VEER NARMAD SOUTH GUJARAT UNIVERSITY
UNDER GRAUDATE COURSE

B.A. Home Science : Composite work load and marks distribution
Effect from June-July 2002

Year	Paper No.	Title of the Paper	Period/Week The.	Prac.	Total Marks Ext.	Int.	Ext.	Int.
F.Y.B.A.	I	Introduction to Home Science Education & External	3	2	45	20	25	10
	II	Applied Biology	3	2	45	20	25	10
	III	Introduction to Nutrition	3	2	45	20	25	10
	IV	Home Management	3	2	45	20	25	10
S.Y.B.A.	I	Human Development First Aid & Home-Nursing	3	2	45	20	25	10
	II	Basic Science Applied to Home Sc.	3	2	45	20	25	10
	III	Meal Management	3	2	45	20	25	10
	IV	Introduction to Cloth-ing Textiles	3	2	45	20	25	10
T.Y.B.A.	I	Diet Therapy	3	2	45	20	25	10
	II	Basic Science-Applied to Home Sc.	3	2	45	20	25	10
	III	Food Preservation	3	2	45	20	25	10
	IV	Home Management	3	2	45	20	25	10
	V	Advance Clothing, Textiles & Laundry Work	3	2	45	20	25	10
	VI	Communication and Ext- Extension Teaching	3	2	45	20	25	10

Distribution of Internal Marks: F.Y. /S.Y. / T.Y.B.A.

TOTAL MARKS : 30 Theory + Practical (Combined Passing)

Theory	Practical	Library Work	Attendances		Total
10	10	05	05	=	30

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.

Home science

F. Y. B.A.

Paper-I : Introduction to Home Science Education & Extension

Effect from July-August-2002.

3 Periods / Week	Theory 45 Marks
	Internal 20 Marks
Practical 25 Marks	Practical 25 Marks
	Internal 10 Marks
	Total Internal 30 Marks

Objectives :

To enable students to

(1) To understand the concept, Scope and philosophy of Home science.
(2) To appreciate the role of Home science in Nation building.
(3) To cultivate human values through learning Home science.
(4) To develop understanding of the goals with regards to method of teaching Home science.
(5) Prepare and use audio-Visual aids for extension work.
(6) To make the students aware of the relationship between Home science and national Development.

Course Content :

(1) Concept and type of Education. Meaning of education, need of education.
Type of education
(a) Formal education (b) Non- formal education
(c) Extension education

(2) Meaning and definition of Home science,
Objectives of Home science education,
Philosophy of Home science education,
Areas of Home science education.

(3) Home science and Allied sciences.
The linkage of Home science with basic science, applied science, psychology-sociology, economics and Agriculture.

(4) Scope of Home Science

4:1 Educational scope of home science.
4:2 Vocational scope of home science.

(5) History and Development of Home Science Education.

5:1 Home Science Education in America.
5:2 Home Science Education in Europe.
5:3 Home Science Education in India.

(6) The Home Science Association of India.
6:1 Establishment of Association.
6:2 Goals of home science Association
6:3 Constitution of Home Science Association
6:4 Membership,rules & regulations,
6:5 Functions of Home Science Association,
6:6 Working of Home Science Association,

(7) Methods of Teaching Home Science
(a) Lecture Method
(b) Discussion Method
(c) Demonstration Method
(d) Workshop Method
(e) Practical Method
(f) Assignment Method
(g) Self study Method
(h) Project Method
(i) Report Writting
(j) Symposium
(k) Seminar Method

Why special methods of teaching Home Science?

Ch:8 Home Science Extention Education:
8:1 History of Home Science Extention
8:2 Meaning and Definition of Home Science Extention Education
8:3 Main aspects of Home Science Extention

8:4 Origin, need & concept of Home Science Extention
8:5 Philosophy of Home Science Extensions
8:6 Characteristics of Home Science Extention Education.

Ch:9 Audio – Visual Aids.
9:1 Instructional Aid, Visual Aid, Audio Aid and Audio Visual aid.
9:2 Classification of Audio Visual Aid.
9:3 Edger 'Dale's "Cone of Experience"
9:4 The role of audio visual aids in teaching learning experience.

