KANNUR UNIVERSITY
(Abstract)

BSc Home Science Programme - Revised Scheme & Syllabus of Core, Complementary and Open Courses under Choice Based Credit Semester System for Under Graduate Programme-implemented with effect from ***2014 admission-Orders Issued.***

ACADEMIC BRANCH

No. Acad/C2/3672 /2014 **Dated, Civil Station P.O, 17- 05-2014**

Read: 1.U.O No. Acad/C2/2232/2014 dated 14-03-2014
2. Minutes of the meeting of the Board of Studies in Home Science (Cd) held on 7-01-2014
3. Minutes of the meeting of the Faculty of Science held 25-03-2014
4. Letter dated 31-03-2014 from the Chairperson, BOS in Home Science Cd)

ORDER

1. The Revised Regulations for UG Programme under Choice based Credit Semester System were implemented in this University with effect from 2014 admission as per paper read (1) above.

2. As per paper read (2) above the Board of Studies in Home Science (Cd) finalized the Scheme , Syllabus & model Question Papers for Core, Complementary & open courses of BSc Home Science programme to be implemented with effect from 2014 admission..

3. As per read (3) above the Faculty of Science held on 25-03-2014 approved Scheme, syllabus & model question papers for core/complementary & open courses of BSc Home Science programme to be implemented with effect from 2014 admission.

4. The Chairman, Board of Studies in Home Science (Cd) vide paper read (4) above has submitted the finalized copy of Scheme, syllabus & Model question papers for core/complementary and open courses of BSc Home Science programme for implementation with effect from 2014 admission.

5. The Vice Chancellor, after examining the matter in detail, and in exercise of the powers of the Academic Council as per section 11(1) of Kannur University Act 1996 and all other enabling provisions read together with, has accorded sanction to implement the revised scheme, syllabus& model question papers of BSc Home Science Programme with effect from 2014 admission.

6. Orders, are therefore issued implementing the revised scheme, syllabus & model question papers for core, complementary& open courses of BSc Home Science programme under CBCSS with effect from 2014 admission subject to report to Academic Council

7. Implemented revised Syllabus is appended.

SD/-
DEPUTY REGISTRAR (ACADEMIC)
FOR REGISTRAR

To

1. The Principals of Affiliated Colleges offering B.Sc Home Science Programme
2. The Examination Branch (through PA to CE)

Copy To:

1. The Chairperson, BOS Home Science (Cd)
2. PS to VC/PA to PVC/PA to Registrar
3. DR/AR I Academic
4. Central Library
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Approved/By Order

Section Officer

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KANNUR UNIVERSITY

COURSE STRUCTURE
SYLLABUS

And

MODEL QUESTION PAPERS

For

B.Sc.HOME SCIENCE

Under

Kannur University Regulations for
Choice Based Credit and Semester System
for Under-Graduate Curriculum 2014

(KUCBCSSUG 2014)

COURSE STRUCTURE

The course structure of B.Sc. Home Science includes the following points:

1. Distribution of Credits and Marks.
2. Semesterwise Details of the Programme.
3. Details of Core and Open Courses.
4. Open Courses Offered by UG Home Science
5. Scheme of Evaluation and Grading.

1. Distribution of Credits and Marks

Distribution of credits and marks of common courses, core courses, complementary courses and open course are shown in Table below.

Sem.	Common Courses		Core Course	Complementary Courses		Open Course	Total
	English	Additional Language	Home Science	Chemistry	Zoology		
I	4+3	4	2	2	2	-	17
II	4+3	4	2+2	2	2	-	19
III	4	4	3	2	2	-	15
IV	4	4	3+2	2+4	2+4	-	25
V	-	-	5+4+4+4	-	-	2	19
VI	-	-	5+4+4+4 3+3+2	-	-	-	25
Total Credits	**22**	**16**	**56**	**12**	**12**	**2**	**120**
Total Marks	**300**	**200**	**875**	**200**	**200**	**25**	**1800**

2. Semesterwise Details of B.Sc. Home Science

Semester - I

SN	Course Code	Type of Courses	Credits	Marks	Hours /week	Hours /Sem	Exam hrs
1	1A01ENG	Common Course English Paper I	4	50	5	90	3
2	1A02ENG	Common Course English Paper II	3	50	4	72	3
3	1A07 MAL/HIN	Common Course Additional Language Paper I	4	50	4	72	3
4	1B01HSC	Core course, Theory - 1	2	50	2	36	3
		Practical I (Part 1)	-	-	2	36	-
5	1C01CHE	Complementary I Chemistry - Theory I	2	40	2	36	3
		Chemistry - Practical	-	-	2	36	-
6	1C01ZLG	Complementary II Zoology - Theory I	2	40	2	36	3
		Zoology - Practical	-	-	2	36	-
		Total	**17**	**280**	**25**	**450**	**-**

Semester – II

SN	Course Code	Type of Courses	Credits	Marks	Hours /week	Hours/ Sem	Exam hrs
1	2A03ENG	Common Course English Paper III	4	50	5	90	3
2	2A04ENG	Common Course English Paper IV	3	50	4	72	3
3	2A08 MAL/HIN	Common Course Additional Language Paper II	4	50	4	72	3
4	2B02HSC	Core course, Theory - 2	2	50	2	36	3
	2B03HSC	Core course, Practical I (Part 1&2)	2	50	2	36	3
5	2C02CHE	Complementary I Chemistry - Theory III	2	40	2	36	3
		Chemistry - Practical	-	-	2	36	-
6	2C02ZLG	Complementary II Zoology - Theory II	2	40	2	36	3
		Zoology - Practical	-	-	2	36	-
		Total	**19**	**330**	**25**	**450**	**-**

Semester - III

SN	Course Code	Type of Courses	Credits	Marks	Hours /week	Hours /Sem	Exam hrs
1	3A05 ENG	Common Course English Paper V	4	50	5	90	3
2	3A09 MAL/HIN	Common Course Additional Language Paper III	4	50	5	90	3
3	3B04 HSC	Core course, Theory - 3	3	50	3	54	3
		Practical II (Part 1)	-	-	2	36	-
4	3C03 CHE	Complementary I Chemistry - Theory III	2	40	3	54	3
		Chemistry - Practical	-	-	2	36	-
5		Complementary II Zoology - Theory III	2	40	3	54	3
	3C03 ZLG	Zoology - Practical	-	-	2	36	-
		Total	**15**	**230**	**25**	**450**	**-**

Semester - IV

SN	Course Code	Type of Courses	Credits	Marks	Hours /week	Hours /Sem	Exam hrs
1	4A06 ENG	Common Course English Paper VI	4	50	5	90	3
2	4A10 MAL/HIN	Common Course Additional Language Paper IV	4	50	5	90	3
3	4B05 HSC	Core course, Theory - 4	3	50	3	54	3
4	4B06 HSC	Core course, Practical II (Part 1&2)	2	50	2	36	3
5	4C04 CHE	Complementary I Chemistry - Theory IV	2	40	3	54	3
6	4C05 CHE	Complementary I Chemistry - Practical	4	40	2	36	3
7	4C04 ZLG	Complementary II Zoology - Theory IV	2	40	3	54	3
8	4C05 ZLG	Complementary II Zoology - Practical	4	40	2	36	3
		Total	**25**	**360**	**25**	**450**	**-**

Semester - V

SN	Course Code	Type of Courses	Credits	Marks	Hours/ week	Hours/ Sem	Exam hrs
1	5B07 HSC	Core course, Theory - 5	5	50	5	90	3
2	5B08 HSC	Core course, Theory - 6	4	50	4	72	3
3	5B09 HSC	Core course, Theory - 7	4	50	4	72	3
		Practical III (Part 1)	-	-	3	54	-
4	5B10 HSC	Core course, Theory - 8	4	50	4	72	3
		Practical IV (Part 1)	-	-	3	54	-
5	5D01 HSC	Open course	2	25	2	36	2
		Total	**19**	**225**	**25**	**450**	**-**

Semester - VI

SN	Course Code	Type of Courses	Credits	Marks	Hours/ week	Hours/ Sem	Exam hrs
1	6B11 HSC	Core course, Theory - 9	5	50	5	90	3
2	6B12 HSC	Core course, Theory - 10	4	50	4	72	3
3	6B13 HSC	Core course, Theory - 11	4	50	4	72	3
4	6B14 HSC	Core course, Theory - 12	4	50	4	72	3
5	6B15 HSC	Core course, Practical III (Part 1&2)	3	75	3	54	3
6	6B16 HSC	Core course, Practical IV (Part 1&2)	3	75	3	54	3
7	6B17 HSC	Project	2	25	2	36	2
		Total	**25**	**375**	**25**	**450**	**-**

3. Details of Core and Open Courses of B. Sc. Home Science

Sem.	Course Code	Type of course	Course Title	Credits	Marks	Hours /week	Hours /Sem.
I	1B01 HSC	Theory - 1	Food Science	2	50	2	36
		Practical I (Part - 1)	Food Science	-	-	2	36
II	2B02 HSC	Theory - 2	Food Preservation and Microbiology	2	50	2	36
	2B03 HSC	Practical I (Part - 1&2)	Food Science and Food Preservation	2	50	2	36
III	3B04 HSC	Theory - 3	Interior Decoration	3	50	3	54
		Practical II (Part - 1)	Interior Decoration	-	-	2	36
IV	4B05 HSC	Theory - 4	Resource Management	3	50	3	54
	4B06 HSC	Practical: II (Part - 1&2)	Interior Decoration and Resource Management	2	50	2	36
V	5B07 HSC	Theory - 5	Child Development	5	50	5	90
	5B08 HSC	Theory - 6	Human Physiology	4	50	4	72
	5B09 HSC	Theory - 7	Human Nutrition	4	50	4	72
		Practical: III (Part - 1)	Human Nutrition	-	-	3	54
	5B10 HSC	Theory - 8	Textile Science and Apparel Designing – I	4	50	4	72
		Practical: IV (Part - 1)	Textile Science	-	-	3	54
	5D01HSC	***Open Course***	***Open course***	***2***	***25***	***2***	***36***
VI	6B11 HSC	Theory - 9	Extension Education	5	50	5	90
	6B12 HSC	Theory - 10	General Psychology	4	50	4	72
	6B13 HSC	Theory - 11	Clinical Nutrition and Dietetics	4	50	4	72
	6B14 HSC	Theory - 12	Textile Science and Apparel Designing– II	4	50	4	72
	6B15 HSC	Practical: III (Part - 1&2)	Nutrition and Dietetics	3	75	3	54
	6B16 HSC	Practical: IV (Part - 1&2)	Textile Science and Apparel Designing	3	75	3	54
	6B17 HSC	Project	Project	2	25	2	36
		Total		**58**	**900**	**68**	**1224**

4. Open Courses Offered by UG Home Science

Open courses offered by UG Home Science are listed below. Each department can decide the open course from this pool of courses.

SN	Course Code	Title	Credits	Hours/ week	Hours/ Sem	Exam hrs.
1	5D01 HSC	Applied Counseling	2	2	36	2
		or				
2	5D02 HSC	Nutrition for Wellness	2	2	36	2
		or				
3	5D03 HSC	Food Processing and Preservation	2	2	36	2

5. Scheme of Evaluation and Grading

The evaluation scheme for each course shall contain two parts;

i. Internal Assessment (**IA**) and

ii. External Evaluation or End Semester Evaluation (**ESE**).

