
### **Ability Enhancement Compulsory Courses (AECC): (Qualifying and Non-CGPA course):**

University will run a number of **Ability Enhancement Compulsory Courses (AECC)** which is qualifying in nature and student from all faculties have to qualify in all courses.

### **Dissertation/Project/ Internship/ Industrial Training:**

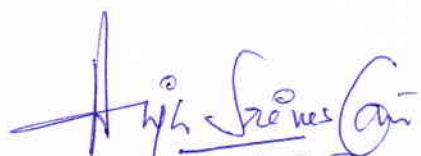
An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher / faculty member is called dissertation/project.


  
13.06.2018

  
13.06.2018

## Description of papers for MA degree in Home Science (Faculty of Social Sciences) under CBCS

SEMESTER	Course/ Paper Code	Nature of Course/ Paper	Marks	Marks of CIA	Marks of ESE	Passing criterion	Qualifying Criterion
<b>SEMESTER I</b>	MHOMCC- 1	Advanced Nutrition	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-2	Advanced Study of Human Development	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-3	Concept of Home Management	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-4	Research Methodology and Statistics	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMAEC-1	Environmental Sustainability & Swachha Bharat Abhiyan Activities	100	50	50	45% in CIA 45% in ESE	Qualifying
<b>SEMESTER II</b>	MHOMCC-5 (DSE for other departments)	Therapeutic Nutrition	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-6	Maternal and Infant Nutrition	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-7	Management of Textile Crafts and Apparel Industry	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-8	Communication Technology	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-9	Women's Studies	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMAEC-1	Computers & IT Skill	100	50	50	45% in CIA 45% in ESE	Qualifying
<b>SEMESTER III</b>	MHOMCC-10	Food Processing	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-11	Food Science and Experimental Food	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-12	Institutional Food Management	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-13	Community Nutrition	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMCC-14	Practical	100	30	70	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMAEC-2	Human Values & Professional Ethics & Gender Sensitization	100	50	50	45% in CIA 45% in ESE	Qualifying
<b>SEMESTER IV</b>	MHOME-1	Practical Approach to Writing Research Activities	100	Will be decided by the BOCS	Will be decided by the BOCS	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOME-2	Internship/Dissertation/ Project/Seminar	100	Will be decided by the BOS	Will be decided by the BOS	45% in CIA 45% in ESE	Marks decide class/ CGPA
	MHOMDSE	Opt a course from other Department	100	30	70	45% in CIA 45% in ESE	Qualifying

  
 13.06.2018

  
 13.06.2018

### 3.1.1 Core Course (CC):

A course which should compulsorily be studied by a candidate as a core requirement on the basis of subject of MA studies and is termed as a Core course.

### 3.1.2. Elective Course (EC):

Generally a course which can be chosen from a pool of courses (Basket) and which may be very specific or specialized or advanced or supportive to the subject/discipline of study or which provides an extended scope or which enables an exposure to some other subject/discipline/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

### 3.1.3 Discipline Specific Elective Course (DSE):

Elective courses may be offered by the main discipline/subject of study is referred to as **Discipline Specific Elective**. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

### 3.1.4 Generic Elective (GE) Course:

An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a **Generic Elective**.

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and *vice versa* and such electives may also be referred to as Generic Elective.

### 3.1.4 Ability Enhancement Courses (AEC):

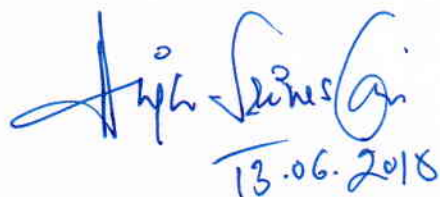
The Ability Enhancement Courses (AEC) / Skill Enhancement Courses (SEC). "AEC" courses are the courses based upon the content that leads to life skill enhancement.

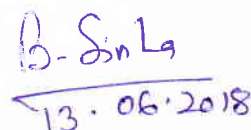
### 3.1.6 Ability Enhancement Compulsory Courses (AECC): (Qualifying and Non-CGPA course):

University will run a number of **Ability Enhancement Compulsory Courses (AECC)** which is qualifying in nature and student from all faculties have to qualify in all courses.

### 3.1.7 Dissertation/Project/ Internship/ Industrial Training:

An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher / faculty member is called dissertation/project.

  
13.06.2018

  
13.06.2018

**Dr. Anju Srivastava**  
Associate Professor & Head,  
PG Department of Home Science,  
Patna University, Patna



07.05.2018

To,  
The Registrar  
Patna University,  
Patna

**Subject: Revised Curriculum for Postgraduate course in Home Science under Choice Based Credit System - Submission**

Respected Sir,

We are hereby submitting the revised Curriculum for Postgraduate course in Home Science under Choice Based Credit System prepared by us.

Thanking you,

Yours sincerely,

(Anju Srivastava)

Enclosed:

- 1). Proceeding of the meeting
- 2). Two copies of revised curriculum for Postgraduate Course in Home science under Choice based Credit System

~~DR~~ / S.O. Acad.  
Sub  
07/05/18

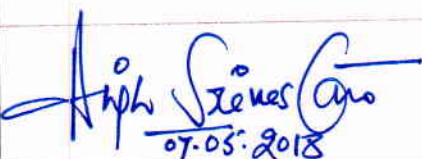


## Department of Home Science Patna University, Patna



A meeting regarding revision of curriculum under Choice Based Credit System for Post Graduate course in Home Science was held today i.e. 07.05.2018 (Monday) at 10.30 a.m. in the Post Graduate Department of Home Science, Patna University under the chairmanship of Dr. Anju Srivastava, Head, Post Graduate Department of Home Science, Patna University.


The following members were present in the meeting:

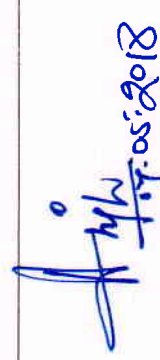
S. No.	Members of the Syllabus Committee - Name & Address	Signature
01	Dr. Anju Srivastava Head, PG Department of Home Science Patna University, Patna	 07.05.2018
02	Prof. (Dr.) Renu Kumari Head, PG Department of Home Science B.R.A. Bihar University, Muzaffarpur	Renu Kumari 7/8/2018
03	Dr. Manju Kumari Sinha Head, PG Department of Home Science J.P. University, Chapra	Manju Kumari Sinha 07.05.2018
04	Dr. Nirmala Jha Head, PG Department of Home Science L.N.M.U. Darbhanga	Nirmala Jha 07.05.2018
05	Dr. Anju Singh Head, PG Department of Home Science T.M.B.U., Bhagalpur	Anju Singh 07-05-2018
06	Dr. Vijay Lakshmi Head, PG Department of Home Science V.K.S.U, Ara	V. Lakshmi 07.05.2018

The members of the Syllabus Committee, after thorough discussion, approved the attached revised curriculum for Post Graduate course in Home Science under Choice Based Credit System.