Ch:10 Programmes of Development and their Relevance of Home Science.
10:1 Objectives of the Programme.
10:2 Integrated rural development Programme (IRDP)
10:3 Applied Nutrition programme (ANP)
10:4 Integrated child development programme (IRDS)
10:5 Developments of women and children in rural areas (DWACRA)
10:6 Relevance of this programme to home science.

Practicals

(1) Methods and Principles in preparing and using the following teaching aids.

(i)	Posters	1	Practical
(ii)	Charts	2	Practical
(iii)	Graphs	2	Practical
(iv)	Diagram	2	Practical
(v)	Flannel Graph	2	Practical
(vi)	Flash Cards	4	Practical
(vii)	Rod Puppets	2	Practical
(viii)	Mobile	2	Practical
(ix)	Display on bulletin board		

(2) Study of the developmental programme in the neighbourhood for Women and children. (any one programme) eg: ICDS, IRDP, MDM etc, and preparing a report on it.

Reference Books :-

(1) R.R.Das Binita Ray- Teaching of Home Science 1979, sterling publishers Ltd.
(2) Arvinda Chandra, Anupama shah, Uma Joshi, Fundamentals of teaching Home Science.
(3) S.K. Waghmare – Teaching Extention Education Prashant Publishers, 1980. Vallabh Vidyanagar.
(4) Dae Edgar – Audio Visual Methods in Teaching The Dryden Press, NewYork, 1953.
(5) Devdas Rajamal P., Methods of Teaching Homescience NCERT, New Delhi,1977.
(6) Devdas, Rajamal p, The Meaning of Homescience Sri Avinash llingam college of home science. Coimbatore, 1968
(7) Introduction to Home Science by Dr. Chandra, Sterling Publication New Delhi.
(8) What is Home Science.? Dr. Kalpana Parlikar, Diamond publication, Bagh Baroda.
(9) Supe S.V. Introduction to Extention Education.
(10) Neepa Mehta, Avani Mania – Designing Graphic Aids. Dept of H.S.C Extentionand Communication, M.S.Uni. Baroda.

Practical	**Marking**	**Scheme**
Journal	04	
Class Work	08	
Q1 Th	03	
Q1 Pr	03	Total marks : 25
Q2 Th	03	
Q2 Pr	04	

VEER NARMAD SOUTH GUJARAT UNIVERSITY,SURAT

FIRST YEAR B.A.

Home Science Paper – II

Applied Biology

Effect from June July – 2002

Theory-3periods/Week	Theory-45 marks
Practical-2periods/Week	Practical-25 marks

Objective-

The theory & practical course is designed to serve as a sound basis for the study of Nutrition, Food science, Biochemistry etc.

Unit-I **Biology and Human Welfare, Plant Morphology.**

1 Biology and it's branches, Living and Nonliving Objects, and animals.
2 Detaile study of plant cell and Animal cell; Living and Non-living organelles, their structure and function. Non-living cell contents.
3 Modern concept of cell structure of Bacteria and virus in human being.Useful bacteria.
4 Life cycle of Malarial parasite and Yeast and their economic importance.
5 Plants tissues – Classification, structure and function.
6 Classification of plants. (up to class level)
7 Flower- Detailed study of a typical flower.
8 Fruits-Classification.
9 Structure (External and Internal) of Monocot (Maize) and Dicot (Bean) seed and the stages of their germination.
10 Economically useful plants and animals.-Plants-

(A) Food-I Seed Cereals- wheat, rice, maize.

(b) pulses-gram, soybean, pea.

II Vegetables-Morphology of underground

Modification for storage organs of food.

(a) Root-carrot,radish turnip, sweet potato.

(b) Stem- potato, ginger, amorphophallus.

(c) Leaf-garlic,onion.

III Nuts-cashewnut, walnut.

(B) Fibres- cotton,jute,coir.

(C) Medicinal plants- liquorice, vitex, cinnamon, cissus quadrangularis, aloe, eucalyptus, vasica, sacred basil, nimb, clove.

(D) Beverages- tea, coffee, cocoa.

Animals- earthworm, oyster, prawn, silk moth, honey bee, fish.