20% weight shall be given to the internal assessment and the remaining 80% weight shall be for the external evaluation. Evaluation (both Internal and External) is carried out using Mark System instead of direct grading. For each course in the semester letter grade, grade point and % of marks are introduced in 7- point Indirect Grading System. Indirect Grading System in 7 point scale is as below:

Seven Point Indirect Grading System

% of Marks	Grade	Interpretation	Grade Point Average (G)	Range of Grade Points	Class
90 and above	A+	Outstanding	6	5.5 – 6	First class with Distinction
80 to below 90	A	Excellent	5	4.5 - 5.49	
70 to below 80	B	Very good	4	3.5 - 4.49	First class
60 to below 70	C	Good	3	2.5 - 3.49	
50 to below 60	D	Satisfactory	2	1.5 - 2.49	Second class
40 to below 50	E	Pass / Adequate	1	0.5 - 1.49	Pass
Below 40	F	Failure	0	0 - 0.49	Fail

Marks alotted for Internal and external evaluation for core and open courses are given below:

Mark Distribution of Internal and External Evaluation of Core & Open Courses

Sem.	Course Code	Core & Open Courses	Theory/ practical	Mark Distribution			Exam hrs
				IA	ESE	Total	
I	1B01 HSC	Food Science	Theory	10	40	50	3
II	2B02 HSC	Food Preservation and Microbiology	Theory	10	40	50	3
II	2B03 HSC	Practical I – Food Science and Food Preservation	Practical	10	40	50	3
III	3B04 HSC	Interior Decoration	Theory	10	40	50	3
IV	4B05 HSC	Resource Management	Theory	10	40	50	3
IV	5B06 HSC	Practical II - Interior Decoration and Resource Management	Practical	10	40	50	3
V	5B07 HSC	Child Development	Theory	10	40	50	3
V	5B08 HSC	Human Physiology	Theory	10	40	50	3
V	5B09 HSC	Human Nutrition	Theory	10	40	50	3
V	6B10 HSC	Textile Science and Apparel Designing – I	Theory	10	40	50	3
V	5D01HSC	Open Course	Theory	5	20	25	2
VI	6B11 HSC	Extension Education	Theory	10	40	50	3
VI	6B12 HSC	General Psychology	Theory	10	40	50	3
VI	6B13 HSC	Clinical Nutrition and Dietetics	Theory	10	40	50	3
VI	6B14 HSC	Textile Science and Apparel Designing -II	Theory	10	40	50	3
VI	6B15 HSC	Practical III- Nutrition and Dietetics	Practical	15	60	75	3
VI	6B16 HSC	Practical IV - Textile Science and Apparel Designing.	Practical	15	60	75	3
VI	6B17 HSC	Project	Project	5	20	25	2
		Total Marks		**180**	**720**	**900**	**-**

Internal Assessment (IA)

The internal assessment of theory courses, practical courses and project shall be based on different components. The components with percentage of marks and marks allotted are as follows:

Theory Courses

SN	Components	% of Marks allotted	Marks Allotted	
			Core courses	Open course
1	Attendance	25	2.5	1.25
2	Assignment/ Seminar/Viva voce	25	2.5	1.25
3	Test paper	50	5	2.5
Total		**100**	**10**	**5**

Practical Courses

SN	Components	% of Marks allotted	Marks Allotted	
			Practical I & II	Practical III & IV
1	Attendance	25	2.5	3.75
2	Practical Test	25	2.5	3.75
3	Record & Lab Involvement	50	5	7.5
Total		**100**	**10**	**15**

Project

SN	Components	% of Marks allotted	Marks Allotted
1	Punctuality	20	1
2	Use of Data	20	1
3	Scheme/Organization of Report	30	1.5
4	Viva-Voce	30	1.5
Total		**100**	**5**

Criteria for evaluating Attendance, Assignment/Seminar/Viva-voce and Test papers are given below:

Attendance: Attendance of each Course will be evaluated as below:

SN	% of Attendance	% of Marks allotted	Marks Allotted			
			Theory courses		Practical courses	
			Core	Open	Practical I & II	Practical III & IV
1	Above 90	100	2.5	1.25	2.5	3.75
2	85 to 89	80	2	1	2	3
3	80 to 84	60	1.5	0.75	1.5	2.25
4	76 to 79	40	1	0.5	1	1.5
5	75	20	0.5	0.25	0.5	0.75
Total		**100**	**2.5**	**1.25**	**2.5**	**3.75**

Assignment/ Seminar/ Viva-Voce

For each theory course, each student is required to submit an assignment or to present a seminar or to attend a viva-voce based on any topic related to the course concerned. Assignment/ seminar/viva-voce shall be evaluated on the basis of student's performance.

Written Tests

For each theory course there shall be a minimum of two written tests and the average mark of the two tests is to be considered for Internal Mark. Each test paper may have duration of minimum one hour.

(If a fraction appears in internal marks, nearest whole number is to be taken).

External Evaluation (End Semester Evaluation - ESE)

Details regarding the End Semester Evaluation of theory, practical and project courses are given below:

Theory Courses

Core Courses

- *Maximum Marks for each course* - *40 Marks*
- *Duration of examination* - *3 Hrs.*
- Question Paper Pattern

Section A	4 questions (1 mark each)	-	4 marks
Section B	7 questions out of 10 (2 marks each)	-	14 marks
Section C	4 questions out of 6 (3 marks each)	-	12 marks
Section D	2 questions out of 4 (5 marks each)	-	10 marks

Open Course

- *Maximum Marks for each course* - *20 Marks*
- *Duration of examination* - *2 Hrs.*
- Question Paper Pattern

Section A	5 questions (1 mark each)	-	5 marks
Section B	5 questions out of 7 (2 marks each)	-	10 marks
Section C	1 question out of 2 (5 marks)	-	5 marks

Practical Courses

Practical - I : Food Science and Food Preservation

- *Maximum Marks* - *40 Marks*
- *Duration of examination* - *3 Hrs.*
- Mark Distribution for Practical Examination

SN	Components	Marks
1	Food Science	15
2	Food Preservation	15
3	Practical Record	10
Grand Total		**40**

Practical - II: Interior Decoration and Resource Management

- *Maximum Marks* - *40 Marks*
- *Duration of examination* - *3 Hrs*
- Mark Distribution for Practical Examination

SN	Components	Marks
1	Interior Decoration	15
2	Resource Management	10
3	Practical Record and Report of Residence Course	15
Total		**40**

Practical - III : Nutrition and Dietetics

- *Maximum Marks* - *60 Marks*
- *Duration of examination* - *3 Hrs.*
- Mark Distribution for Practical Examination

SN	Components	Marks
1	**Food Analysis**	
	Principle	2
	Procedure	4
	Calculation	5
	True value	3
	Result	1
	or	
	Estimation of Nutrients	
	Minerals	4
	Carbohydrates	6
	Proteins	4
	Result	1
	Total	**15**
2	**Diet Planning and Preparation**	
	Menu planning	10
	R. D.A / Discussion	3
	Calculation of Nutritive value (2 nutrients of 2 food stuffs)	2
	Preparation (Taste-8, Adequacy-5, Presentation-4, Appearance-3)	20
	Total	**35**
3	**Practical Record**	**10**
	Grand Total	**60**

Practical IV - Textile Science and Apparel Designing

- *Maximum Marks* - *60 Marks*
- *Duration of examination* - *3 Hrs*
- Mark Distribution for Practical Examination

SN	Components	Marks
1	Fibre Identification	5
	Weave Identification	5
2	Garment Construction	
	Draft	10
	Construction	15
	Embroidery	5
3	Practical Garments submitted	10
4	Practical Record	10
	Total	**60**

Project

The project evaluation with viva-voce shall be done by the external examiner based on the assessment of following components. This will be done along with the Practical Examination.

SN	Components	% of Marks allotted	Marks Allotted
1	Relevance of the Topic Statement of Objectives Methodology Reference/ Bibliography	20	4
2	Presentation Quality of Analysis/Use of Statistical Tools Findings and Recommendations	30	6
3	Viva-Voce	50	10
Total		**100**	**20**

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The SGPA, CGPA and OGPA for the programme will be calculated as per the Regulations for Choice Based Credit and Semester System for Undergraduate Curriculum-2014.

Sd/-
Dr. Sr. Jessy Varghese
Chairperson, BOS
UG Home Science (Cd)
Kannur University
31-03-2014

SYLLABUS OF CORE COURSES

Theory - 1

FOOD SCIENCE

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
I	1B01 HSC	2	36	2	3

Objectives

- *To familiarize with basic areas of Food Science and Nutrition*
- *To understand the composition, chemistry of foods and their applications in food Preparations.*
- *To understand the various methods of food preparation.*

Module	Content	Hrs.
I Introduction to Food Science	Food as a source of nutrients. – Physico chemical properties of food. – Colloids: properties - crystalloids, food dispersions, emulsions and foams.	2
II Cereals	Major cereals – rice, wheat, ragi. – Grain: structure, composition. Starch: composition, effect of heat - gelatinisation, dextrinisation and retrogradation. Cereal cookery: principles, culinary uses. Cereal products.	5
III Pulses	Major pulses in India – composition – antinutritional factors – BOAA, trypsin inhibitors - toxic effects. Processing of pulses - dehulling, milling and germination.role of pulses in cookery.	3
IV Milk and milk Products	Composition and nutritive value. Milk processing - Classification, Pasteurisation, Homogenisation - Milk products (skim, toned, double toned, condensed miilk, curd, cream, butter, ghee, milk powder, khoa, paneer, cheese, ice cream, whey protein).	5
V Egg	Structure and nutritive value. – Deterioration in egg quality: physical and chemical. – Evaluation of egg quality. Culinary role of eggs.	3
VI Meat and Fish	Meat: Structure, composition and nutritive value, post mortem changes. – Factors affecting tenderness of meat. Fish: Classification, nutritive value. Selection of fish. – Spoilage of fish.	4
VII Fruits and Vegetables	Classification and nutritive value. – Major pigments, effect of cooking on pigments and nutrients. – Changes in fruits during ripening. – Enzymatic and non-enzymatic browning, preventive methods. – Antioxidants in fruits and vegetables.	5

VIII Spices	Commonly used spices, general functions and culinary role.	2
IX Beverages	Beverages - classification and importance - coffee, tea, cocoa, alcoholic beverages and fruit based beverages.	2
X Fats and oils	Fats and oils: difference, properties, processing techniques. – Effect of heat and processing on fats. – Changes during storage: rancidity, auto oxidation.	2
XI Methods of Cooking	Food preparation: objectives and methods - moist heat, dry heat and combination methods.	3

Books for Study

1. Srilakshmi B (2007), Food Science, New Age International (P) Ltd, New Delhi.
2. Manay N.S and Shadaksharaswamy M, Foods, Facts and Principles, New Age International, New Delhi.