### Proposed Syllabus for M.A. in Home Science

Semester	Core Course (CC)	Elective Course (EC)	Discipline Specific Elective Course (DSE)	Generic Elective Course (GE)	Ability Enhancement Course (AEC)	Ability Enhancement Compulsory Course (AECC)
1	CC - 1 Advanced Nutrition					AECC - 1 Environmental Sustainability & Swachcha Bharat Abhiyan Activities
	CC - 2 Child Development: Prenatal to Preadolescence					
	CC - 3 Concept of Home Management					
	CC - 4 Research Methodology and Statistics					
2	CC - 5 Therapeutic Nutrition (DSE for other departments)				AEC - 1 Computers & IT Skill	
	CC - 6 Maternal and Infant Nutrition					
	CC - 7 Management of Textile Crafts and Apparel Industry					
	CC - 8 Communication Technology					
	CC - 9 Women's Studies					
	CC - 10 Food Processing					AECC - 2 Human Values & Professional Ethics & Gender Sensitization
	CC-11 Food Science and Experimental Food					
	CC - 12 Institutional Food Management					
	CC - 13 Community Nutrition					
CC - 14 Practical						
3	EC - 1 Practical Approach to Writing Research Activities					
	EC - 2 Internship/Dissertation/Project/Seminar					
4	GE - 1 Human Rights					

  
 13.06.2018  
 B. Sinha  
 13.06.2018

  
 13.05.2018  
 Renu Kumari  
 11/5/18  
 Arin Singh  
 07/5/18  
 S. Kishore  
 7-5-18  
 N. Dha  
 7-5-18  
 H. P. S. M  
 07-5-18

### Semester-1

Course Opted	Course Name	Credits
CC - 1 (Core Course)	Advanced Nutrition	5 (5+0)
CC - 2 (Core Course)	Child Development: Prenatal to Preadolescence	5 (5+0)
CC - 3 (Core Course)	Concept of Home Management	5 (5+0)
CC - 4 (Core Course)	Research Methodology and Statistics	5 (5+0)
AECC - 1 (Ability Enhancement Compulsory Course)	Environmental Sustainability & Swachhha Bharat Abhiyan Activities	5 (5+0)
<b>Total</b>		<b>25</b>

*[Signature]*  
07.05.2018

Renu Kumari  
07/5/18

V. Lakshmi  
7.5.18

Nismelathe  
7.5.18

Arpit Singh  
07/5/18

M. S. Singh  
7.5.18

*[Signature]*  
13.06.2018

B. Singh  
13.06.2018



## Semester – I

Core Course 1:

Advanced Nutrition

05 Credits

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under*

Group A- Compulsory – ten questions (two questions from each unit) of two marks each.

$2 \times 10 = 20$  marks

Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.

$5 \times 4 = 20$  marks

Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.

$10 \times 3 = 20$  marks

### Objectives:

This course will enable the students to:

- Understand the impact of nutrients on human body
- Get an insight into various metabolic pathways
- Know the role of hormones in growth, maintenance and regulation of body processes

### Unit I

#### Energy Metabolism

- Determination of energy value of food- Bomb calorimeter
- Basal metabolic rate- Measurement and factors affecting basal metabolic rate
- Measurement of energy requirement of an individual with reference to man and women

### Unit II

#### Proteins

- Classification of protein & amino acids
- Structure, properties and functions of protein
- Metabolism of proteins, protein synthesis
- Assessment of protein quality
- Plasma proteins
- Structure and Functions of DNA and RNA

### Unit III

#### Lipids

- Classification of Lipids
- Structure, properties and functions of Lipids
- Metabolism and nutritional significance of lipids
- Biosynthesis of cholesterol and its functions

### Unit IV

#### Carbohydrates

- Classification of carbohydrates
- Structure, properties and functions of carbohydrates
- Metabolism of carbohydrates
- Altered metabolism of carbohydrates in diabetics
- Glycemic index
- Role of hormones in carbohydrate metabolism (insulin, thyroid and adrenal cortex)

*A. J. K.*  
13.06.2018

Renu Kumari  
7/5/18  
N. D. G.  
7.5.18

Anjita Singh  
07/5/18

*V. Lakshmi*  
7.5.18  
M. H. Saha  
07.5.18

*A. J. K.*  
13.06.2018

*B. S. K.*  
13.06.2018

**Unit V**  
**Micronutrients**

Vitamins and Minerals and their role in metabolism (vitamin A, Calcium, Iron and Iodine)

**Reference:**

1. M. Swaminathan: Advance text book on Food and Nutrition Vol. II
2. Paul and R., Elen T. Ross: Nutrition
3. A.C. Deb: Fundamentals of Biochemistry
4. H.S. Srivastava: Elements of Biochemistry
5. A.K. Bery: Few Rasayan ki Pathya Pshtika

*Handwritten signature*  
07-05-2018

Resu Kumari  
7/5/18

Anjish Singh  
07/5/18

V. Lakshmi  
7-5-18

Nirmala Jha  
7.5.18

M.P. Sinha  
07.5.18

*Handwritten signature*  
13.06.2018

B. Sinha  
13-06-2018

**Core Course 2: Child Development: Prenatal to Preadolescence****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

This course will enable the students to:

- To have an overview of development from prenatal stage to preadolescence stage
- To develop an awareness of important aspects of all development stages during this phase

**Unit I****Introduction to Development**

- Stages and principles of growth and development
- Developmental tasks
- Individual differences
- Comparative role of heredity and environment
- Aspects of development

**Unit II****Prenatal Development**

- Conception, stages of prenatal development
- Factors affecting prenatal development
- Common disorders during pregnancy
- Types and stages of birth process

**Unit III****Infancy (0-2 years)**

- Neonate-Their characteristics and behavior patterns
- Evaluation and examination of health of neonate
- Formation of some healthy and good habits among Infants

**Unit IV****Early Childhood (2-6 years)**

- Physical and motor development, common motor skills
- Social and Emotional development (characteristics and common Emotions)
- Cognitive development

**Unit V****Late childhood (6-12 years)**

- Physical and motor development
- Personality development- characteristics
- Imagination and cognitive development
- Social relationship- peer, siblings and parents

*[Signature]*  
07.05.2018

Rene Kumari  
07/5/18  
N. Lakshmi  
7-5-18

Anjita Singh  
07/5/18  
Nirmelata  
07.5.18

*[Signature]*  
13.06.2018  
B. Singh  
13-06-2018  
M. K. Sankar  
07.5.18

□

**References:**

1. Rice, F.P (1995). Human Development, New Jersey: Prentice Hall
2. Santrock, J.W. & Yussen, S.R. (1988). Child Development: An Introduction  
Lowa: Wm.C Brown Publishers
3. Cole, M. & Cole, S. (1993). The Development of Children (2nd Ed) New York:  
scientific American Books Freeman & Co.

