



# **UNIVERSITY OF GOUR BANGA**

(Established under West Bengal Act XXVI of 2007)

N.H.-34 (Near Rabindra Bhawan), P.O.: Mokdumpur,  
Dist.: Malda, West Bengal, Pin-732 103

## **UG Syllabus and Question Pattern (Honours & General) (Home Science)**

(Under 1+1+1 System)

## Main Feature of the Syllabus

### Home Science (General)

Part/ Course	Paper	Revised Paper Code	MCQ/ Descriptive	Marks	Time	Total Marks	Total Time
Part- I	I to II	I-A	MCQ	30	30 Min	100	3.00 Hr
		I-B	Descriptive	70	2.30 Hr		
	III	II	Practical	50	4.00 Hr	50	4.00 Hr
Part- II	IV to V	III-A	MCQ	30	30 Min	100	3.00 Hr
		III-B	Descriptive	70	2.30 Hr		
	VI	IV	Practical	50	4.00 Hr	50	4.00 Hr
Part- III	VII	V-A	MCQ	15	30 Min	50	2.00 Hr
		V-B	Descriptive	35	1.30 Hr		
	VIII	VI	Practical	50	4.00 Hr	50	4.00 Hr

❖ Revised Paper Code as treated Official Paper Code

### Distribution of Marks

Total Marks = 400 (150+150+100)

Theory = 250 (100+100+50)

Practical = 150 (50+50+50)

### Question pattern

#### Practical

50 Marks = 1 Mark x 15 MCQs + 10 Marks X 2 Question + 5 Marks x 3 Questions

#### Practical

10 Marks X 4 Questions +10 marks (5marks for Viva-voce and 5 marks for Laboratory Note Book)

### Word limits for each category of descriptive type questions:

10 marks: 600 - 700

5 marks: 300 - 350

### **Distribution of Marks of B.A General Course in Home Science**

<b>Part I</b>	<b>Theoretical</b>	<b>Practical</b>
	Paper I = 50 marks	
	Paper II = 50 marks	
		Paper III = 50 marks
<b>Part II</b>	Paper IV = 50 marks	
	Paper VI = 50 marks	
		Paper V = 50 marks
<b>Part III</b>	Paper VII = 50 marks	
		Paper VIII = 50 marks
<b>Total</b>	<b>250</b>	<b>150</b>
<b>Grand Total = 400</b>		

### **Structure and Composition of the Syllabus**

<b>Part I</b>	<b>Name of the Paper</b>	<b>Marks</b>
Paper I	Fundamentals of Chemistry and Physics	50
Paper II	Food Science and Nutrition	50
Paper III	Practical 1	50
<b>Part II</b>		
Paper IV	Chemistry and Physics	50
Paper V	Biological Functions and Biochemistry	50
Paper VI	Practical 2	50
<b>Part III</b>		
Paper VII	Health and Nutrition	50
Paper VIII	Practical 3	50
<b>Total</b>		<b>400</b>

**Duration of Examination****1. Theory paper of 50 marks: 2 hours****2. Practical paper of 50 marks: 4 hours****SUMMARY OF SYLLABUS****PART-I**

Paper	Allotted marks	Groupwise distribution marks	Question type	Word Limitation
I	50	50	1 mark x 15 MCQs	
			10 marks x 2 Questions	600-700
			5 marks x 3 Questions	300-350
II	50	50	1 mark x 15 MCQs	
			10 marks x 2 Questions	600-700
			5 marks x 3 Questions	300-350
III	50	Practical-50	50	--

**PART-II**

Paper	Allotted marks	Groupwise distribution marks	Question type	Word Limitation
IV	50	50	1 mark x 15 MCQs	--
			10 marks x 2 Questions	600-700
			5 marks x 3 Questions	300-350
V	50	50	1 mark x 15 MCQs	--
			10 marks x 2 Questions	600-700
			5 marks x 3 Questions	300-350
VI	50	50	--	--