Books for Reference

3. Benion M (1995) Introductory Foods, 10th Ed, Prentice Hall, USA.
4. Swaminathan M (1998), Handbook of Food Science and Experimental Foods
5. Chandrasekhar U(2002), Food Science and its Applications in Indian Cookery, Phoenix Publishing House, New Delhi
6. Potter, N.M(1996), Food Science, 5th Ed, CBS Publishers, New Delhi.
7. Peckham, G.C(1994), Foundations of food Preparations, McMillan, London
8. Roday, S(2007), Food Science and Nutrition, Oxford University, New Delhi.
9. Gopalan C, Ramasastri, B.V and Balasubramanian S (2004) Nutritive Value of Indian Foods, NIN, Hyderabad

Practical I (Part-1)

FOOD SCIENCE

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
I	**1B01 HSC**	**2**	**36**	**-**	**-**

Module	Content	Hrs.
I	Classification of Indian foods using food composition table	**3**
II	Preparation of emulsions	**3**
III	Gelatinization and dextrinisation of cereal flour	4
IV	Gluten formation	3
V	Stages of sugar cookery.	4
VI	Germination of pulses	3
VII	Heat and acid coagulated product preparation	4
VIII	Stability of egg white foam.	3

IX	Effect of cooking on vegetable pigments	3
X	Enzymatic and Non-enzymatic browning, Methods to prevent browning in fruits	3
XI	Sensory evaluation tests – triangle test, duo trio test, paired comparison, hedonic scale	3

*A record of the entire practical should be maintained. Practical examination and the valuation (internal and external) of practical record shall be done in semester 2, core course 2B03 HSC.

Theory - 2

FOOD PRESERVATION AND MICROBIOLOGY

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
II	**2B02 HSC**	**2**	**36**	**2**	**3**

Objectives

- *To know the basics of preservation and processing technology, physical and*
- *chemical principles in food processing and ways of quality control, waste disposal and sanitation in food industries.*
- *To understand the economic importance of microorganisms.*
- *To understand the principles of various methods used in the prevention and control of microorganisms.*

Module	Content	Hrs.
I Food Preservation	Introducton to food preservation, – Importance of food preservation. – Aims, principles and methods of food preservation. Preservation by high temperature: Principles – Pasteurisation, Canning. – Spoilage of canned foods – Advantages and disadvantages. Preservation by low temperature: Principles – chilling and freezing – Advantages and disadvantages. Preservation by dehydration: Principles – sun drying, mechanical drying, freeze drying, osmotic drying and other methods - Advantages and disadvantages. Preservation by osmotic pressure (salt and sugar): Principles, Methods, Advantages and disadvantages. Preservation by irradiation: Principles – Application of irradiation – Effect of radiation on foods.	8

II Processing Loss and Methods for Restoration	Losses during storage, handling and processing of different processed products - Effect of processing on physico – chemical characteristics, restoration methods. Fortification and Enrichment.	3
III Food Additives	Food additives commonly used in food industries.	2
IV Food Adulteration	Adulterants in common foods- detection – prevention.	2
V Food Laws	FPO, ISI, AgMark, ISO – Food Safety and Standards Act, Packaging laws, Mark for vegetarian and non vegetarian food. HACCP.	4
VI Evaluation of Food	Evaluation of food quality - subjective and objective methods.	3
VII Introduction to Food Microbiology	Basic concepts - classification of microorganisms in brief. Factors affecting growth of microorganisms – intrinsic and extrinsic factors. Contamination of food through soil, water, air and during handling and processing. Sterilization and disinfection.	4
VIII Food Spoilage	Microbial spoilage of foods- meat, milk, fruits, vegetables and their products. Causes of food spoilage- Microorganisms in food spoilage - bacteria, yeast and moulds – Effects of food spoilage.	3
IX Food Poisoning	Food borne illness and infections - Types, causes and symptoms. Microorganisms causing food poisoning – symptoms and prevention, Mycotoxins – toxic effect – prevention.	3
X Food Fermentation	Principles - methods- Fermented dairy, vegetable and meat products . Advantages and disadvantages.	2
XI Beneficial Organisms and Microbial Compounds	Probiotics, Antimicrobial compounds. Bacteriocins and their applications.	2

Books for Study

1. Srilakshmi B. 2001. *Food Science*. New Age International.
2. Manay N.S and Shadaksharaswamy M, Foods, Facts and Principles, New Age International, New Delhi.
3. Frazier WC & Westhoff DC. 1991. *Food Microbiolog*y. 3 rd Ed. Tata McGraw Hill.

Books for Reference

4. Desrosier NW & Desrosier JN. 1977. *The Technology of Food Preservation*. AVI Publ.
5. Frank AP. 1987. *Modern Processing, Packaging and Distribution System for Foods*. AVI Van nonstand Reinhold Co.
6. McWilliams M. 1993. *Foods - Experimental Perspectives*. Macmillan.
7. Potty VH & Mulky MJ. 1993. *Food Processing*. Oxford & IBH.
8. Swaminathan MS. 1993. *Food Science and Experimental Foods*. Ganesh & Co.
9. Bibek Ray.1996. *Fundamentals of Food Microbiology*. CRC Press.
10. George J Banwart. 1989. Basic Food Microbiology. AVI.
11. James M Jay. 1987. Modern Food Microbiology. CBS.
12. Peppler HJ & Perlman D.1979. *Microbial Technology*. 2 nd Ed. Academic Press.

Practical - I (Part 1&2)

FOOD SCIENCE AND FOOD PRESERVATION

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
II	2B03 HSC	2	36	2	3

Module	Content	Hrs.
I	Preservation by drying	4
II	Demonstration on chilling injury	4
III	Preparation of fruit beverages RTS, Squash	4
IV	Preparation of jam and jelly	4
V	Preparation of fruit candy	5
VI	Preparation of pickle	4
VII	Preparation of fermented products – wine, vinegar	5
VIII	Visit to a fruit processing unit	6

*A record of the entire practical should be maintained and it shall be evaluated internally and externally.

Theory - 3

INTERIOR DECORATION

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
III	3B04 HSC	3	54	3	3

Objectives

- *To understand the different aspects of family housing and kitchen design.*
- *To use and understand the elements and principles of design.*
- *To develop basics skills in interior decoration.*
- *To understand the application of colour and lighting in interior decoration.*
- *To gain the basic knowledge of furniture and furnishings, window treatment and flower arrangement.*

Module	Content	Hrs.
I Housing	Functions. – Selection of building plot/sites. – Factors to be considered in planning a house. – Merits and demerits of renting and owning a house.	8
II Introduction to Interior Design	Design: definition, types, characteristics and purpose. – Importance of Good Taste. – Elements of design: line, shape, texture, colour, pattern, light and space. – Principles of design : proportion, balance, rhythm, emphasis, harmony.	10
III Colour in Interiors	Qualities of colour – hue, value, intensity and temperature. – Prang colour system. – Colour schemes and its application in interiors. – Use and effects of colour in interiors.	10
IV Lighting	Importance, functions and types of lighting required in home. – Types of lighting sources/ lamps. – Lighting fixtures and styles.	8
V Furniture, Furnishings and Accessories	Furniture: functions, selection and arrangement in house interiors. – Materials used in furniture making. Furnishings: functions & types. – Criteria for selection of soft furnishings - specify rugs & carpets. Accessories: types and suitability to each room. – Importance and role accessories in interior decoration. – Picture mounting: law of margins, methods of picture mounting (square, vertical, horizontal).	10

VI Kitchen Arrangements	Features of an ideal kitchen. – Working areas and work triangle. – Basic kitchen plans.	8
VII Windows	Functions. – Parts of Casement Window. – Window treatments: hard and soft. – Curtain styles: traditional and modern.	8
VIII Flower Arrangement	Types of flower arrangement: traditional, modern and oriental (Ikebana). – Steps in making flower arrangement. – Equipments needed. – Techniques for prolonging vase life of flowers. – Flower drying techniques and dry flower arrangements.	10

Books for Study

1. Premlatha Mullick - Text Book of Home Science, Kalyani Publishers, Ludhiana.
2. Varghese, M.A., Home Management, New Age International , N. Delhi.
3. Gupta, S.; Garg, N. And Aggarwal, A. (1993): Textbook of Home Management, Hygiene and Physiology, Kalyani Publishers, New Delhi.
4. Agan.T, The House - Its plan and Use.
5. The Educational Planning Group (1994): Home Management- A Textbook of Home Science for Senior students, Arya Publishing House.

Books for Reference

6. Havanovich Inc. - Alexander M.J., Mercoust Brace (1972) The Art of Interior Design. Mc Millan & Co. New York
7. Ball, Victoria K 1655 (1980) Designing Interior Environment.
8. Deshpande R.S. (1974) Modern Ideal Homes for India, United Book Corporation,
9. Faulkner R and Faulkner S. (1987) Inside Today's Home, Rinehart Publishing Co. New York
10. Moubray A.D and Black D.(1999) Window Treatments, Van Nosterand Reinhold, New York
11. Nielson K.J. (1990) Colour in Interior Design, Mc Graw Hill, New York
12. Pile J.F (1975)Art of Interior Design, Indica publishers, Delhi
13. Khanna G. Carpets for the home, Rizzoli International Publications
14. Architectural Design, Earnest Pickering
15. Francis D.K.Ching, Architecture, Form, Space and Order
16. Shrish Vasant Bapat, Basic Design & Anthropometry
17. Shirish Vasat Bapat, Living Areas – Internal Spaces
18. Halse, Use of Colours in Interiors
19. Francis D.K.Ching , Interior Design Illustrated

Practical II (Part 1)

INTERIOR DECORATION

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
III	3B04 HSC	2	36	-	-

Module	Content	Hrs.
I **Design**	Application of various types of design: elements of design and principles of designs.	6
II **Colour**	Preparation of Prang colour charts and application of colour schemes in interiors / art objects.	6
III **Flower Arrangement**	Demonstration of basic shapes in flower arrangement, Drying techniques and dry flower arrangement.	6
IV **Curtain styles**	Illustration of various curtain styles.	4
V **Furniture Layout**	Furniture layout in Living room, Dining room, Bed room, Bath room, Children's room, Kitchen (Any 2 rooms).	6
VI **Creative Arts**	Creative arts – decorative and functional art, creation of art objects from waste material.	4
VII **Picture Mounting**	Square, vertical, horizontal.(prepare samples for record)	4

*A record of the entire practical should be maintained. Practical examination and the valuation (internal and external) of practical record shall be done in semester 4, core course 4B06 HSC.