*[Signature]*  
07.05.2018

Renu Kumari  
7/5/18

Anjishir  
07/5/18

V. Lakshmi  
7.5.18

Nirmala Jha  
7.5.18

H.H. Sankar.  
7-5-18

*[Signature]*  
13.06.2018

B. Sankar  
13.06.2018



**Core Course 3:****Concept of Home Management****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

This course will enable the students:

- To understand the significance of management in the micro and macro organization
- To know the conceptual, human and scientific aspects of management functions
- To develop the ability to evaluate the managerial efficiency and effectiveness in the family and other organizations

**Unit I****Management as a system**

- Definition
- Elements
- Types
- Application in family resource management

**Unit II****Management process**

- Planning – objectives, principles, strategies, policies
- Organizing – purpose, process, delegation, authority, responsibility and accountability, staffing, purpose, recruitment, appraisal directing, leadership, motivation and communication
- Controlling and its tools
- Appraisal
- Evaluation

**Unit III****Ergonomics**

- Definition
- Scope and nature of ergonomics in domestic and other occupations

**Unit IV****Time and energy management**

Time and energy management in study of ergonomics

**Unit V****Work simplification**

Work simplification process and time motion economy

*APK*  
107.05.2018

Renu Kumari  
7/5/18  
N. Lakshmi  
7.5.18

Anjia Singh  
07/5/18  
Nirmala Jha  
7.5.18

*APK*  
13.06.2018

B. Sinha  
13.06.2018

M. W. Sankar  
7.5.18

**Reference:**

1. Introduction hot Home Management by Bettye B. Swanson, Macmillan Publishing Company
2. Home - Today & Tomorrow by Ruth F. Sherwood
3. The House - its plan and use by Tersie Agan M.S. Oxford & IBH Publishing House
4. Management for Modern families by Gross Grandall, Knoll Prentice Hall, International INC, Englewood, New Jersey
5. Grih Prabanth by Manju Patni
6. Grih Prabandh and Grih Vyavastha by Brinda Singh

*Handwritten signature*  
07.05.2018

Renu Kumari  
7/5/18

*Handwritten signature*  
07/5/18

Nirmala Jha.  
7-5-18

*Handwritten signature*  
7-5-18

*Handwritten signature*  
7-5-18

*Handwritten signature*  
13.06.2018

*Handwritten signature*  
13.06.2018

**Core Course 4: Research Methodology and Statistics****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.* $2 \times 10 = 20$  marks*Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.* $5 \times 4 = 20$  marks*Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.* $10 \times 3 = 20$  marks**Objectives:**

This course will enable the students to:

- Develop a scientific approach and know the processes of research
- Develop the competence for selecting method and tools appropriate for research topics
- Understand concepts of statistical measures of central tendency, dispersion variability and probability

**Unit I****Foundation of Scientific Research**

- Research – meaning and definition
- Need of research in Home Science
- Necessary consideration for selecting a research problem
- Sources for locating a research problem

**Unit II**

Stages/steps involved in research process

- Research problem
- Literature Review
- Hypothesis
- Variables
- Methodology: sample, sampling technique, tools and tests, statistical devices
- Pilot study
- Test administration and data collection
- Scientific generalization
- Preparing the research report

**Unit III****Sample and Sampling techniques**

- Sample- Meaning, characteristics of a good/scientific sample
- Sampling techniques:
  - Probability sampling- Meaning and types
  - Non-probability sampling- Meaning and types

**Unit IV****Research Tools**

- Observation
- Questionnaire
- Interview
- Case study

*Signature*  
13.06.2018

Renu Kumari  
7/5/18  
Nirmalika  
7.5.18

*Signature*  
13.06.2018  
B-Sank  
12.06.2018  
Anjish Singh  
07/5/18  
N. Lakshmi  
7.5.18  
M.K. Sank  
07.5.18

**Unit V****Concept of data**

- a. Types of data – Primary data and secondary data  
Qualitative and quantitative data
- b. Analysis of data – Qualitative and quantitative data analysis

**Reference:**

1. Bell, J (1997): Doing Your Research Project: A Guide for First-time Researchers in 1.3 Research process Education and Social Science, Viva Books, New Delhi
2. Bell, J (1997): How to Complete Your Research Project Successfully: A Guide for First time Researchers, UBSPD, New Delhi
3. Bulmer, M.C. (1984): Sociological Research Methods An Introduction, Macmillan, HongKong
4. Festinger, L. and Katz, D. (ed.) (1977): Research Methods in the Behavioral Sciences, Amerind Publishing, New Delhi
5. Holloway, I. (1997): Basic Concepts of Qualitative Research, Blackwell Science, London.
6. Jain, G. (1998): Research Methodology: Method and Techniques, Mangal Deep, Jaipur
7. Kothari, C.R. (2000): Research Methodology: Method and Techniques, Wishwa Prakashan, New Delhi
8. Kumar, A. (1997): Social Research Method (The Art of Scientific Investigation), Anmol Publication, New Delhi
9. Kumar, A. (2000): Research Methodology in Social Sciences, Sarup and Sons, New Delhi.
10. Mc Burney, D.H. (2001): Research Methodology, Thomson-Wadsworth, Australia
11. Pande, G.C. (1999): Research Methodology in Social Science, Anmol Publication, NewDelhi

**Statistics****Unit I**

Meaning and characteristics of statistics, definition, importance, classification, tabulation, frequency curve, histogram and pie chart

**Unit II**

Measure of central tendency

- Mean – definition, merits, demerits and related programs
- Median – definition, merits, demerits and related program
- Mode – definition, merits, demerits and related program

**Unit III**

- Measure of dispersion- meaning and types of dispersion, range, quartile deviation, standard deviation related problems, characteristics of dispersion

**Unit IV**

Correlation – definition, methods of correlation, product moment (Pearson) and rank difference

**Unit V**

Normal probability curve- definition and characteristics of normal probability curve, definition, types of skewness and kurtosis