Unit-II Plant Physiology And Ecology

1. Osmosis- Types of membrane, types of osmosis, plasmolysis, turgidity importance. Experiments to demonstrate the process.
2. Absorption- Process.
3. Imbibitions- Process, experiment to demonstrate the process.
4. Transpiration- Process types, importance. Experiments, factors affecting transpiration.
5. Special modes of Nutrition- Primary study of Autotrophic, Heterotrophic, Symbiosis, Parasitism, Insectivorous plants. Food chain and food web.
6. Pollution- Air, water, Land and Sound pollution and its effects on living organisms.

Unit- III History of life And Genetics

1. Origin and evolution of life – Operin's theory and experimental evidences.
2. Evidences of evolution- Direct; Indirect and Experimental Evidences.
3. Theories of evolution- Lamark and Darwin.
4. Ultra structure of Chromosome, DNA and RNA, Basic concept of gene.
5. Heredity- Mendel's monohybrid experiment, Mendel's laws.
6. Blood group-ABO method and Rh.

Practicals

1 Study of plants cells-Mounting-Cells of onion, Tomato cells, Spirogyra, Pollen grains, Stomata.

2 Non-living cell contents- Mounting of starch grains, Mineral crystals of calcium oxalate.

3 Study of animal cells.(permanent slides.)

4 Study of plant tissues (permanent slides)

5 Classification of plants.

6 Study of Flower- Hibiscus, Datura, Crinum.

7 Study of different types of fruits.

8 Study of monocot(maize) and dicot (bean) seed structure and their germination.

9 Study of economic importance of parts of plants as theory syllabus.

10 Study of economic importance of animals as theory syllabus.

11 Demonstration of experiments indicating plant physiological process.

Osmosis- I Physical process of osmosis. (Thistle funnel experiment.)

II Physiological process of osmosis (potato's Osmoscope experiment.)

III Endosmosis

IV Exosmosis

V Plasmolysis

VI Turgidity

Imbibitions- Experiment to demonstrate imbibitic pressure.

Transpiration-I Condensation of water vapor due of transpiration. (Beljare experiment.)

II Ganong's Otometer experiment.

III Four leaves experiment.

12 Study of symbiotic, parasitic and Insectivorous plants.

13 Study of evidences of Evolution.

14 Study of Human Blood groups.

References-

1 A Text Book of Botany by A.C. Datta.

2 General Biology (6th edition) James Walt Mavor.

3 A Text Book of Botany for F.Y.B.Sc. Popular Publication Surat.

4 A Text Book of Zoology for F.Y.B.Sc. Popular Publication Surat.

5 Cytology by Rustogi.

6 Manual of Botany Practicals by D.K. Apsangikar.

7 Gujarati typing .

8 **પ્રાયોગીક વનસ્પતિશાસ્ત્ર પોપ્યુલર પ્રકાશન, સુરત.**

9 **જીવશાસ્ત્ર યુનિ. ગ્રંથનિર્માણ બોર્ડ , ગુજરાત રાજય.**

10 **વનસ્પતિશાસ્ત્ર પરિચય, ડો. આર્ધ. એન. સોલંકી, પ્રો પી.જી. મોરે.**

11 **જીવવિજ્ઞાન, જયભારતપ્રકાશન, પ્રા. જે.વી. જોષી અમદાવાદ. પ્રા. હંસાબેન પટેલ**

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

F.Y.B.A.

Practical Examination

Home Science Paper II

Applied Biology

Time – Two Hour Total Marks-25

Section-I (Rotation)
For each specimen -5Mts.

			Mark
Sp.No. 1	Identify and Describe.	(Animal cell)	(1)
2	" " "	(Plant tissue)	(1)
3	" " "	(Type of Fruit)	(1)
4	" " "	(Seed and Germination)	(1)
5	" " "	(Mode of Nutrition)	(1)
6	Classification	(Plants)	(1 ½)
7	Identify the pointed part and describe structure and functions. (Typical flower)		(1)
8-9	Morphology and economic importance. (plants)		(2)
10	Economic importance (Animal)		(1)
11	Evidence of evolution.		(1)
12	Experiment to demonstrate plant physiological process.		(1 ½)

Section – II

Mounting (Two) – Preparation of Slide and viva. (08)
Journal (04)

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

F.Y.B.A. Home Science

Paper No III

Introduction to Nutrition.