Theory - 4

RESOURCE MANAGEMENT

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
IV	4B05 HSC	3	54	3	3

Objectives

- *To understand the principles of management and their application in the family context.*
- *To acquire scientific skills in the management of family resources.*
- *To recognize the significance of family resource management.*

Module	Content	Hrs.
I Resource Management	Basic concepts and definition. – Management process or steps in management: planning, co-ordinating, controlling, evaluation. – Motivating factors: values, goals, standards, attitudes. – Essential managerial qualities.	10
II Decision Making	Significance and steps in decision making. – Types of decisions families make. – Methods of resolving conflicts in family decisions.	8
III Family Resources	Meaning, classification and characteristics of resources. – Factors influencing resource management. – Means to optimize satisfaction in resource management.	8
IV Time Management	Significance of time management. – Making time plans for individuals and group activities: steps and factors to be considered. – Controlling and evaluating time plans.	10
V Management of Energy	Significance of energy management. – Fatigue: types of fatigue, causative factors and alleviating techniques. – Work simplification: meaning, practical work simplification techniques, Mundell's classes of changes. Body mechanics.	10
VI Management of Money	Family income: types and sources of income. – Guidelines in money management. – Methods of handling money. – Family budget: types and steps in making family budget, advantages of budgeting, Engel's law of consumption. – Account keeping systems. – Savings and investments: definition, need and benefits of saving, types of savings. – Methods of supplementing household income.	10
VII Equipment in the Home	Classification of equipment. – Selection, use and care of popular household equipment: cooking stoves, ranges and ovens, micro-wave oven, pressure cooker, refrigerator, mixies and food processors, washing machine, water heater, vacuum cleaner. – Indigenous equipment: smokeless chulah, hay box cooker, Janatha refrigerator, solar cooker and biogas.	12
VIII Consumer Education	Aims, need and importance of consumer education. – Consumer problems. – Consumer rights and responsibilities. – Consumer aids. – Tips for wise buy-man-ship.	4

Books for Study

1. Nickell P. and Dorsey, J. M. (1986): Management in family living, Wiley Eastern Ltd., New Delhi.
2. Gross, I.H. and Crandall, E. W. & Knoll (1972). Management for modern families, 4th ed. Appleton century crafless, Inc.
3. Premlatha Mullick- Text Book of Home Science, Kalyani Publishers, Ludhiana
4. M.A. Varghese , Home Management, New Age International , N. Delhi.

5. Gupta, S.; Garg, N. And Aggarwal, A. (1993): Textbook of Home Management, Hygiene and Physiology, Kalyani Publishers, New Delhi.
6. The Educational Planning Group (1994): Home Management- A Textbook of Home Science for Senior students, Arya Publishing House.

Books for Reference

7. Anderson, E. (1976). Home appliances servicing, Taraporwala sons & Co. Ltd.Bombay
8. Cascio Wayne, F. (1985), Managing Human Resources, McGraw Hill Book Co, NewYorK
9. Decaon, R. E. Fireoough. R. M. (1981) Family Resource Management principles and applications, Ally & Bacon, Boston.
10. Goel, P.K.& Sarma.K.P.(1996) Environmental Guidelines and standards in India,Jaipur, Techno science.
11. Craic, H.T. and Rush, O.D. (1969): Homes with Charecter, Universal Book Stall, Delhi.
12. Saiyadin Mirza (1988) Human Resource Management : An Approach and Conceptual approach, Tata Mc Graw Hill, New York
13. Wilson P. (1981) Household Equipment Selection and Management, Houghton Miflan Co.Inc.NewYork.
14. Varghese. M.A. et.al (1985) Household Equipment Manual , S.N.D.T. Women's University

Practical II (Parts 1&2)

INTERIOR DECORATION AND RESOURCE MANAGEMENT

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
IV	4B06 HSC	2	36	2	3

Module	Content	Hrs.
I Management of time	Preparation of time plan for college girl/homemaker and its evaluation. Preparation of creative ideas for leisure time (art/ craft/ hobby ideas).	4
II Work study	Determination of working height in vertical and horizontal planes. Application of work simplification methods.	8
III Management of money	Study of expenditure pattern of your family and preparation of a model family budget.	4

IV Household equipment	Study of any one modern household equipment and one indigenous household equipment.	6
V Consumer Education	Development and evaluation of labels and advertisements for consumer products. Preparation of a consumer complaint for any consumer product.	4
VI One week Residence Course	Experimental learning through group decision making. Management of human and nonhuman resources. Application of principles of interior decoration. Practical knowledge of home management. Report of residence course.	10

* Student shall maintain records of each work, which shall be evaluated internally and externally.

Theory - 5

CHILD DEVELOPMENT

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	**5B07 HSC**	**5**	**90**	**5**	**3**

Objectives

- *To introduce the student to the excitement and challenges of studying children (from conception to adolescence)*
- *To provide scientific knowledge about child-development, behaviour and welfare, and to enable to improve the quality of life of the child, family and community.*
- *To develop skills in the care and management of children.*
- *To help the students to understand the different categories of challenged children.*

Module	Content	Hrs
I Child Development	Meaning and significance. – Methods of child study. – Growth and development: definition, principles & factors influencing. – Importance and influence of heredity and environment. – Stages & areas of development. – Developmental delay, at-risk babies, baby friendly hospital: meaning and definition. – Needs and rights of children.	25
II Pre-natal Development	Conception. – Stages, factors influencing and hazards in prenatal development. – Teratogens. – Pregnancy: signs and symptoms, discomforts and complications. – Prenatal care and preparation for the arrival of the baby. – Child birth: stages, types and birth injuries.	15

III Post-natal Development	Neonate: characteristics, abilities, adjustments, reflexes, apgar score. – Care of the new born, immunization. – Physical & motor, social, emotional, intellectual, language and moral development from birth to adolescence.	25
IV Early Childhood Care and Education	Pre-school education: definition, importance, objectives and types of preschools. – Play: values & types of play, selection of toys. – Discipline: Disciplinary techniques and their effects. – Guidelines for inculcating discipline in children. – Habit formation: definition, principles, habits to be cultivated. – Behaviour problems: definition, causes and prevention. – Family and child's personality development.	15
V Challenged Children	Challenged children – definition, classification, general causes and prevention.	10

Related Experiences / Assignments

1. Prepare charts on any two of the following;
   - Stages of development
   - Areas of development
   - Immunization Schedule
   - Changes in body size
   - Motor milestones.
2. Observation and reporting of any one development (physical, motor, intellectual, emotional or social) of a pre-school child.
3. Analyze the disciplinary technique used in one's home and its effect on one's behavior.
4. Prepare an indigenous low cost toys.
5. OHP/Power point presentation of any related topic.Visit to a pre-shool/ anganwadies/ balwadies/ Montissorischools/special schools.

Books for Study

1. Suriyakanthi, A.(2009): Child Development, Kavitha Publications, Gandhi Gram, Tamilnadu.
2. Devadas R.P A text book of Child Development and Jaya N. Mac Millan India Ltd. Delhi.
3. Hurlock. E.B. Developmental psychology Tata Mc Graw hill publishing company Ltd. New Delhi.

Books for Reference

4. Hurlock E. B. Child Development Tata HC Grawshill Publishing Company Ltd.
5. Marshall, J & Stuart, S: Child Development. Heinemann Educational Publishers, Oxford. 2001.
6. Minett, P. (2005): Child Care and Development 5th Edition, John Murray (Publishers) Ltd.
7. Berk, L. (2006): Child Development 8th edn., CHI Learning Pvt. Ltd.
8. Mangal, S.K. (2007): Educating Exceptional Child, Prentice Hall.

Theory - 6

HUMAN PHYSIOLOGY

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	5B08 HSC	4	72	4	3

Objectives

- *To understand the basics of human physiology.*
- *To understand the structure and functioning of different systems of human body.*
- *To understand the integrated functions of the various systems of the human body.*

Module	Content	Hrs.
I Introduction to Human Physiology	Definition of physiology. – Structure and functions of a cell, cell division mitosis and meiosis. – Tissues, organs and organ systems. – Immunity: types and significance.	6
II Blood	Composition and functions. – Formed elements: development, classification and functions. – Plasma proteins: classification, functions. – Hemoglobin. – Coagulation of blood. – Blood groups and erythroblastosis foetalis.	12
III Cardiovascular System	Structure of heart. – Special conducting tissues of heart. – Properties of cardiac muscles. – Cardiac cycle. – Heart Sounds. – Blood pressure and heart rate. – Systemic and pulmonary circulation.	12
IV Respiratory System	Organs of respiratory system. – Mechanism of respiration. – Gaseous exchange in lungs and tissues. – Pulmonary volumes and capacities.	10
V Digestive System	Structure of digestive tract. – Digestion and absorption of carbohydrates, fats and proteins.	12
VI Excretory System	Structure and function of kidney. – Structure of nephron. – Mechanism of urine formation. – Micturition.	10
VII Reproductive System	Structure and functions of male reproductive organs and female reproductive organs. – Menstruation.	10

Book for Study

1. Ratan, V. (2004): Handbook of Human Physiology, 7th Edition, Jaypee Brothers Medical Publishers (p) Ltd, New Delhi.

Books for Reference

2. Chatterjee, C.C.: Human Physiology Vol I & II., medical Allied Agency, Kolkata.
3. C.N. Chandrasekhar, (2007): Manipal Manual of Physiology CBS publishers and Distributors, New Delhi.
4. Waugh, A. and Grant, A. (2006): Anatomy and Physiology in health and illness, 10th edition, Elsevier Limited, London.
5. Jain, A. K. , Textbook of Physiology, Volume 1, Avichal Publishing Company, New Delhi, 2003.
6. Guyton: Medical Physiology.

Theory – 7

HUMAN NUTRITION

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	5B09 HSC	4	72	4	3

Objectives

- *To obtain an insight into the chemistry of major nutrients and physiologically important compounds.*
- *To understand the role of nutrition in different stages of life cycle.*
- *To enable the students to plan menu in accordance with basic concepts of nutrition.*

Module	Content	Hrs
I Introduction to Nutrition Science	Definitions- Nutrition, Nutrients, Health (WHO) Nutritional Status – Good and poor nutritional status. Classification of nutrients- general functions. Malnutrition – different forms	**3**
II RDA	Nutritional classification of foods- balanced diet – food pyramid - basic five food groups (ICMR) - Recommended Dietary Allowances: definition, factors influencing - RDA for different nutrients. – Indian reference man and woman.	**5**
III Carbohydrates	Carbohydrates – classification – functions – digestion, absorption and metabolism, deficiency - PEM, dietary sources, Dietary fibre - types – Physiological functions of dietary fibre. – Potential health benefits. – Sources and requirement.	6
IV Energy value of foods	Calorific value of foods – definition of energy –units- components of energy expenditure – Basal metabolic rate (BMR) - factors influencing- measurement – Thermic effect of food.	6

V **Proteins**	Proteins – classification – functions – digestion, absorption and metabolism – sources – deficiency – toxicity.	5
VI **Lipids**	Lipids – classification – EFA, PUFA – functions – digestion absorption and metabolism – sources – deficiency. Role of fat in the diet – visible and invisible fat - EFA ratio in Indian diet.	4
VII **Fat soluble vitamins**	Vitamins A, D, E and K – Functions. – Deficiency and toxicity. – Sources.	7
VIII **Water soluble vitamins**	Vitamin C and B vitamins – Functions – Deficiency. – Food source.	5
IX **Macrominerals**	Calcium, phosphorus, magnesium, sodium, potassium – functions, factors influencing mineral absorption, Calcium homeostasis, Sources, deficiency	7
X **Microminerals**	Iron, iodine, fluorine and zinc: an overview. – Food sources. – Functions. – Deficiency. – Requirements.	4
XI **Water**	Functions, distributions and compartments of body water. – Factors influencing water distribution. – Regulation of water balance. – Requirements of water. – Disturbances in balance, Dehydration, Oedema.	4
XII **Balanced diet**	Balanced diet Dietary guidelines for Indians. Formulation of balanced diet for different age groups and sex. Daily food guide, factors to be considered for different age groups.	16

Books for Study

1. Srilakshmi, B, Nutrition Science, 3rd edn, 2008, New Age International (p) Ltd. Publishers, New Delhi.

Books for Reference

2. Bamji M.S., Krishnaswamy, K., and Brahmam G.N.V., Textbook of Human Nutrition, 3rd edn. 2009, Oxford and IBH Publishing Co.Pvt.Ltd., New Delhi.
3. Park, K.,Park's Textbook of Preventive and Social Medicine, 18th edn 2005, M/s Banarsidas Bhanot Publishers, Jabalpur, India.
4. Swaminathan, M. Principles of Nutrition and Dietetics, 2001, The Bangalore Printing and Pub, Co, Ltd, Bangalore.
5. Gopalan, B.V. Ramasastri and S.C. Balasubramanian (2007) Nutritive value of Indian Foods. NIN, ICMR Hyderabad 500 007.