*Signature*  
07.05.2018

Renu Kumari  
9/5/18  
Nirmalashen  
7.5.18

Arjun Singh  
07/5/18  
M. K. Singh  
7-5-18

*Signature*  
7-5-18

B. S. S. S.  
13.06.2018

*Signature*  
13.06.2018



**Reference :**

1. GUPTA, S. (2001) Research Methodology and Statistical Techniques, Deep and Deep, New Delhi, 510p.
2. HOODA, R.P. (2003) Statistics for Business and Economics, 3rd ed., Macmillan India Ltd. Delhi, 855p.
3. DEY, B.R. (2005) "Textbook of Managerial Statistics", Macmillan India Ltd. Delhi, 318p.
4. Fleming, M.C. & Nellis, Joseph G. (1997) "The Essence of Statistics for Business", Prentice-Hall of India, New Delhi, 270p.
5. Sarma, K.V.S. (2001) "Statistics made simple: Do it yourself on PC", Prentice-Hall, New Delhi, 257p.
6. Chakroborty, S.R. & Giri, N. (1997) "Basic Statistic". South Asian pub., New Delhi, 271p.
7. Das, M.N. (1989) "Statistical Methods and Concepts", New Age, New Delhi, 256p.
8. Elhance, D.N. (2000) "Fundamentals of Statistics [containing more than 750 solved and 1250 problems for review exercise]", Kitab Mahal, Allahabad, 1523p.
9. Goon, A. & Gupta, M & DASGUPTA, B. (2001) "Fundamentals of Statistics", Vol.1 &II. The World Press, Calcutta, 150p.
10. Gupta, S.P. (1996) "Practical Statistics", 37th ed. S, Chand, New Delhi, 563p.
11. Gupta, S.C (2000) "Fundamentals of Statistics", Himalaya Pub., Mumbai, 1343p.
12. Gupta S.P. (2000) "Statistics Methods", Sultan Chand & Sons, New Delhi, 1428p.
13. Gupta C.B. & Gupta, V. (1973) "An Introduction to Statistical Methods", Vikas publishing house pvt. Ltd. New Delhi, 829p.
14. Nagar, A.L. & Das, R.K. (1997) "Basic Statistics", 2nd ed. OUP, Delhi, 424p.
15. Shenoy, G.V. & Pant, M. (2006) "Statistics Methods in Business and Social Science", Macmillan India Ltd., Delhi, 288p.
16. Spiegel, Murray R. (1998) "Schaum's Outline of Theory and Problems of Statistics", 3rd ed. Tata McGraw-Hall Pub., New Delhi, 538p.
17. Triola, Mario F. (1998) "Elementary Statistics", 7th ed. Addison Wesley Longman, America, 804p.
18. Richard A. (1992) "Applied Multivariate Statistics Analysis", Prentice-Hall, New Delhi, 642p.

*Agri*  
07.05.2018

Renu Kumari  
7/5/18

*Deep Singh*  
07/5/18

Nirmalatha  
7.5.18

*V. Lakshmi*  
7.5.18

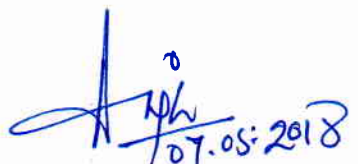
*H.K. Sarda*  
7.5.18

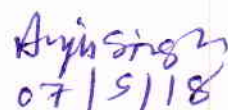
*Agri*  
13.06.2018


*B. S. L.*  
13.06.2018

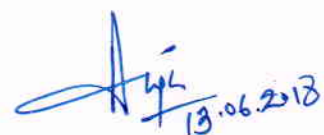
## Semester - II

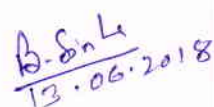
Course Opted	Course Name	Credits
CC - 5 (Core Course) (Discipline Specific Elective Course for other departments)	Therapeutic Nutrition	5 (5+0)
CC - 6 (Core Course)	Maternal and Infant Nutrition	5 (5+0)
CC - 7 (Core Course)	Communication Technology	5 (5+0)
CC - 8 (Core Course)	Women's Studies	5 (5+0)
CC - 9 (Core Course)	Management of Textile Crafts and Apparel Industry	5 (5+0)
AEC - I (Ability Enhancement Course)	Computers & IT Skill	5 (5+0)
<b>Total</b>		<b>30</b>

  
07.05.2018  
Renu Kumari  
7/5/18

  
07/5/18  
Nirmala Sharma  
7.5.18

  
7.5.18  
N. Lakshmi  
7.5.18

  
13.06.2018

  
13.06.2018

## Semester - II

**Core Course: 5**

**Therapeutic Nutrition**

**05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under*

*Group A- Compulsory – ten questions (two questions from each unit) of two marks each.*

*2 x 10 = 20 marks*

*Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.*

*5 x 4 = 20 marks*

*Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.*

*10 x 3 = 20 marks*

**Objectives:**

This course will enable the students to:

- Understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patient needs.
- Acquire basic knowledge about the effects of various diseases on nutritional status and dietary requirements.
- Be able to provide required nutritional care and treatment of the various diseases

**Unit I**

- Importance of nutrition in health and disease
- Importance of meal planning, factors to be considered while planning meal
- Dietary management in weight imbalance (obesity and underweight)

**Unit II**

Prevalence, etiology, biochemical and clinical manifestations and therapeutic measurement of the following:

- Typhoid fever
- Tuberculosis
- HIV infection and AIDS

**Unit III**

Prevalence, etiology, biochemical and clinical manifestations and therapeutic measurements of the following:

- Nutritional anemia
- Liver disorders: Jaundice, Hepatitis
- Diseases of the Cardio Vascular System
- Kidney diseases

**Unit IV**

Types, causes, symptoms and dietary management of metabolic disorders

- Diabetes Mellitus
- Gout
- Cancer

**Unit V**

Dietary counseling: Needs, objectives, steps and techniques

*[Signature]*  
107.05.2018

Renu Kumari  
7/5/18

Nirmaladevi  
7.5.18

Anjali Singh  
07/5/18

H. K. Singh  
7.5.18

*[Signature]*  
7.5.18

*[Signature]*  
12-06-2018

*[Signature]*  
13.06.2018

**Practical**

- Preparation of therapeutic diets - clear liquid diet, full fluid, soft and normal diet
- Plan and prepare diet for the diseases covered in theory and calculate the nutrients requirement
- Plan a day's meal and calculate nutrients requirement for following diseases:
  - Weight Imbalance
  - Fever
  - Liver disease
  - Cardio – vascular Disease (500mg and 1000mg sodium restricted diet)
  - Renal disorders
  - Metabolic disorder

**References:**

1. M. Swaminathan, Advanced Textbook on Food and Nutrition
2. R. C. Mishra, Health and Nutrition Education
- 3- vkgkj ,oa iks" k.k foKkua & MkWDVj c`ank flag
4. P. Jnaki Rao, Nutrition and Food Science
5. Shubhangini M. Joshi, Nutrition and Dietetics
6. B. Shrilaxmi: Dietetics, 4th Edition
7. F.P. Anita & Philip Abraham: Clinical Dietetics & Nutrition, 4th Edition
8. Carrol Lutz and Karen Przytulski: Nutrition and Diet Therapy