**PART-III**

Paper	Allotted marks	Groupwise distribution marks	Question type	Word Limitation
VII	50	50	1 mark x 15 MCQs	--
			10 marks x 2 Questions	600-700
			5 marks x 3 Questions	300-350
VIII	50	Practical-50	--	--

B. A. (General) Home Science

**PART – I**

**Paper – I**

**Fundamentals of Chemistry and Physics**

Full Marks: 50

**Group A**  
**(Chemistry)**

**30 Marks**

Law of Conservation of mass Chemical and physical changes, Mechanical mixtures and Chemical Compounds.

Common laboratory process – Sedimentation, Decantation, Filtration, Solution, Evaporation, Boiling, Desiccation, Distillation, Sublimation, Fusion, Ignition, Crystallisation, Efflorescence, Deliquescence.

Symbol, Valency, Formula, Equation, Naming and Compounds Radicals.

Diffusion and Osmosis, Osmotic Pressure, Isotonic solution- Definition and examples.

Structure of atoms- Discovery of Atomic Nucleus, Rutherford's atomic model, Electronic arrangement of Elements Hydrogen to Calcium, Atomic number, Isotopes, Chemical bonds- Electrovalent, Covalent and Coordinate Covalent bonds, Hydrogen bond.

**Group B**

**(Physics)**

**20 marks**

C.G.S & F.P.S system.

Motion of body- displacement, velocity, acceleration Units.

Gravity-Acceleration due to gravity.

Electrolysis & Electroplating.

Primary cell, storage cell.

**Paper II**

**Food Science and Nutrition**

Full Marks: 50

Definition of food ,Nutrition, Nutrient, Nutritional status.

Balanced diet, Main nutrition, Energy (units of Energy-Joule, Kilo-calorie).

Sources of nutrition, plant. Animal & others-A general introduction.

Nutrients. macro & micro nutrients-general introduction-Carbohydrate, protein, fat, vitamins and minerals.

Role of Water & Fibre in Human health-in details

Basic Five food groups: Nutritional significances of cereals, pulses, milk, meat, fish, vegetables, eggs nuts, oils, sugar.

Role of micro organism in human nutrition.

**Paper-III**  
**(Practical 1)**

Full Marks 50

A. Chemistry: marks

1. Determination of the strength of Noah by Standard oxalic and Solution.
  2. Separation of salt and sand from its mixture.
- Or
- Qualitative test: Protein in egg.

B. Physic: marks 10

3. Use of Balance (weighing a body)
4. Reading a Barometer

C. Food and nutrition: marks 15

5. Preparation of low cost and middle cost school Tiffin
6. Preparation of ORS

Part: II

**Paper – IV**  
**Chemistry and Physics**

**Group A**  
**(Chemistry)**

**30 marks**

Colloids : Definition, Difference between colloid solution & solution, Types of colloid systems, Important properties of colloidal sols, Dialysis, Importance of colloids in daily life with example (one period)

Carbohydrates : Classification with examples, Nomenclature & study of important properties of glucose, Fructose, Sucrose, Lactose & Galactose, Source of carbohydrates with examples (one period) (one)

Proteins : Classification with examples, Compositions, Essential amino acids, General properties of proteins, Source of proteins with examples (one period)

Lipids : Definition, Classification with examples, Study of important properties of fats & oils, Saponification value, Iodine value, Source of lipids with examples (one period)

**Group B**

**(Physics)**

**20 marks**

Measurement of mass & weight, Common & spring balance  
Transmission of heat, thermo flask  
Types of matter, Change of state, Pressure cooker

**Paper – V**  
**Biological Function and Biochemistry**

Full Marks 50

Animal cell : Definition, Structure & function.

Tissue : Definition, Structure & function of different types of tissue (Epithelial, Connective, neurons & muscular tissue, Special emphasis on blood & bone), Origin, growth and development of blood.

Digestion & absorption of Carbohydrates, Protein & Fat.