Practical III (Part-1)

HUMAN NUTRITION

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	5B09 HSC	3	54	-	-

Module	Content	Hrs.
I	Qualitative tests for carbohydrates, protein, calcium, phosphorous and Iron Quantitative tests for a. Vitamin C in food stuffs b. Calcium in food	8
II	Planning balanced diet for preschool and school going male and female children of different income groups	8
III	Planning balanced diet for adolescent boys and girls of different income groups	8
IV	Planning balanced diet for pregnant and lactating mothers of different income groups and activity	8
V	Planning balanced diet for adult man and woman of different income groups and activity	8
VI	Assessment of nutritional status of vulnerable groups through anthropometry	8
VII	Identification of nutritional deficiency disorders among students	6

*A record of the entire practical should be maintained. Practical examination and the valuation (internal and external) of practical record shall be done in semester 2, core course 6B15 HSC.

Theory - 8

TEXTILE SCIENCE AND APPAREL DESIGNING - I

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	5B10 HSC	4	72	4	3

Objectives

- *To gain knowledge about textile fibres and their use*
- *To develop an understanding about various kinds of fabrics, their structure and utility.*
- *To gain knowledge about the fundamentals of fashion designing.*

Module	Content	Hrs.
I Study of Fibres	Definition and classification of textile fibres. – Properties and uses of textile fibres: Cotton, Linen, Wool, Silk, Rayon, Nylon, and Polyester. – Methods of identification of textile fibres.	15
II Study of Yarns	Definition. – Processes of making fibre into yarn (cotton and woolen systems): Mechanical (Ring and Open End spinning) and chemical. – Classification of yarn: type, count, twist, number of parts, novelty yarns, textured yarn and bi-component yarn.	15
III Fabric Structure	Weaving: preparation of yarns for weaving. – Loom: parts and its operations. – Modern shuttle less looms: air jet and projectile loom. – Weaves: Basic weaves: plain, twill, satin and its variations. – Fancy weaves: pile, dobby, jacquard, leno, clip spot, lappet, double cloth, and crepe. – Characteristics of woven fabrics: Yarns: warp and weft, grain, thread count, balance and selvages. Other methods of making fabrics: knitting, felting lace making and bonding.	16
IV Fashion Interpretation	Concepts and terminology: style, fad, classic, fashion trend, haute couture. – Characteristics and factors influencing fashion, fashion cycle, forecasting and role of a fashion designer.	14
V Elements and Principles of Design	Elements and principles of design. – Psychosocial aspects of clothing. – Personality factors and clothing choices. –Selection of clothing for different figure types: for tall, short, stout and thin figures.	12

Books for Study

1. L.Joseph M (1981) Introductory Textile Science,CBS College Publishing,New York.
2. Deulkar D (2002),Household Textiles and Laundry Work,ATMA Ram and Sons,New Delhi.
3. Dantyagi.S (1996) Fundamentals of Textiles And Their Care, Orient Longman.
4. Mary Mathew's , Practical Clothing Construction, Part II, Bhattaram's Reprographics (P) Ltd, Chennai.
5. Sumathy,G.H (2005) Elements of Fashion and Apparel Design, New Age International, Pvt Ltd, New Delhi.

Books for Reference

6. Corbman.B.P (2005).Fibre To Fabric, International Student's Edition, Singapore, Mc Graw Hills Book Co.
7. Kadolf,S.J (2008) Textiles, Anne Langford, Prentice Hall.

8. Gokarneshan.U (2005) Fabric Structure And Design, New Age International Publishers.
9. Armstrong, Helen Joseph , Pattern Making For Fashion Design, Harper & Row, Publications
10. Elizabetta Durdi, Figure Drawing For Fashion Design, The Pepin Tiziana Paci Press.
11. Claire B.Shaeffer, High Fashion Sewing Secrets from The World's Rodale Best Designers.
12. Ireland .P.J (2007) New Fashion Figure Templates, Anova Books, Co Ltd, London.
13. Mullick.P (2002), Garment Construction Skills,Kalyani Publishers, New Delhi.
14. Narang,M (2007) Fashion Technology Handbook, Assia Pacific Business Press, New Delhi
15. Ireland .P.J (2004) Fashion Design Drawing And Presentation, Kyodo Printing Co Ltd,Singapore.

Practical IV (Part-1)

TEXTILE SCIENCE

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	5B10 HSC	3	54	-	-

Module	Content	Hrs.
I **Collection of different fibres**	Cotton, Silk, Polyester, Nylon, Wool and Rayon. – Testing of fibers: Visual inspection, Burning and Microscopic.	10
II **Fabric structure: Basic weaves**	Collect samples for all the Basic weaves and their variations. Fancy weaves- Collect samples for (Pile, Dobby, Jacquard, Leno, Clip spot, Lappet and Double cloth).	20
III **Basic construction processes**	Basic stitches (4), decorative stitches (6), seams and seam finishes (4), hems (3), plackets (2), fullness - darts, tucks, pleats (3), fasteners (3), bias and its applications - collars (2) and sleeves (2).	24

*A record of the entire practical should be maintained. Practical examination and the valuation (internal and external) of practical record shall be done in semester 6, core course 6B16 HSC.

Theory - 9

EXTENSION EDUCATION

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
VI	6B11 HSC	5	90	5	3

Objectives

- *To make the students understand the principles of extension.*
- *To understand the ways and means of home science extension.*
- *Develop skills in preparing and using audio-visual aids in extension work.*
- *Understand the process of communication in Home Science Education.*

Module	Content	Hrs.
I Extension Education	Meaning, definition, objectives, needs, principles and philosophy. – Difference between formal, informal and extension education. – Extension education methods: individual methods (farm and home visit, office call, personal letters, result demonstration), group methods (method demonstration, lecture method, field trips, group discussion), mass methods: (TV/radio recordings, circular letters, news articles, campaign). – Concept of extension educational process. – Role of extension worker. – Home Science extension education and its contribution towards the development of community.	20
II Communication	Definition, functions, elements, and problems of communication. – Legan's model of communication. – Place and role of audio-visual aids in Home Science teaching. – Teaching and learning: elements of teaching-learning situation, steps.	15
III Leadership	Definition, types, functions. – Methods od identifying community leaders. – Role of leaders in community development. – Qualities of a good leader.	15
IV Community Development	Definition, objectives. – History of community development in India. – Democratic decentralization – Panchayathi Raj: meaning, history, set up and functions. Community development set up: at the national, state, district, block and village levels. – Role of functionaries in the block. A review of rural development programme in India. – Ongoing rural development programmes and programmes for women and children.	23

V Role of non-governmental organizations	Role of nongovernmental organizations in community/ rural development in India. – CSWB, SSWB, BSS, Nehru Yuva Kendra, Kasturba Gandhi National Memorial Trust, CAPART and SHG.	7
VI Programme Development	Meaning and scope. – Principles of programme building. – Criteria for good programme. – Programme development cycle and its components. – Plan of work. – Programme implementation and evaluation.	10

Related Experiences/ Assignments

1. Community survey on any aspect.
2. Any extension teaching method used in villages.

Books for Study

1. Reddy A [1987] Extension Education,Bapatha ,Andra Pradesh,India,Sreelekshmi Press.
2. Dahama.O.P and Bhatnagar .O.P [1988] Education and Communication for Development,New Delhi,Oxford and IBH Publishing Co.Pvt .Ltd.

Books for Reference

3. Dubey V.K. and Bishnoi Indira (2009): Extension education and communications, New age International Pvt. Ltd. Publishers, New Delhi.
4. Waghmare,S.K[1980] Teaching Extension Education,Prasant Publication Vallabha,Vidhya Nagar.
5. Patnayak,Ram [1990] Rural Development in India,New Delhi,Vikas Publishing House
6. Jain.Gopal lal[1997]Rural Develoment,Jaipur,Mangal Deep Publications.

Theory - 10

GENERAL PSYCHOLOGY

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
VI	**6B12 HSC**	**4**	**72**	**4**	**3**

Objectives

- *To gain knowledge about basic facts and principles of psychology.*
- *To understand the biological basis of behaviour, nature of sensation and perception.*
- *To impart knowledge about learning, memory and forgetting.*
- *To understand the basic concepts of intelligence and personality.*

Module	Content	Hrs.
I Introduction to Psychology	Psychology: Definition, nature and scope. – Brief history and evolution of psychology.	6

II Biological Basis of Behavior	Neurons: Building blocks of the nervous system. – The nervous system: Basic structure and functions. – The Brain and human behavior. – Endocrine system and behaviour. – Heredity: Genes and behaviour.	10
III Sensation, Attention and Perception	Sensation: Definition. – Visual sensation. – Auditory sensation. – Other human senses: smell, taste, touch and other skin senses, the kinesthetic system, the vestibular system. Attention: Definition. – Selective Attention and Sustained Attention: Factors influencing. – Divided attention. – Span of attention. – Attention Deficit Hyperactivity Disorder (ADHD). Perception: Definition. – The Perceiver. – Principles of perceptual organisation. – Perceptual constancies. – Illusions.	18
IV Learning	Definition. – Classical conditioning. – Operant conditioning. – Key learning processes: reinforcement, extinction, generalisation, discrimination and spontaneous recovery. – Observational learning.	12
V Memory and Forgetting	Memory: Definition. – Stages of memory: encoding, storage and retrieval. Memory Systems : Sensory, Short-term and Long-term memories. Enhancing memory. Forgetting: Definition, Nature and Causes.	10
VI Intelligence	Definition. – Types of intelligence tests. – Assessment of intelligence: mental age and IQ. – Multiple intelligences. – Emotional intelligence and EQ.	6
VII Personality	Definition. – Major approaches to the study of personality: Type approaches, Trait approaches, Psychodynamic approach, Humanistic approach. – Assessment of Personality by Projective techniques.	10

Books for Study

1. Baron.A. Robert (2001). Psychology. New Delhi, Prentice Hall of India Man (1951), Psychology, Houghton Mifflin Company, Boston.
2. Mangal, S.K (2006). General Psychology, Sterling publishers pvt. Ltd., New Delhi,

Books for Reference

3. Hilgard, E.R. (1999). Introduction to Psychology (6th Edition), New Delhi; Oxford and IBH Publishing Co, Pvt Ltd Henry E Garret, General Psychology, Eurasia Publishing House Pvt. Ltd., New Delhi.
4. Srivastava D. N., General Psychology, Vinod Pustak Mandir, Agra.
5. Morgan, C.T. King, R.A., Weisy, J.R. Scooper, J. (1993). Introduction to Psychology, New Delhi, Tata Mc-Graw Hill Publishing Company.
6. Kuppuswamy B. and Prabhu H., A text book of General Psychology, Media promoters and Publishers Pvt. Ltd., Bombay, 1986.
7. Naima Khatoon (Ed) : General Psychology, The Pearson – ICFAI University, Delhi.