*Handwritten signature*  
07.05.2018

Renu Kumari  
7/5/18

Anjini Singh  
07/5/18

V. Lakshmi  
7.5.18

Nirmalashu, H.K. Sathe  
7.5.18

B-Sin L  
13.05.2018

*Handwritten signature*  
13.06.2018



**Core Course 6****Maternal and Infant Nutrition****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

This course will enable the students be

- Understand physiological changes during pregnancy and lactation.
- Get acquainted with growth and developmental changes from conception till birth.
- Understand the inter-relationship between nutrition and growth and development during a life cycle

**Unit I**

- Important of Maternal nutrition prior to and during pregnancy, Effect of under nutrition on mother-child health, including pregnancy
- Physiology and endocrinology of pregnancy and embryonic and fetal growth and development
- Nutritional requirement during pregnancy
- Complications of pregnancy and management and importance of antenatal care of at – risk mothers
- Congenital malformation, fetal alcohol syndrome and gestational diabetes mellitus

**Unit II**

- Lactation
- Development of mammary tissue and role of hormones
- Human milk composition and factors affecting breast feeding and fertility
- Management of lactation –breast feeding, Rooming in problems – sore nipples, engorged breast, inverted nipples etc.

**Unit III**

- Care and management of the preterm and LBW infants
- Implications for feeding and management

**Unit IV**

- Menopause
- Sign and symptoms
- Problems
- Management of dietary needs and health

**Unit V**

- Policies and programmes for promotion maternal and child nutrition and health

*[Signature]*  
07.05.2018

Renee Kumari  
7/5/18

Nirmalika  
7.5.18

Anjissing  
07/5/18

M. S. S. S.  
7-5-18

*[Signature]*  
13.06.2018

*[Signature]*  
7.5.18

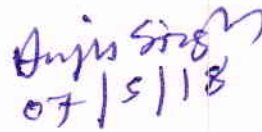
B. S. S. S.  
13.06.2018

**References:**

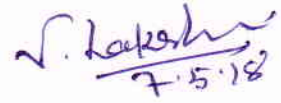
1. M. Swaminathann : Food and Nutrition
2. vkgkj ,oa iks" k.k foKkua & MkWDVj c`ank flag
3. vksOih0 VaMu & ekuo 'kjhj jpuk ,oa fdz;k foKkua
4. vkgkj ,oa iks" k.k foKkua & MkWDVj Vhuk [kuwtk
5. Health Mathers : Archana Sinha
6. Nutrition and Child Development: 4th Edition, KE Elizabeth

  
07.05.2018

Renu Kumari  
7/5/18

  
07/5/18

Nirveta Jha  
7.5.18

  
7.5.18

M. H. Singh  
7.5.18

  
13.06.2018

B. S. La  
13.06.2018

**Core Course:7****Communication Technology****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objective:**

- Develop understanding regarding various aspects of communication.
- Develop understanding regarding various audio-visual aids used for various groups: individual, group, mass.
- Develop ability to prepare, operate use of various audio-visual aids.

**Unit I****Concept of Communication**

- Definition, meaning and nature of communication
- Process, elements and models of communication
- Barriers in communication

**Unit II****Forms of Communication**

- Verbal and non-verbal
- Intra, inter, group, mass

**Unit III****Mass Media**

- Types, roles and characteristics
- Uses of – Electronic and traditional media

**Unit IV****Adoption and Diffusion**

- Concept of adoption
- Innovation and diffusion
- The Adoption process
- The Innovation –Decision process
- Adopter categories

**Unit V****Introduction to Information Communication Technology (ICT)**

- Satellite broadcasting, electronic media and computer Technology
- Role of ICT in Extension work and development

*[Signature]*  
13.06.2018

*[Signature]*  
13.06.2018

*[Signature]*  
07.05.2018

Renu Kumari  
07/5/18

Anju Singh  
07/5/18


N. Lakshmi  
7.5.18

Nirmala Jha  
7.5.18

M. W. Sathu  
7-5-18

**References:**

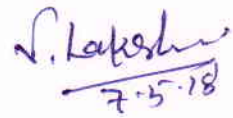
1. Dale (1964), Audio-visual Methods of Teaching, Holt, Rinhart and Wintson, London.
2. Brown et al (1983), A.V. Instruction Technology, Media and Methods, 6th Edition, Mc Graw Hill Book Co. New York.
3. Joshi Uma (1997), Text book of Mass Communication and Media, Anmol Publications, New Delhi.
4. Joshi Uma (2001), Understanding Development Communications: Domincent Publishers, New Delhi.
5. Sandhu Anoop Singh(1996), Extension Programme Planning, Oxford and JBH

  
07.05.2018

Renu Kumari  
07/5/18


Anup Singh  
07/5/18

Nismalathu  
7.5.18

  
7.5.18

M. K. Srin  
7.5.18

B. Srin  
13.06.2018

  
13.06.2018



**Core Course 8:****Women's Studies****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

- To develop awareness regarding status of women in India and sensitivity of women's issues and concerns
- To enable women to become champions/ well equipped in the changing society
- To empower women in their struggle against inequality and gender bias
- To become aware of the comprehensive and balanced understanding of social reality

**Unit I**

- Women in India Civilization down the ages, Status of Women in ancient India-Vedic age, Pauranic Period, Mauryan Period, Gupta, Medieval, Feudal Period, Buddhist Period, British Period, Women in Post-independence period

**Unit II**

- Relevance of Women's Studies
- Sources and growth of Women's Studies

**Unit III****Issues related to Crime against Women in India**

- Child marriage
- Female feticide
- Dowry
- Sati
- Honor killing
- Rape and Sex abuse
- Trafficking
- Domestic Violence

**Unit IV****Personal and Civil Laws related to Women**

- Dowry prohibition Act
- Divorce and maintenance Law
- Marriage Registration Act
- Domestic Violence Act 2005
- Pre-Natal Diagnostic Act
- Laws against feticides
- Medical Termination of Pregnancy (MTP) Act, 1971
- Immoral Traffic Prevention Act
- Indecent Representation of Women (Prohibition) Act 1986
- Law against Sexual Harassment at workplace