Theory 3 Periods/Week	Theory 45 Marks 12 Hours Internal 20 Marks
Practical 2 Period/Week	Practical 25 Marks 12 Hours Internal 10 Marks Total Internal 30 Marks

Objectives:-

To impart knowledge pertaining to:-

(i) Basics of different food groups.
(ii) Basics of various nutrients.
(iii) Importance of water in the diet.
(iv) To acquaint students with basic food preparation methods.

Theory Course Content

Unit-I

a. Definitions of Food, Nutrition & Nutrients.
b. Functions of Food, Classifications Food groups importance of food group & nutritive value of food groups.
(i)Cereals (ii) Pulses (iii) Fruits & Vegetables (iv) Milk (v) Sugar & jaggery (vi) Eggs, Meat & Fish (vii) Fats & oil.
c. Balanced diet importance of balance diet.
d. History of Nutrition.

Unit II

(a) Definition of calorie & its daily allowances.
(b) Energy value of foods & physiological Food value. Methods of determining energy value.

(c) Energy need of the body methods of measuring.
(d) Factors affecting the needs.
(e) Basal metabolic rate. Factors affecting total energy requirements caloric value of protein, Carbohydrates and Fats.
(f) Energy balance & problems associates with it.

Unit- III

(A)**Macro Nutrients:**

(a) **Protein :-**
Definitions, Classifications, Gamin acid, Properties Functions, Sources, Digestions, Absorption outline of metabolism Deficiencies diseases of protein & problems associate it. Nitrogen balance.

(b) **Carbohydrates:-**
Definitions, Classifications, Properties, Functions, Sources, Digestions, Absorptions, & outline of metabolism & importance of daily diet & problems associates it.

(c) **Fat & Lipids :-**
Definitions, Classifications of fatty acids, properties, Functions Sources, digestions, Absorptions, & outline of metabolism, & Nutritional problems associates with fat.

(B)Micro Nutrients

(1) Vitamins :-
History, Classifications, Functions, sources daily allowances effect of hypo & hyper intaloe of vitamin & their treatment.
Vit A D E,B.
Vit B,B2 Niacin, B6,B12 Folic acid.

(2) Minerals :-
Functions, allowances food Sources & deficiency of following minerals – calcium, iron, phosphors , iodine , sodium, potassium Flourin & only introduction ---Trace elements.

(3) Water : -
as a nutrient, sources requirements, diseases, Functions and importance in the diet.
(4) Cellulose : importance in our diet.

(5) Principles & methods of Food Preparation .

Comparative Study of Various methods, including Nutritional losses during boiling, Steaming, Roasting, Baking Frying, Stewing Pressure Cooking, microwave Cooking & Solar Cooking.

Practicles : - 14

Preparing recipie Using different methods of Cooking.

1.	Deep Frying	1	Prac.
2	Steaming	1	Prac.
3	Pressure Cooking	1	Prac.
4	Banking	1	Prac.
5	Shallow Fuying	1	Prac.
6	Roasting	1	Prac.
7	Solar Cooking	1	Prac.
8	Micro Wave	1	Prac.

(2) Calculation of Food Values

(3) To Plan & Prepare nutrient rich dishes to Calculate the nutrient Value for Following nutrients.

1. Protein Rich Sources.
2. Carbohydrates Rich Sources.

(3)	VitA & Vit C rich	1	Practical
(4)	Vit B1 & B2 rich	1	Practical
(5)	Calcium & Iron	1	Practical

Practical marking Scheme.

Journal	4 marks
Selection of dish	8 marks
Taste	8 marks
Viva	2 marks
Calculation	3 marks
Total	25 marks

References -:

(1) Principles of nutrition's,

Willision, John, Willy & sons 1965

(2) Basic Nutrition's & diet therapy Robinson.

(૩) માનવપોષણ યુનિ., ગ્રંથ નિર્માણ બોર્ડ,

(૪) આહારના મૂળભૂત ઘટકો – ડૉ. શુભલક્ષ્મી

(૫) પોષણ કે. સિધ્ધાંત. વિલ્સન ફિશર

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

F.Y.B.A.