Theory - 11

CLINICAL NUTRITION AND DIETETICS

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
VI	6B13 HSC	4	72	4	3

Objectives

- *To Impart knowledge in the field of clinical nutrition*
- *Be able to make appropriate dietary modifications for various disease conditions based on the pathophysiology*
- *To develop capacity and aptitude for taking up dietetics as a profession*
- *Understand the consequence of nutritional problems in the society and have awareness on community nutrition based programs.*

Module	Content	Hrs.
I Introduction to Dietetics and Types of Diets	Meaning and scope of dietetics. – Role of dietitian. – Types of dietary adaptations for therapeutic needs. – Types of Diets: normal and general, soft and liquid diets. – Mode of feeding: oral, enteral and parenteral feeding.	7
II Nutritional Management of Fevers and Infection	Classification and etiology of fevers and infection. – Medical nutrition therapy in: Typhoid, Tuberculosis,HIV/ AIDS	6
III Nutrition and Cancer	Stages in the development of cancer. – Etiological risk factors for cancer: dietary and non-dietary factors, genetic factors, and environmental factors. – Nutritional requirements for cancer patients. – Dietary management in cancer.	6
IV Nutritional Management of Diabetes Mellitus	Prevalence, classification and etiology, symptoms, diagnosis and complications of diabetes mellitus. – Management of diabetes: dietary management - Glycemic Index of common foods, beneficial effects of some foods, prevention.	6
V Nutrition and Coronary Heart Diseases (CHD)	Common disorders. – Prevalence. a) Atherosclerosis: phases, etiology, symptoms, complications, nutritional management. b) Hypertension: classification, etiology, dietary management, DASH diet.	6

VI Gastro Intestinal Disorders	a) Peptic ulcer: types,etiology, symptoms and dietary management. b) Constipation: etiology, symptoms and dietary management. c) Diarrhoea: etiology, symptoms and dietary management.	7
VII Liver Diseases	a) Hepatitis: etiology, symptoms and dietary management. b) Cirrhosis: etiology, symptoms and dietary management.	6
VIII Nutritional Management of Renal Disorders	Acute and chronic Nephritis: etiology, clinical symptoms and dietary management. Nephrotic Syndrome: etiology, clinical symptoms and dietary management.	6
IX Assessment of nutritional status	Assessment of nutritional status - anthropometry, biochemical, clinical, diet surveys – determinants of nutritional status of an individual	4
X Nutritional care in weight Management	Weight imbalance. – Prevalence and classification. a) Obesity: etiology, clinical manifestations, consequences and dietary management b) Underweight -weight imbalance: etiology, clinical manifestations, consequences and dietary management.	6
XI Nutritional Problems of the Community	Prevalence, causes, consequences, prevention and control of • Protein Energy Malnutrition (PEM) • Vitamin A deficiency • Iodine Deficiency Disorders • Iron Deficiency Anemia.	12

Books for study

1. Srilakshmi (2009) Dietetics IVthEdition , New age International (P) Ltd, Publishers, New Delhi

Books for Reference

2. Whitney,E.N, Cataldo, C.B.,andRolfes,S.R.(2002), Understanding Normal and Clinical Nutrition, Sixth Edn.Thomson Learning Inc.USA.
3. Clinical Nutrition (2005) Blackwell Science Service, Nutrition Society UK.
4. Public Health nutrition (2005), Edited by Nutrition society, Black well Science Service U.K.
5. Bamji,M.S.,Krishnaswamy,K and Brahmam(Eds.)(2009), Text book of Human Nutrition Third Edition Oxford & IBH publishing Co.Pvt.Ltd., New Delhi.
6. L. Kathleen Mahan and Sylvia Escott- Stump, Krause's Food Nutrition and Diet therapy, 11th Edition, 2005, Saunders, USA.
7. Subhangini. A. Joshy (2010), Nutrition and dietetics, Third edition. Tata Mc. Graw. Hill Education Pvt.Ltd, New Delhi
8. Paul Insel, Elaine Turner, Don Ross (2004) Nutrition second edition American Dietetic Association, Jones and Barlett publishers, London

Theory – 12

TEXTILE SCIENCE AND APPAREL DESIGNING - II

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
VI	6B14 HSC	4	72	4	3

Objectives

- *To impart knowledge on textile dyeing, printing and finishing of fabrics.*
- *To develop skill in understanding textiles available in the market.*
- *To impart knowledge in apparel production, marketing and merchandising.*
- *To enable the students to develop skills in pattern making and garment construction.*

Module	Content	Hrs
I Dyeing and Printing	Dyes and dyeing: classification of dyes- natural, artificial- acid, basic, direct, sulphur, vat, naphthol, disperse and mordents. – Stages of dyeing: stock, yarn, piece, cross, and union. – Printing: direct-block, roller and screen, discharge; resist- tie and dyeing and batik.	13
II Fabric Finishes	Definition, purpose and classification. – Types of finishes: singeing, scouring, bleaching, sanforizing, calendaring, tentering, sizing, weighting, brushing, napping. – Functional finishes: stain resistant & antimicrobial.	15
III Modern Textiles	New trends in textiles: a brief introduction to spandex, geo-textiles, nano fabrics, medicinal fabrics and eco- friendly textiles-organic cotton, jute, bamboo fibre.	12
IV Garment Construction Tools and Equipments	Tools, equipments and terms used for pattern making and garment construction. – Sewing machine: parts and functions, care and maintenance, common problems and remedies. – Steps in preparing fabric for construction, layouts, marking, cutting, stitching and finishing of garments.	11
V Body Measurements	Importance and methods of taking body measurements. – Pattern making: drafting, draping. – Flat Pattern. – Drafting of basic pattern set (Basic bodice front, back, basic skirt back, front, and sleeve).	11
VI Fashion Marketing and Merchandising	Definition and concepts. – Brief outline of various departments in an apparel industry. – Types of retail outlets and visual merchandising. – Role and responsibilities of merchandiser.	10

Books for Study

1. Mary Mathews , Practical Clothing Construction, PartI& II, Bhattaram's Reprographics (P) Ltd, Chennai.
2. L.Joseph M (1981) Introductory Textile Science,CBS College Publishing, New York.

Books for Reference

3. Wells .K (2002) Fabric Dyeing And Printing,Conran Octopus.
4. Smith J. L (2006) Textile Processing,Abhishek Publications, Chandigarh
5. Armstrong Helen Joseph , Pattern making for Fashion Design, Harper & Row,Publications.
6. E.Rolfo Kopp& Zelin , How To Draft Basic Pattern, Fair Child Publication Inc.
7. Gerry Cooklin, Garment Technology For Fashion Designers, Book Link.
8. Black Well (1988) The Technology Of Clothing Manufacture, Scientific Publications Hill House,
9. M.S, Dress Design-Draping And Flat Pattern, London. Mansfield.
10. Riter.J.(1998) Hand Book For Fashion Designing, Best Drafting Techniques, Mital Publications.
11. Claire B.Shaeffer, High Fashion Sewing Secrets from the World's Rodale Best Designers
12. Zarapkar,K.R (2008)Zarapkar System Of Cutting,Navaneet Publications India Ltd,Gujarat.

Practical III (Part 1&2)

NUTRITION AND DIETETICS

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
VI	6B15 HSC	3	54	3	3

Module	Content	Hrs.
I	Calculation of BMI using height-weight measurements.	2
II	Preparation of therapeutic recipes. Types of therapeutic diet: normal, soft, fluid – full fluid and clear fluid diets.	6
III	Diet plan for fevers, cancer- breast cancer , diabetes mellitus, CHD, peptic ulcer, hepatitis, cirrhosis, nephritis, obesity, under weight, PEM, iron deficiency anaemia.	24
IV	Visit to a feeding programme / diet clinic.	4

*A record of the entire practical should be maintained and it shall be evaluated internally and externally.

Practical IV (Part 1&2)

TEXTILE SCIENCE AND APPAREL DESIGNING

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
VI	6B16 HSC	3	54	3	3

Module	Content	Hrs.
I Garment Construction	Taking body measurements, drafting, calculation of fabric requirement and construction of A-line frock (5yrs), Sari petticoat (full size), Kameez and salwar (full size).	30
II Dyeing/Printing	Preparation of block/tie and dye sample	6
III Industrial Visits	Visit to Mills/garment industries/units.	18

*Student shall maintain records of each work, which shall be evaluated internally and externally.

PROJECT

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
VI	6B17 HSC	2	36	2	2

Objectives

- *To enable the students to understand basic principles of research design*
- *To enable the students to develop interest in Home science research.*
- *To enable the students to analyze the collected data.*
- *To enable the students to prepare the project report.*

Requirements and Conditions

1. The project shall be prepared by the students individually or in groups consisted of not more than 6 students.
2. The Department shall arrange the supervising teacher.
3. Project must be related to a topic from any branch of Home science in the syllabus.
4. The project topics are to be identified during the 5th semester with the help of supervising teacher.
5. The project report shall be around 30 pages in A4 sized paper.
6. The report of the project in duplicate shall be submitted to the Department before the 6th semester examination.
7. Evaluation of the project shall be done both internally and externally.
8. The project report shall be submitted for external evaluation during the university practical examination of core courses in sixth semester.
9. The viva – voce based on the project shall be conducted individually by the external examiner.

SYLLABUS OF OPEN COURSES

Open Course -1

APPLIED COUNSELLING

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	5D01 HSC	2	36	2	2

Objectives

- *To acquaint the students with the concepts counseling.*
- *To familiarizes the students with the nature and process of counselling*
- *To develop awareness among the students about the application of counseling.*

Module	Content	Hrs.
I Introduction to Counseling	Definition, goals and features of counselling. – Difference between guidance and counselling. – Characteristics of effective counsellors. Ethical principles of counseling. – Misconceptions regarding counselling.	8
II Approaches to Counselling	Directive counselling – Nondirective counselling – Eclectic counselling – Cognitive therapies – Behavioural counselling – Group therapy.	4
III Counselling Relationship	Meaning of counselling relationship. Conditions for helpng relationships: Empathy, positive regard, genuineness and concreteness. – Specific skills required in counselling.	6
IV Counselling Process	Stages of counselling process. The first stage: Initial disclosure. – The second stage: In-depth exploration. – The third stage: Commitment to action.	8
V Special Areas in Counselling	Child counselling, premarital counselling, family counselling, academic and school counselling, career counselling, crisis intervention counselling, rehabilitation counselling, post traumatic counselling.	10

Books for Study

1. Welfel, E. R. and Patterson, L.E. (2011), The counselling process, CENAGE Learning India Pvt. Ltd., India
2. Agrawal, R. (2007): Educational Vocational guidance and counselling, Shipra publications, Delhi.
3. Narayana, S. R. (2008), Counselling psychology, Tata MC Graw Hill, New Delhi.