*Ajit*  
10.05.2018

*Renu Kumari*  
7/5/18

*Nirmalya*  
7.5.18

*10-05-18*  
13.06.2018

*Anjita Singh*  
07/5/18

*M. K. Singh*  
7.5.18

*N. Lakshmi*  
7.5.18

**Unit V**

## □ Women's Welfare Programme

**Reference:**

1. Asthana P. (1974), Women's Movement in India, Vikas Delhi
2. Antony M.J. (1985), Womens Rights: Dialogue, New Delhi
3. Okim S.M. (1989), Justice, Gender and Family, Basic Book, New York
4. Pant N. (1995), Status of Girl Child and Women in India, Delhi, APH
5. Girl Child in india – Devasia Leelamma
6. Srivastava T.N. (1985), Women & Law" Intellectual, New Delhi
7. Baker H.A. Berheide, G.W. and Others (Eds), 1980, Wome Today: A Multidisciplinary Approach to Women's Studies, Books/Cole Publications
8. Desai N. & Patel. V., Indian Women: Change and Challenges in the International Decade: Popular Prakashan, Bombay
9. Gupta, N.K. & Sudan I.K. (1990), Women at work in Developing Economy, Amol, New Delhi
10. Parashar, A(1992), Women and Family Law reforms in India: Uniform Civil Code and Gender Equality, Sage Publications, New Delhi
11. Namita Agrawal, Women and law, New Century Publication, New Delhi
12. Vianellow M. & Siemienska R. (1990), Gender Inequality: A Comprehensive Study of Discrimination and Participation, Sage Publications, London
13. Sharma U. (1989), Brides are not for burning: Dowry Victims in India, Radiant, New Delhi
14. Women in a Changing Society by S.K. Ghosh

*A. Gh*  
07.05.2018  
Renu Kumari  
7/5/18

Anjio Singh  
07/5/18  
Nirmalya  
7-5-18

N. Lakshmi  
7-5-18

H. K. Singh  
7-5-18

*A. Gh*  
13-06-2018

B. Sinha  
13.06.2018

**Core Course: 9 Management of Textile Crafts and Apparel industry****5 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

This course will enable the students:

- To understand the textile crafts of India
- To enhance awareness regarding the history and production centers of the traditional textile crafts of India
- To understand the aspects of management regarding designing, merchandising and mass media
- To highlight certain aspects of apparel industry
- To signify the role of traditional textile crafts in economic empowerment

**Unit I****Study of Textile Crafts of India: history, production centers, techniques, designs, colors and products**

- Woven textile of India- Banaras Brocades, Jandanis and Baluchars of Bengal, Kani Shawls of Kashmir
- Embroidered textiles of India- Kantha of Bengal, Kasuti of Karnataka, Phulkari of Punjab, Chickankari of Uttar Pradesh, Kashida of Kashmir
- Painted and Printed textiles of India- Kalamkari of Andhra Pradesh, Dabu printing of Rajasthan, Ajarakh prints of Gujrat
- Dyed textiles of India- Bandhanis of Rajasthan and Gujrat, Ikats-Patola of Gujrat, Bandhas of Orissa, Pochampalli of Andhra Pradesh

**Unit II****Elements used in creating a design**

- Color- Color harmony, its sensitivity and composition in dress  
Motif development-Geographical, simplified, naturalized, stylized, abstract and
- ornamental
- Components of fashion- Silhouette, details, color, fabric, texture

**Unit III****Principles of Merchandising**

- Types of merchandising
- Role of retailing in merchandising
- Visual Merchandising- Plan & Schedules, Types of display, Elements of display

**Unit IV****Role of Mass Media in Fashion**

- Role of Mass Media in promoting fashion
- Impact of Mass Media on fashion

*[Signature]*  
107.05.2018

Renu Kumari  
7/5/18  
Nirmalika  
7.5.18

*[Signature]*  
13.06.2018


*[Signature]*  
7/5/18  
M. P. Sarin  
7.5.18

**Unit V****Cultural and Economic Empowerment through Textile Crafts**

- ☐ Textile crafts in National economy
- ☐ Evolution and socio-economic significance of Khadi, Handloom and Handicraft sector
- ☐ Sustenance of traditional textile crafts
- ☐ Interventions by organizations

**Reference:**

1. J. Anderson Black, Muidge Garland, A History of Fashion, Orbis Publishing Ltd, London
2. Broucher Francois, A History of Costume in the West, Thames and Hudson.
3. Sharon Lee Tete, Inside Fashion Design, Harper and Row Publishers, New York.
4. Kathryn Samuel, Life Styles, Fashion Styles, Orbis Publishing Ltd. London.
5. Carter E. (1977), The Changing World of Fashion, G.P. Putnam's Sons, New York.
6. Carr H. and Pomery J. (1992), Fashion Design and Product Development, Blackwell Scientific Publications, London, Edinerg.
7. Complete guide to Sewing. Reader's Digest Association, New York.
8. Creative Clothing Construction, McGRAW Hill, 1973

  
 07.05.2018  
 Renu Kumari  
 7/5/18

Anjini Singh  
 07/5/18

Nirmala Jha  
 7.5.18

V. Lakshmi  
 7.5.18


M. D. Sarda  
 7-5-18

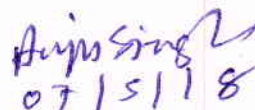
  
 13.06.2018

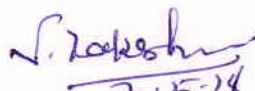
B. S. L.  
 13.06.2018

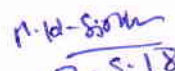
### Semester- III


Course Opted	Course Name	Credits
CC - 10 (Core Course)	Food Processing	5 (5+0)
CC - 11 (Core Course)	Food Science and Experimental Food	5 (5+0)
CC - 12 (Core Course)	Institutional Food Management	5 (5+0)
CC - 13 (Core Course)	Community Nutrition	5 (5+0)
CC - 14 (Core Course)	Practical	5 (0+5)
AECC - 2 (Ability Enhancement Compulsory Course)	Human Values & Professional Ethics & Gender Sensitization	5 (5+0)
<b>Total</b>		<b>30</b>

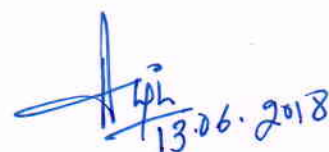
  
 07.05.2018  
 Renu Kumari  
 7/5/18

  
 07/5/18  
 Anup Singh  
 7.5.18

  
 7.5.18  
 N. Lakshmi

  
 7.5.18  
 N. Lakshmi

  
 13.06.2018  
 A. Sinha

  
 13.06.2018  
 A. Sinha



## Semester - III

Core Course 10:

Food Processing

05 Credits

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under*

Group A- Compulsory – ten questions (two questions from each unit) of two marks each.

$2 \times 10 = 20$  marks

Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.

$5 \times 4 = 20$  marks

Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.