Elementary idea of enzyme, mechanism of digestion and absorption, rule of P<sup>H</sup> in digestion and absorption.

BMR: Definition, factors of controlling BMR and importance of BMR.

Name of hormones & their important function (Pituitary, Adrenal, thyroid, and sex hormone)

Cycle metabolism, energy output / unit of molecule of carbohydrate, protein and fat.  
Amination & Transamination process.

Elementary idea of food processing & Preservation – their use, food spoilage, food borne infection & infestation, Various types of preservatives and their safety rules.

Difference between hormones and growth substances metabolism of hormones, Role of hormones in various diseases and mental disorders.

## **Paper VI**

### **Practical 2**

Full Marks 50

Simple chemical test for – carbohydrate, Proteins, and fats

Preparation and demonstration of jam, jelly, squash, pickles

Demonstration of various carbohydrates and microscope, test for cellulose

Determination of specific gravity of solid (heavier and insoluble in water)

Determination of specific gravity of liquid by specific gravity bottle.

Crystallisation of copper sulphate (CuSo<sub>4</sub>)

Preparation of colloidal and solution of starch

Estimation of glucose

## **PART III**

### **Paper VII**

#### **Health and Nutrition**

Full Marks: 50

Meaning of the community health: Nutrition education, mortality and morbidity- causes of maternal as child mortality- Role of health workers in the improvement of maternal and child health, role voluntary health organisation in the improvement of community health, elementary idea of FAO, ICMR, ICDS, ICAR, CSIR, ANP, VHAI, NIN, CFTRI.

Kitchen- structure and layout of food premises- Management of kitchen- pest control.

Importance of personal hygiene of food handler- habit clothes, illness, education of food handler in handling and serving food.

General idea about the contamination of food (chemical and microbial) - sources and transmission. Elementary ideas about food toxins, aflatoxin & food toxicology with reference to lead, cadmium & zinc.

Contamination of water- prevention of contamination of deferent methods of water purification, water borne diseases, elementary idea of micro biology of water borne pathogens, diarrhoea, dysentery, typhoid, hepatitis, preventive measures and dietary management of such diseases.

Food additives- Definition, broad classification of international food additives, health hazards related to some additives.

Fermentation – Definition and advantages

- 1) Fermentated milk products like yogurt and cheese
- 2) Vinegar
- 3) Fermented pickles.

Spices – Functions and uses, turmeric, cumin, coriander, fenugreek, black pepper, red chilli and ajawan.

**Paper VIII**  
**Practical 3**  
Full Marks 50

Visit of Ideal kitchen sanitation – Food handling- Maintenance of utensils and equipments.

Determination of eye sight strength and sugar concentration in human blood

Therapeutic diet preparation for hepatitis, hypertension, diabetes, obesity.

Demonstration for determination of blood pressure of humans being (a) Systolic (b) Diastolic.

Demonstration of determination of haemoglobin percentage in human blood by using haemoglobinometer.

**Suggested Readings**

[1] Theory of Cookery, Krishna, Arera, Franck, BRD & co. 1998

[2] Spices and conditionents, J. S. Pruthi, National Book Trust, India, New Delhi.

[3] Principals of Nutrition & Dietetics, Dr. M. Swaminathan, Bangalore Printing & Publishing co. Ltd, 1997

[4] Food, Facts and principles, N. Shakuntala Manay, M. Shadal Sharaswamy, New Age International Publishes, 1997

[5] Microbiology of Fermented Foods, Cal. 1, Brain J. B. Wood, Elsevier Applied Science Publishers, 1985

[6] Food science B. Srilakshmi, New Age International (p) ltd., publishers New Delhi, Bangalore, Calcutta, Chennai.

[7] Food science and Experimental Food, Dr. M. Swaminathan.

[8] Nutrition and Dietetics, Shubhangini, Joshi, Tata Mc. Graw-Hill Publishing Company .Ltd., New Delhi.