Home Science- IV

Home Management.

Theory : 3 Periods/Weeks	Theory : 45 marks 12 Hours Internal : 20 marks
Practical : 2 Periods/Weeks	Practical :25 marks 12 Hours Internal : 10 marks

Effect from June – July 2002

Objectives :

1. To help students to understand the meaning of home management.
2. To recognize the importance of wise use of resources in order to reach goals.
3. To evaluate available information about house hold equipment.
4. To develop an ability to select, use and maintain house hold equipment effectively.

Content :

Theory :

Unit I.

I Introduction to Home Management.

1. Meaning to home management.
   Variety of meaning- supervision/ supervisor, Leadership/ Leader, Execute/ Executive, Organisation/ Organiser,Administration/ Administrator , Direction/ Director, Control/ Controller.
2. Definitions of home management.

   From the dictionary point of view,
   By Henri Fayol (father of Modern management)
   By F. W. Taylor (father of scientific management)
   By Nickell and Dorsey (Management in family living: book)
   By Gross and Crandall (Management for Modern Families: Book)
   By R. P. Kotgin (In Home Management Conference)
   Traditional and Modern Concept of definitions.

3. Family characteristics influencing management .-> life style, type of family, family size, family life cycle, Working vs housewives.

II Components of management.

1. Goals, Values and standards.
   Importance, Types, Characteristics Factors influencing and interrelationship.
2. Resources : Classification, Characteristic
   Factors affecting the use of resources.
   Maximising the satisfaction from the use of resources.
3. Decision Making.
   Types of decisions
   Steps in decision making process
   Crucial role in management.
4. Management process.
   Planning, Controlling, Evaluation.
5. Communication :
   Definition, Purpose, Components, Process, Barriers and methods to improve.

II. Management process applied to time and Energy.

1. Time Management process.

A. Planning
   Life cycle and time demand.
   Activities and time.
   Free time.
   Factors affecting Time planning.
   Steps involved in making daily and weekly plans.

B. Controlling.

C. Evaluation.

2. Energy Management process.

A. Planning .
Life cycle and energy demand.
Various efforts used in house hold activities.
Activities which are most tiring.
Fatigue : Types, Reasons, Role of motivation and Rest periods.
Steps involved in making daily and weekly plans.
B. Controlling
C. Evaluation

IV Work Simplification.

A. Techniques of work simplification
Pathway chart
Process chart
Operation chart
Micro motion film anakysis
B. Mundell's classes of change.
Changes in
Hand and body motion and position tools, equipment and work place
Production sequence
Raw materials
Finished product.
Tools, equipment and work place.

Unit –II Introduction to household equipments.

1. Materials used in household equipment.
   a. Raw materials.
   b. Finishing materials.
   c. Insulation materials.
      i. Advantages and Disadvantages of each material.
      ii. Characteristics if each materials.
      iii. Use, care and cleaning of each materials.

2. Selection of equipment in relation to design, construction, function, cost, care and energy consumption.

a. Food related equipment, Kitchen utensils and tools, Small equipment portable and non-portable equipment food storage equipment.

b. Cleaning equipment.
Carpet sweeper, Vacuum Cleaner, floor, scrubbers, Moppers , brooms brushes, waste disposers.

c. Laundry equipments.
Washing machines, dryers, iron, ironing board.

d. Appliances for Personal care

e. Appliances for recreation.

3. Household equipments using non-conventional sources of energy.
   a. Solar cooker, solar water heater, Solar Lantern.
   b. Bio-Gas.
   c. Smokeless- Chalhas, Improved Chalhas, Portable Chalhas, Hay-box cooker, janta Refrigerator.

UNIT – 3

1. Units, systems of Measurements, (Metric, Britsh)
2. Lever- Orders & their practical application.
3. Friction, Advantages, disadvantages.
4. Units of heat, good and had conductors of heat, insulation.
5. Thermometers, (Dry & wet Thermometer, Doctor's Thermometer.
6. Electric current, Resistance, specific resistance; Units of electrical measurements; Various effects of electrical current.
7. Thermostats – types and working.

Practicals:

1. Use, care and Cleaning of the following electrical and non- electrical equipments.
2. Identification of materials and finishes used in the construction of various equipment.
3. Handling of common tools to find out: Ease in using, Ease in cleaning, effectiveness, Good and Poor features of the following equipments.