$10 \times 3 = 20$  marks

### Objectives:

This course will enable the students be

- Acquire necessary knowledge of basic principles and procedures in the production of important food products
- Gain basic knowledge about food processing and technology.
- Understand food standard and related laws

### Unit I

- Food spoilage, role of microorganisms, food borne hazards of microbial origin

### Unit II

Food preservation – principles & methods

Physical principles in undertaking food processing operation including thermal processing, ionizing radiation, refrigeration freezing and dehydration, Mineral processing

### Unit III

Basic principles at food product developments need and types of food

Extruded foods- merit, demerits and use of Extruded foods

Organic Foods, Processing and packaging of Organic Foods and programme for production

Product evaluation techniques censoring evaluation and product testing

Fermentation technology – fermentation, enrichment and fortification

### Unit IV

Packaging technique – packaging materials, types of packaging effects of packaging on nutritive value of foods, latest trends in packaging

Food labeling – definition, principles of labeling, nutrition labeling – research and testing

### Unit V

Food standards and laws

Food additives, food color, flavoring agents, preservative, and antioxidants, emulsifying agents, and stabilizing agents

  
07.05.2018

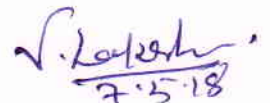
Renu Kumari  
7/5/18

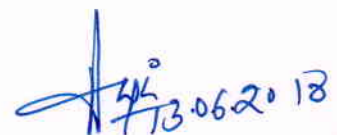
Nirmalajha,  
7.5.18

Anjini Singh  
07/5/18

M. P. S. D.  
7.5.18

B. S. L.  
13.06.2018

  
7.5.18

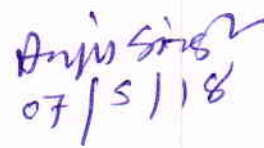
  
13.06.2018

**References:**

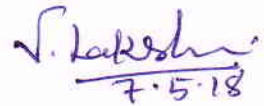
1. Food processing and bioactive compounds – Y. S. Reddy
2. Food preservation and processing – Kalia Manoranjan Sood Sangita
3. Food Technology Processing and Laboratory Control – F. Aylword
4. Food Preservation and Processing – Kalin M

  
07.05.2018


Renu Kumari  
7/5/18

  
07/5/18

Nirmalathar  
7.5.18

  
7.5.18

H. B. Sankar  
7.5.18

  
13.06.2018

B. Sankar  
13.06.2018

**Core Course 11: Food Science and Experimental Food****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

- To acquire knowledge regarding food groups
- To gain knowledge regarding cooking methods applied for specific food items

**Unit I****Introduction to food science:**

- Aims and objectives of the study of food science
- Food acceptability by variation in color, flavor and texture
- Physiochemical properties of food

**Unit II****Carbohydrates in foods**

- Sugar – Sources, properties and uses, stages of sugar cookery
- Starch – Sources, properties and uses, processed cereal products

**Unit III****Protein cookery**

- Pulses – composition, methods of cooking, germination and fermentation
- Meat – structure, common types, changes occurring during cooking of meat
- Fish – types, characteristics of fresh fish, cooking and preservation
- Egg – structure, methods of cooking, uses of egg in different preparations
- Milk – composition, effect of heat on milk, uses in cookery

**Unit IV****Vegetables and fruits**

- Classification, composition, color/pigments, effects of cooking on vegetables
- Classification, composition, effect of heat and methods of preservation

**Unit V****Nuts, oilseeds and beverages**

- Nuts and oilseeds – composition and uses in cookery
- Beverages and appetizers- coffee, tea, fruit beverages and alcoholic beverages, milk based beverages, carbonated, non-alcoholic beverages and alcoholic beverages

**References :**

1. Charley H. (1982), Food Science, 2nd Edition, John Wiley and Sons, New York
2. Potten N and Flotch Kiss. JH (1996), Food Science, 5th Edition, CBS, Publishers and Distributors, New Delhi
3. Food Chemistry and Experimental Foods by M.Swaminathan, Ganesh & Co., Madras
4. Sri Laxmi (2005), Food Science, 3rd Edition, New Age International Publisher

*[Signature]*  
10.05.2018

Renu Kumari  
7/5/18  
Nirmalatha  
7.5.18

*[Signature]*  
07/5/18

*[Signature]*  
7.5.18

*[Signature]*  
13.06.2018  
13.05.2018

**Core Course 12:****Institutional Food Management****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

This course is designed to:

- Provide practical field level experience in food administration
- Equip the students to have knowledge about various food service systems
- Impart knowledge of quantity cookery and quality control in food administration

**Unit I****Introduction to Food Service**

- Food service system and their development
- An introduction to Food Service Industry

**Unit II****Food Service System Planning and Management Planning**

- Strategies in planning
- Kitchen layout planning
- Pricing of product

**Organization and Management**

- Management Theories
- Tools of management
- Personnel management
- Organization and steps in organizing

**Unit III****Food production**

- Menu planning
- Food purchase
- Cost control
- Quantity Food production
- Standardization of recipes

**Service Management**

- Delivery and service of foods in different systems

**Unit IV**

- Management of Social Institutes – family as an institutes, child care and geriatric institutions

**Unit V****Food Hygiene and Sanitation**

- Sanitation and safety in food services

**References :**

1. West & Wood "Food service in Institutions – Johu Wiley & Sons, 1977
- 2- dqedqe ,oa fceyk lkbeu] vkgkj lsok izca/k A
3. Mohini Seth, Institutional Food Management, New Age International Publishers

B. Sinha  
13.06.2018A. K. Singh  
13.06.2018A. K. Singh  
07.05.2018Renu Kumari, N. Lakshmi  
7/5/18  
Anushka  
07/5/18  
M. K. Singh  
7-5-18



**Core Course 13:****Community Nutrition****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 20 marks***Objectives:**

- Equip the community/ public to have knowledge about various nutritional problems and their prevention
- Understand the causes and consequences of nutrition problem in society
- Acquire basic knowledge about various approaches to nutrition and health programmes
- Gain basic knowledge about food consumed by the community
- To assess nutritional status of the community

**Unit I**

- Concept of Public Nutrition, relationship between health and nutrition
- Nutritional problems prevalent in India and measures to combat them
- Bone health problems and dietary management

**Unit II**

- Assessment of nutritional status
  - Direct – Anthropometric, clinical and
  - Biochemical Indirect – Vital Static diet survey

**Unit III**

- Nutrition Education – objectives, planning, evaluation of nutrition education programme
  - Selection of effective nutrition education method

**Unit IV**

National and international agencies involved in women and child welfare

- National agencies – ICDS, ICMR, ICAR and NIPCCD
- International agencies – WHO, FAO, UNICEF

**Unit V**

- Primary health care of the community – National health care delivery system, Indicators of Health

**References:**

1. vkgkj ,oa iks" k.k foKkua & MkWDVj izfeyk oekZ] MkWDVj dkjfr ik.Ms;
2. ekRdyk ,oa fk'kq dY;k.k & MkWDVj c`ank flag
3. O;kogkfjd vkgkj foKkua ,oa vkgkj fpfdRlk & xhrk iq'i 'kkg] tk;ql 'khyk 'kkW
4. Child Nutrition & Primary Education: Surendra Nath Mishra, Maharanjan Behera
5. vkgkj ,oa iks" k.k & ae LokehUkFku A

*[Signature]*  
107.05.2018

Renu Kumari  
7/5/18  
Nirmala Jha  
7.5.18

Anjushree  
07/5/18  
M. K. Singh  
7-5-18  
B. Singh  
13.06.2018

N. Lakshmi  
7-5-18  
[Signature]  
13.06.2018



**Core Course 14:****Practical****05 Credits**

Full Marks: 70

Time : 3 Hours

*The pattern of question papers will be as under*

Group A- Compulsory – ten questions (two questions from each unit) of two marks each.