Books for Reference

4. Belkin, G.S. (1988). Introduction to counseling, W.G. Brown Publishers.
5. Nelson, J. (1982). The theory and practice of counseling psychology, Hallt Rinehart and Winston, New York.
6. Vishala, M. (2008), Guidance and counseling, Chand & Company Pvt. Ltd., New Delhi.
7. Patterson, Lewis E (1999) The counselling process 5th edition Cliveland State University, Thomson Asia Pvt Ltd., USA.
8. Windy, D. (1988) (Ed), Counselling in action, Sage publication, New York.

Open Course -2
NUTRITION FOR WELLNESS

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	5D02 HSC	2	36	2	2

Objectives

To enable students to:

- *Understand the relationship between nutrition and health.*
- *Modify diets in order to promote health and reduce the risk of deficiency and chronic diseases.*
- *Learn the different methods to assess the nutritional status.*

Module	Content	Hrs.
I Introduction to Nutrition	Classification of foods (based on chemical composition, predominant function, nutritive value, ICMR Food Groups). –Relation of food and health. – Food and its functions. – Introduction to nutrients. –Recommended dietary allowances.	10
II Assessment of Nutritional Status	The methods of assessment of nutritional status. – Direct Methods: Anthropometry, Biochemical changes, Clinical examination of signs, Dietary analysis. – Indirect Methods: Vital health statistics.	4
III **Modified Diets**	Introduction. – Purpose of diet therapy. – Classification of modified diets. – Diets for selected disorders: Diabetes mellitus, Typhoid fever, Cardiovascular diseases (Atherosclerosis, hypertension), Peptic ulcer, Cirrhosis of liver, Glomerulonephritis, Renal calculi.	16

IV Weight Management (Obesity, Underweight)	Introduction. – Aetiology, assessment and principles of dietary management. – Dietary guidelines.	4
V Functional Foods and its Role	Phytochemicals - Sources, benefits and its function.	2

Books for Study

1. Sreelakshmi B, Dietetics , New Age International (p) Ltd,Publishers, New Delhi, 2010
2. Sreelakshmi B. Nutrition Science , New Age International (p) Ltd,Publishers, New Delhi, 2010.

Books for Reference

1. Insel P, Turner E.R and Ross D, Discovering Nutrition, American Dietetic Association, Jones and Bartlett Publishers, London, 2003
2. Smolin L.A and Grosvenor M.B, Nutrition Science and its Applications, Second edition,Saunders College Publishing,New York,1997
3. Park K, Park`s Textbook of Preventive and Social Medicine, 20th Edition, Banarsidas Bhanot Publishers, Jabalpur,India, 2009
4. Joshi S.A, Nutrition and Dietetics, third Edition, Tata McGraw Hill Education Pvt.Ltd, New Delhi, 2010.
5. Gopalan C,Ramasastri,B.V and Balasubramanian S.C, Nutritive value of Indian Foods, NIN, Hyderabad 2007.

Open Course - 3

FOOD PROCESSING AND PRESERVATION

Semester	Course Code	Hrs. Per Week	Hrs. Per Semester	Credits	Exam Hours
V	**5D03 HSC**	**2**	**36**	**2**	**2**

Objectives

To enable the students to

- *Aware the need for food processing and food preservation.*
- *Understand different methods of food processing and food preservation.*
- *Encourage students to apply theoretical knowledge in practical situations.*

Module	Content	Hrs.
I **Food Processing and Preservation**	Scope, needs and principles of food processing and preservation.	4
II **Food Spoilage and Technology of Preservation**	Food spoilage-Types, causes and prevention. – Preservation: By using high temperature - heat process, canning, sterilization. – By using low temperature - refrigeration, freezing, chilling. – By Drying, fermentation. – By using natural agents – sugar, salt, acid, honey. – By using chemical preservatives.	12
III **Food Processing and Preservation of Foods**	Processing and Preservation of foods : fruits, vegetables, cereals, pulses, milk, animal foods.	6
IV **Cooking of Foods**	Different methods – baking, steaming, frying, pressure cooking, microwave cooking.	6
V **Effects of food Processing and Preservation**	Physical and chemical changes in food during preservation Common problems found in food processing and preservation Byproduct utilization.	8

Books for Study

1. Srilakshmi B. 2001. *Food Science*. New Age International.
2. Manay N.S and Shadaksharaswamy M, Foods, Facts and Principles, New Age International, New Delhi.
3. Frazier WC & Westhoff DC. 1991. *Food Microbiolog*y. 3 rd Ed. Tata McGraw Hill.

Books for Reference

4. Desrosier NW & Desrosier JN. 1977. *The Technology of Food Preservation*. AVI Publ.
5. McWilliams M. 1993. *Foods - Experimental Perspectives*. Macmillan.
6. Potty VH & Mulky MJ. 1993. *Food Processing*. Oxford & IBH.
7. Swaminathan MS. 1993. *Food Science and Experimental Foods*. Ganesh & Co.

MODEL QUESTION PAPERS OF CORE COURSES

I Semester B.Sc. Examination, November .....
Core Course in Home Science

CORE: 1B01 HSC – FOOD SCIENCE

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. FPO.
2. Name two foods thst are rich in protein.
3. Nutritive value of milk.
4. List out the major pigments present in fruits and vegetables.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. Pasteurisation.
6. Rigor mortis.
7. Rancidity.
8. Classification of fats.
9. How is gluten formed?
10. Effect of cooking on vegetables.
11. Advantage of dried foods.
12. Retrogradation.
13. Enzymatic browning.
14. Name any four antioxidant present in fruits and vegetables.

Section C

Four questions are to be answered. Each carries **3** marks.

15. Write the Characteristics of fresh fish.
16. How to evaluate eggs quality?
17. What is food adulteration and examples?
18. What are the objectives of food preservation?
19. What are the functions of food?
20. Classification of beverages with examples.

Section D

Two questions are to be answered. Each carries **5** marks.

21. What is food preservation and methods of food perservation?
22. Explain the methods of cooking?
23. Proceesing of cerals and list out the nutrients.
24. Label the diagram of the strucutre of egg and the composition of egg.

II semester B.Sc. Examination, April .....
Core Course in Home Science

2B02 HSC – FOOD PRESERVATION AND MICROBIOLOGY

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Pasteurisation.
2. Water activity.
3. Radurization.
4. Fortification.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. List out the principles of food preservation.
6. Advantages of dried foods.
7. Differentiate quick freezing and slow freezing.
8. List the principles of packaging.
9. Loss of nutrients in processing of foods.
10. What do you mean by food poisoning? Give two examples.
11. Mycotoxicosis.
12. Differentiate jam and jelly.
13. Give an account on FSSAI.
14. Growth curve of bacteria.

Section C

Four questions are to be answered. Each carries **3** marks.

15. HACCP – Principles, need and benefits.
16. Class II preservatives and its role in preservation.
17. Fermentation as a technique for food preservation.
18. Food colours and sweetening agents.
19. Explain the application of irradiation in food industry.
20. Bacteriocins and their application.

Section D

Two questions are to be answered. Each carries **5** marks.

21. Explain the factors influencing the growth of microorganisms.
22. Explain the process of canning of fruits.
23. Explain dehydration under the following headings
    a) Changes during dehydration
    b) Any two methods
24. Food born intoxications – types, causative agents and prevention.

III Semester B.Sc. Examination, November .....
Core Course in Home Science
3B04 HSC – INTERIOR DECORATION

Time: 3 Hours **Max Marks: 40**

Section - A

All questions are to be answered. Each question carries **1** mark.

1. Mention the three dimensions of colour.
2. List out the elements of design.
3. What do you mean by rugs?
4. Define soft furnishings.

Section - B

Seven questions are to be answered. Each Question carries **2** marks.

5. Draw Prangs colour wheel.
6. Classify design.
7. What are lighting fixtures?
8. Explain the analogous colour harmony.
9. List of the advantages of using carpets.
10. What is the importance of good taste in interior decoration?
11. List out the merits of owned house.
12. What are the criteria for selecting site for home?
13. List out the functions of house.
14. List out the suitable accessories for Indian homes.

Section - C

Four questions are to be answered. Each carries **3** marks.

15. Differentiate structural and decorative design.
16. Colours are important for our interiors-Explain.
17. List out the materials suitable for furniture.
18. Explain the importance of work triangle.
19. Distinguish between direct and indirect lighting.
20. List out the steps in making flower arrangement.

Section - D

Two questions are to be answered. Each carries **5** marks.

21. Describe on the principles of design with suitable illustrations.
22. Explain the types of flower arrangement.
23. Enumerate on the factors to be considered while planning a house.
24. Explain the types of kitchen with suitable illustration.

IV Semester B.Sc. Examination, April .....
Core Course in Home Science
4B05 HSC - RESOURCE MANAGEMENT

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Define management process.
2. What is work simplification?
3. Define real income.
4. Define time cost.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. What are the types of decision?
6. Consumer aids are the tools for consumer -Explain
7. What are compulsory savings?
8. List out some of the methods by which you can increase your family income
9. Do you think family finance plan is ideal? Justify your thought.
10. Define work simplification with examples.
11. All resources are limited. Substantiate this statement.
12. Give examples for light and moderate work.
13. Consumer education is the need of the hour. Explain.
14. Classify Fatigue.

Section C

Four questions are to be answered. Each carries **3** marks.

15. Explain Engel's Law of Consumption.
16. List out the essential managerial qualities for a home maker.
17. Draw Janatha refrigerator.
18. What are essential steps in decision making?
19. List out the advantages of saving.
20. Enumerate on the principle of hay box.

Section D

Two questions are to be answered. Each carries **5** marks.

21. Explain the methods of resolving conflicts.
22. Descibe the Mundel's classes of change.
23. What are the factors to be considered while selecting equipments for home?
24. Enumerate on consumer rights.

V Semester B.Sc. Examination, November .....
Core Course in Home Science

5B07 HSC – CHILD DEVELOPMENT

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. ICDS
2. Breech birth.
3. Gang age.
4. Centredness

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. Define play.
6. What is developmental delay?
7. What are the signs of pregnancy?
8. How is identical twins born?
9. What is gang age?
10. List out any 4 complications during pregnancy.
11. Write on observation method.
12. Differentiate growth and development.
13. Concept formation.
14. Reflexes of a neonate.

Section C

Four questions are to be answered. Each carries **3** marks.

15. What are the factors affecting growth and development?
16. What are the different types of play?
17. Discuss democractic disciplinary technique.
18. Why pre-school is important?
19. What are the causes of mental retardation?
20. Give the importance of immunization for children?

Section D

Two questions are to be answered. Each carries **5** marks.

21. Explain the rights of children.
22. What are the objectives of pre - school education?
23. Discuss the values of play.
24. Explain the principles of habit formation.