Household equipments

I. Kitchen equipments.

1. Refrigerator, freezer- 1 Prac.

2. i. Grinder)
   ii. Mixer)
   iii. Juicer) Electric 1 Prac.
   iv. Slicer)
   v. Greater)
   vi. Whipper)
   vii. Kneader)

3. Ele. Egg. Cooker) 1 Prac.
   Egg. Slicer)
4. Ele. Curd. O. Matic.)
5. i. Ele. Coffee percolator)
   ii. Ele. Tea kettle) 1 Prac.
6. i. Gas Tandoor)
   ii. Oven ele.) 1 Prac.
   iii. Micro. wave oven)

Use Nut Cutter, Biscuit cutter ,chillie cutter, Tomato Slicer, coconut cutter with oven.

7. i. Pop-up toaster) 1 Prac.
   ii. Sandwich Toaster)
8. i. Hot plates) 1 Prac.
   ii. Cokking range)
9. Ele. Deep fryer.) 1 Prac.
10. Snack Chef (waffle maker) 1 Prac.
11. Ele. Rice Cooker. 1 Prac.
12. Ele. Ice Cream Maker 1 Prac.

II. Cleaning equipments.

1. Vaccum Cleaner
2. Diff. types of floor scrubbers.

Note:- For Kitchen ele. Equipments all students use small non-ele. Equipments like chopper, cutters, non-stich pans, slicers.

Project:-

Note:- This Projects should be done for internal evaluation (lobrary work of 5 marks.)

1 Survey of some non-electric and electric equipments available in the local market.

2 Comparative study of different brands of the same equipments in relation to construction, operation and care. Each student select one equipment from the above list and collect phamplets, figures, manual cards etc., from the local market.

3 Each student write at least two receipes for kitchen equipments. Themselves and make, a chart.

References.

For Unit – I.

1. Deacon, R. and firebough, F.M. Family Resource Management.
2. Deacon R. and Firebough, F.N. Home-Management, context and concepts.
3. Gross I.H. Crandall E.N. and Knoll M. Management for Modern families.
4. Swanson, B. –Introduction to Home-Management.
5. Nickell P. and Dorsey, J.M.-Management in family Living.
6. Nickell, P and Rice, A.S. and Tucker S.P.-Management in Family Living.
7. Close, Gay C. –Work Improvement.
8. Gilberth, et. Al.-Management in the Home.
9. ગૃહ વ્યવસ્થા એવમ ગૃહકલા – જી. પી. શેરી
10. ગૃહ વ્યવસ્થા અને ગૃહિણી – શીલા નાણાવટી
11. Dr. H. Kaur and Dr. C. Macneil –Theory and Practice of Home Management Surject Publications- Delhi.
12. ગૃહ વ્યવસ્થા – મીરા ભટનાગર, વસંતી તુલસ્થાની

For Unit- II.

1. Peet, J.L.- Young Home maker's equipment Guide.
2. Van Zante- House hold equipment Principles.
3. Bhrenkranz, f. and Inmann, N. – equipment in the Home.
4. Peet, J.L. Picket, Arnol, M.G. and Wol, I.H. –Household equipment
5. Peet, J.L. and Thye, L.S. Household equipment.
6. Beveridge Elizabeth.- Household equipment Manual.
7. Johnson Besty. Jane – equipment for modern Home, the Macmillan Co. New York.
8. Prakash Shukla –How things function Vol. I, II, III, Hind Pocket Books-Delhi.
9. Prakash Shukla –Household Repairs – Hindi Pockets Books –Delhi.
10. K.Nath. – Electrical Appliances. –Hindi Pocket Books –Delhi.
11. K.k.Bali. –Home Appliances. –Orient Paperbacks –Delhi.
12. Kno your household equipment Manjari Acharya.
13. Elementry Physics – By Kurve.

Practical Marking Scheme

1	Journal	4 Marks
2	Construction of the equipment	6 Marks
3	Figure of the equipment	4 Marks
4	Use of the equipment	5 Marks
5	Viva	2 Marks
6	Project Work	4 Marks
		25 Marks