2 x 10 = 20 marks

Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.

5 x 4 = 20 marks

Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.

10 x 3 = 20 marks

**Core Course: 10****Food Processing**

- Physical principles in freezing and dehydration processing
- Chemical principle in food processing – Chemical changes in food that affect texture, sanitation and waste disposal
- Packaging – Latest trends in packaging, function and management.
- Food labeling – Definition, principles, nutritional labeling, food standards and laws.
- Quality control – risk analysis, Hazard Analysis Critical Control Point System (HACCP)

**Core Course: 11****Food Science and Experimental Food**

- Crystallization of sugar, stages of sugar cookery, preparation of peanut brittles, gulab jamun
- Study of changes occurring during cooking of meat, fish and egg Preparation of meat roast and minced meat fried and steamed fish, poached egg, omllets, moonaise
- Effect of soaking and germination- preparation of dishes from soaked germinated grams sattu- litti and kheer
- Use of different methods of cooking vegetables and their effect on nutrients, steps to minimize losses
- Gelatin and frozen desserts – factors affecting ice crystal formation

**Core Course:12****Institutional Food Management**

- Running and managing a food service institution cafeteria
- Quantity cookery – standardized portions
- Visit to various food service institutions.

**Core Course:13****Community Nutrition**

- Development of low cost recipes for infants, preschoolers, elementary school children, adolescents, Pregnant and lactating mothers.
- Planning of cyclic menus for *balwadi*/nursery school, mid-day snack/school lunch.
- Survey: Dietary surveys and assessment of nutritional status
- Visits to the ongoing public health nutrition programmes

*Handwritten signature*  
107.05.2018

Renu Kumari  
7/5/18  
Nirmala Jha.  
7.5.18

Anjushree  
07/5/18  
M. K. Singh  
7.8.18

V. Lakshmi  
7.5.18

B. Singh  
13.06.2018

*Handwritten signature*  
13.06.2018

### Semester- IV

Course Opted	Course Name	Credits
EC - 1 (Elective Course)	Practical Approach to Writing Research Activities	5 (0+5)
EC - 2 (Elective Course)	Internship/Dissertation/ Project/Seminar	5 (0+5)
GE - 1 (Generic Elective)	Human Rights	5 (5+0)
<b>Total</b>		<b>15</b>

*[Signature]*  
7/07.05.2018

Renu Kumari  
9/5/18

*[Signature]*  
07/5/18

V. Lakshmi  
7.5.18

Nirmalathu  
7.5.18

*[Signature]*  
7-5-18

B. Sinha  
13.06.2018

*[Signature]*  
13.06.2018

## Semester- IV

### **Elective Course1: Practical Approach to Writing Research Activities**

**05 Credits**

Time: 3 Hours

Full Marks: 70

*The pattern of question papers will be as under*

Group A- Compulsory – ten questions (two questions from each unit) of two marks each.

$2 \times 10 = 20$  marks

Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.

$5 \times 4 = 20$  marks

Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.

$10 \times 3 = 20$  marks

#### **Unit I**

##### **Writing for Grants – and Aid**

- Getting familiar with the proposal format of different funding agencies: National and International level
- Project proposal presentation
- Proposal for Seminar/ Conference / Workshop

#### **Unit II**

##### **Different forms of research writing**

- Dissertation
- Project report
- Articles in Journals
- Research notes and reports
- Review of article
- Review of books

#### **Unit III**

Power Point Presentation of any one from Unit I & II

### **Elective Course2: Internship / Dissertation / Project / Seminar 05 Credits**

#### **Internship Project:**

The students shall be required to undergo an internship project for a total duration of 4-6 weeks in their chosen area of interest/ specialization / optional group that will facilitate their pursuing a professional career in the same field. They will be assigned the project work to be completed during the break after second semester. The organization/ institute (public/private) providing internship facility to students should stand as good professional career support. The students will be required to submit and present a report of the internship project after completion of the same. It is also envisaged that the participating organization / institution will give the performance appraisal of the students work at the end of internship period.

#### **Dissertation:**

Every student shall be allotted a research supervisor. The research supervisor shall be from the Department of Home Science and if the topic so requires the co-guide could be from other semester. The topic of research will be finalized by the research supervisor in consultation with the Head of the Department. It is the responsibility of the research supervisor that the student is making the required progress in work. The student will have to give a presentation on the research proposal and a seminar on the findings of research before submitting the dissertation. The suggestions and constructive criticism of the faculty should be made use of

13.06.2018

13.06.2018

17.05.2018

7/5/18

07/5/18

7.5.18

by student for further improving the draft of the dissertation. The study must be completed and submitted in the form of a dissertation by the end of the final year. Normally, the M.A. Dissertation is expected to cover 60-80 pages of A4 size, excluding bibliography and appendices. Three copies of the same should be submitted to the Department of Home Science. Each student submitting a dissertation must also submit three copies of the abstract of her dissertation not exceeding 300 words, excluding the title. Marks will be awarded, for research seminars practical exercises and viva-voce examination. Student shall give a formal presentation of the report before the jury comprising of minimum three internal faculty members including internal supervisor who will be appointed by the Director of the college. The external marks will be awarded the external examiner to be appointed by the examination division of the university. The format of the report is given below:

1. Research Objective
2. Literature Review
3. Research Methodology
4. Results and Analysis
5. Conclusion
6. References
7. Appendices – to include questionnaire, if any

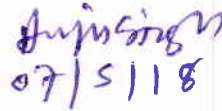
Dissertation shall incorporate the certificate given by the internal supervisor regarding its satisfactory completion.

#### **Seminar**

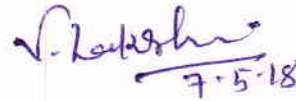
A seminar will be presented based on the Dissertation

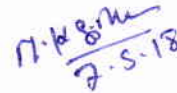
  
07.05.2018

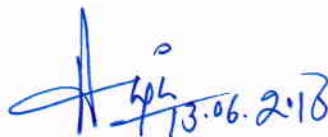
Renu Kumari  
07/5/18

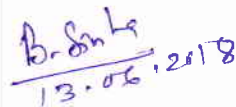
  
07/5/18

Nirmala Devi  
7.5.18

  
7.5.18

  
7.5.18

  
13.06.2018

  
13.06.2018