V Semester B.Sc. Examination, November .....
Core Course in Home Science

5B08 HSC – HUMAN PHYSIOLOGY

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Tidal volume.
2. Heart rate.
3. Purkinje fibres.
4. Succus entericus.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. What is erythroblastosis foetalis.
6. Write a note heart sounds.
7. Define micturition.
8. List out the functions of haemoglobin.
9. What is tubular reabsorbtion?
10. Name the male and female sex organs and sex hormones.
11. What are the functions of liver?
12. Explain vital capacity.
13. Name the valves present in heart and its function.
14. Write a short note on cell division.

Section C

Four questions are to be answered. Each carries **3** marks.

15. Explain the structure and functions of stomach.
16. Enumerate the properties of cardiac muscles.
17. Explain menstruation.
18. Briefly explain the composition of blood.
19. What is immunity? What are the different types of immunity?
20. Describe the digestion and absorbtion of carbohydrate.

Section D

Two questions are to be answered. Each carries **5** marks.

21. Draw and describe the structure of a cell.
22. Explain the mechanism of clotting of blood. Describe the blood coagulation factors.
23. Enumerate the mechanics of breathing.
24. Draw and explain the structure of nephron. Describe the mechanism of urine formation.

V Semester B.Sc. Examination, November .....
Core Course in Home Science

CORE: 5B09 HSC – HUMAN NUTRITION

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Nutrition.
2. Name any two water soluble vitamins.
3. PUFA.
4. Food rich in protein.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. PEM.
6. Importance of fiber in the diet
7. BMR.
8. RDA.
9. Functions of lipids.
10. Balanced diet.
11. What are macrominrals?
12. Factors influencing water distribution.
13. Importance of iron in the diet and list out the sources.
14. Classify protein.

Section C

Four questions are to be answered. Each carries **3** marks.

15. What are basic five food groups?
16. Dehydration and oedema.
17. Metabolism of protein.
18. Write the role of fat in the diet. What is visible and invisible fat.
19. What are the factors influencing mineral absorption?
20. Write a note on iodine deficiency. List out the sources.

Section D

Two questions are to be answered. Each carries **5** marks.

21. Balanced diet and principles.
22. Food Pyramid.
23. Protein, function and absorption.
24. Define energy, RDA, and thermic effect of food.

V Semester B.Sc. Examination, November.....
Core Course in Home Science

5B10 HSC – TEXTILES SCIENCE AND APPAREL DESIGNING - I

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Which is the most natural lustrous textile fiber?
2. Which fiber is known as the king of fiber?
3. Which weave is known as 1/1 weave.
4. Who invented jacquard loom.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. Yarn twist.
6. Plain weave.
7. Bi-component yarn.
8. Solubility test.
9. Tenacity.
10. Weighting of silk.
11. Simple yarns.
12. Leno weave.
13. Classification of wool.
14. Lace making.

Section C

Four questions are to be answered. Each carries **3** marks.

15. Describe retting of flax.
16. Manufacturing process of rayon.
17. What are novelty yarns? Explain.
18. Explain fashion cycle
19. Describe weft knitting
20. Explain elements of design.

Section D

Two questions are to be answered. Each carries **5** marks.

21. Explain fiber identification methods.
22. Describe loom, its parts and motions.
23. Discuss the psychological aspects of clothing.
24. Explain the production, properties and uses of cotton.

VI semester B.Sc. Examination, April .....
Core Course in Home Science

6B11 HSC – EXTENSION EDUCATION

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Expand CSWB
2. List any four audio visual aids in Home Science teaching.
3. Name any two National Welfare programmes in extension education.
4. Leadership.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. Define Extension Education.
6. Communication.
7. Extension Education methods?
8. Nehru Yuva Kendra .
9. SSWB.
10. Functions of Leadership.
11. Discuss on any three audio visual aids.
12. Discuss on two International Welfare Programmes.
13. Needs of Extension Education.
14. Write a note on flip chart.

Section C

Four questions are to be answered. Each carries **3** marks.

15. Qualities of a good Leader.
16. Principles of Extension Education.
17. Functions of Panchayath Raj.
18. What are the major elements of communication?
19. Discuss the role of chart as a visual aid.
20. Write on BSS and SHG.

Section D

Two questions are to be answered. Each carries **5** marks.

21. Discuss the role of visual aid in extension teaching
22. Elaborate on the role of leaders in community development.
23. What are the functions, process and problems of communication?
24. Explain the role of leaders in community development.

VI semester B.Sc. Examination, April .....
Core Course in Home Science

6B12 HSC – GENERAL PSYCHOLOGY

Time: 3 Hours **Max Marks: 40**

Section - A

All questions are to be answered. Each question carries **1** mark.

1. Trait.
2. ADHD.
3. Ichonic memory.
4. The light sensitive layer of cells at the back of the eye.

Section - B

Seven questions are to be answered. Each Question carries **2** marks.

5. W hat is sensory memory?
6. What is mean by projective techniques?
7. Which are the four lobes of the cerebral cortex ?
8. What are the two tpyes of attention?
9. What is retroactive interference?
10. What is mean by observational learning?
11. Briefly explain the terms IQ and EQ.
12. Where is the adrenal gland located ? List any 3 functions of the adrenal gland.
13. Write short notes on kinesthetic system, the vestibular system.
14. Write on functionalism.

Section - C

Four questions are to be answered. Each carries **3** marks.

15. Briefly explain the history of psychology.
16. How heredity influences the human behaviour?
17. Explain the structure of a neuron with the help of a diagram?
18. Give an account on intelligence tests.
19. Explain the perceptual constancies?
20. Explain the type theories of personality.

Section - D

Two questions are to be answered. Each carries **5** marks.

21. Define psychology. Explain the nature and scope of psychology.
22. What is Personlity? What are the different types of Personality?
23. Critically analyse the learning theories.
24. Define forgetting. Explain the nature and causes of forgetting.

VI semester B.Sc. Examination, April .....
Core Course in Home Science

CORE: 6B13 HSC – CLINICAL NUTRITION AND DIETETICS

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Expand AIDS
2.Example for soft diet.
3.Liquid diet
4. DASH diet.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. Types of diabetes mellites.
6. Iron deficiency anaemia.
7. Parenteral feeding.
8. Therapeutic diets.
9. Dietary principles for typhoid.
10. Hypertension.
11. Nephrotic Syndrome.
12. Types of dairrohea.
13. Constipation – dietary management.
14. Dieatry management in cancer.

Section C

Four questions are to be answered. Each carries **3** marks.

15. PEM
16. Obesity and underweight dietary modifications.
17. Cirrhosis ,causes and dietary modifications.
18. Plan a days diet for a atherosclerosis patient?
19. Role of dietician.
20. Peptic ulcer symptoms and dietary modifications.

Section D

Two questions are to be answered. Each carries **5** marks.

21. Explain the causes, symptoms and dietary modifications of cardio vascular diseases.
22. Write a note on peptic ulcer. Suggest an appropriate diet for a patient with peptic ulcer.
23. Briefly explain etiology, symptoms and dietary management of diabetes mellitus.
24. Explain PEM and Vitamin A deficiecy?

VI semester B.Sc. Examination, April .....
Core Course in Home Science

6B14 HSC – TEXTILE SCIENCE AND APPAREL DESIGNING - 11

Time: 3 Hours **Max Marks: 40**

Section A

All questions are to be answered. Each question carries **1** mark.

1. A variation of the technique of stencil printing.
2. An example of a fibre with exceptional stretchability
3. A finish that burns off projecting fibre ends from the surface of the fabric.
4. An example for resist printing.

Section B

Seven questions are to be answered. Each Question carries **2** marks.

5. What is a pattern?
6. Role of Merchandiser
7. Fashion.
8. Chemical finishes
9. Ecofriendly fibres
10. Union Dyeing
11. Bamboo fabric
12. Importance of Body measurements
13. Visual Merchandising
14. Layouts

Section C

Four questions are to be answered. Each carries **3** marks.

15. Comment on nano fabrics?
16. How will you motivate the consumers to buy fashion goods?
17. How will you create an apparel of good fit?
18. What are the various types of dyeing methods?
19. Methods of pattern making.
20. What are the uses of geotextiles?

Section D

Two questions are to be answered. Each carries **5** marks.

21. Tools used for garment construction.
22. What are finishes and their importance? Elaborate on any 5 types of mechanical finishes
23. What are the types of printing methods? Explain the principle of tie and dye?
24. What are synthetic dyes? Give examples. Mention the advantages and disadvantages.

MODEL QUESTION PAPERS OF OPEN COURSES

V Semester B.Sc. Examination, November .....
Open Course in Home Science

5D01 HSC – APPLIED COUNSELLING

Time: 2 Hours **Max Marks: 20**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Empathy.
2. Define counselling.
3. Counselling skills.
4. Family counselling.
5. Academic counselling.

Section B

Five questions are to be answered. Each Question carries **2** marks.

6. What are the goals of counselling?
7 Briefly explain the approaches in counselling.
8. "Effective counsellors are able to reach-in as well as reach-out" – Explain.
9. What is mean by counselling relationship?
10. What is career counselling? Why it is important?
11. Write a note on misconceptions regarding counselling.
12. Differentiate between counselling and guidance.

Section C

One question is to be answered. It carries **5** marks.

13. Explain the stages of counselling.
14. Explain in detail rehabilitation counselling.

V Semester B.Sc. Examination, November .....
Open Course in Home Science

5D02 HSC – NUTRITION FOR WELLNESS

Time: 2 Hours **Max Marks: 20**

Section A

All questions are to be answered. Each question carries **1** mark.

1. Principles of diet in peptic ulcer.
2. Which are the sources of phytochemicals?
3. Classification of BMI.
4. Causes of underweight.
5. Risk factors of heart diseases.

Section B

Five questions are to be answered. Each Question carries **2** marks.

6. Discuss the causes and preventive measures of anaemia.
7. Write on nutritional assessment
8. Explain the importance of diet therapy in hypertension
9. Explain the role of functional foods.
10. Write a brief note on urinary calculi.
11. Explain the complications of obesity
12. What are the dietary modifications required during typhoid fever?

Section C

One question is to be answered. It carries **5** marks.

13. Write an essay on the causes, symptoms and dietary modifications needed in the management of diabetes mellitus.
14. Explain the methods of assessment of nutritional status.

V Semester B.Sc. Examination, November .....
Open Course in Home Science

5D03 HSC – FOOD PROCESSING AND PRESERVATION

Time: 2 Hours **Max Marks: 20**

Section A

All questions are to be answered. Each question carries **1** mark.

1. What are the chief causes of food spoilage.
2. What are the principles of food preservation
3. Write the objectives of cooking food.
4. Write on blanching.
5. Common problems encountered in processing and preservation.

Section B

Five questions are to be answered. Each Question carries **2** marks.

6. Discuss pasteurization as a preservation technique.
7. Write on the preservation of vegetables.
8. Explain food irradiation.
9. Briefly explain the intrinsic and extrinsic factors influencing microbial activity in foods
10. Comment on the factors influencing spoilage of fish.
11. Write on the advantages and disadvantages of microwave cooking.
12. Discuss on pressure cooking

Section C

One question is to be answered. It carries **5** marks.

13. Discuss on the different methods of food preservation.
14. Write an essay on the processing of pulses.