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**MODIFIED CBCS CURRICULUM OF  
HOME SCIENCE HONOURS PROGRAMME**

**SUBJECT CODE = 08**

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FOR UNDER GRADUATE COURSES UNDER RANCHI UNIVERSITY



Implemented from  
Academic Session 2017-2020



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## COURSE STRUCTURE FOR UNDERGRADUATE 'HONOURS' PROGRAMME

**Table AI-1: Distribution of 140 Credits** [\*wherever there is a practical there will be no tutorial and vice –versa.]

Course	Papers	Credits	
		Theory + Practical	Theory + Tutorial
<b>I. Core Course</b>	<b>(CC 1 to 14)</b>		
Theory	14 Papers	14X4=56	14X5=70
Practical/Tutorial*	14 Papers	14X2=28	14X1=14
<b>II. Elective Course (EC)</b>			
<b>A. Discipline Specific Elective</b>	<b>(DSE 1 to 4)</b>		
Theory	4 Papers	4X4=16	4X5=20
Practical/ Tutorial*	4 Papers	4X2=8	4X1=4
<b>B. Generic Elective/ Interdisciplinary</b>	<b>(GE 1 to 4)</b>		
Theory	4 Papers	4X4=16	4X5=20
Practical/ Tutorial*	4 papers	4X2=8	4X1=4
<b>III. Ability Enhancement Compulsory Courses (AECC)</b>			
1. English/ Hindi Communication/ NH+MB / Business Communication for Commerce	1 Paper	1X2=2	1X2=2
2. Environmental Science	1 Paper	1x2=2	1x2=2
3. Skill Enhancement Course of the Core Course opted	<b>(SEC 1 &amp; 2)</b> 2 Papers	2X2=4	2X2=4
<b>Total Credit = 140</b>			<b>= 140</b>

**Table AI-1.1: Course structure for B.Sc./ B.A./ B.Com.(Hons. Programme)**

Semester	Honours (Core Courses) 14 Papers	Allied (Elective Courses) 8 Papers	Ability Enhancement (Compulsory Courses) 4 Papers	Total Credits
Sem-I	C-1, C-2 (6+6=12 Credits)	GE-1 (06 Credits)	Eng / Hindi Comm/ NH + MB (02 Credits)	<b>20 Credits</b>
Sem-II	C-3, C-4 (6+6=12 Credits)	GE-2 (06 Credits)	EVS (02 Credits)	<b>20 Credits</b>
Sem-III	C-5, C-6, C-7 (6+6+6=18 Credits)	GE-3 (06 Credits)	SEC-1 (02 Credits)	<b>26 Credits</b>
Sem-IV	C-8, C-9, C-10 (6+6+6=18 Credits)	GE-4 (06 Credits)	SEC-2 (02 Credits)	<b>26 Credits</b>
Sem-V	C-11, C-12 (6+6=12 Credits)	DSE-1, DSE-2 (6+6=12 Credits)		<b>24 Credits</b>
Sem-VI	C-13, C-14 (6+6=12 Credits)	DSE-3, DSE-4 (6+6=12 Credits)		<b>24Credits</b>

**Total = 140 Credits**

## COURSES OF STUDY FOR UNDERGRADUATE 'B. Sc. Hons' PROGRAMME

**Table AI-2 Subject Combinations allowed for B. Sc. Hons. Programme (140 Credits)**

Honours/Core Subject <b>CC</b> <b>14 Papers</b>	Discipline Specific Elective Subject <b>DSES</b> <b>4 Papers</b>	Skill Enhancement Course <b>SEC</b> <b>2 Papers</b>	Compulsory Course <b>AECC</b> <b>1+1=2 Papers</b>
Home Science	Home Science Specific	SEC in Home Science	Language Communication + EVS

**Table AI-2.1 Semester wise Examination Structure for Mid Sem & End Sem Examinations:**

Sem	Core Honours, Allied DSE, Compulsory AECC Courses		Examination Structure		
	Code	Papers	Mid Semester Theory (F.M.)	End Semester Theory (F.M.)	End Semester Practical/ Viva (F.M.)
<b>I</b>	C1	Introduction of Human Development + <b>Lab</b>	15	60	50
	C2	Food and Nutrition + <b>Lab</b>	15	60	
	GE1	Refer Table AI-2.3 of the Syllabus of Subject opted			
	AECC	Language Communication		100	
<b>II</b>	C3	Dynamics of Communication & Extension + <b>Lab</b>	15	60	50
	C4	Resource Management + <b>Lab</b>	15	60	
	GE2	Refer Table AI-2.3 of the Syllabus of Subject opted			
	AECC	EVS		100	
<b>III</b>	C5	Introduction to Textiles + <b>Lab</b>	15	60	75
	C6	Communication System and Mass Media + <b>Lab</b>	15	60	
	C7	Personal Finance & Mass Media + <b>Lab</b>	15	60	
	GE3	Refer Table AI-2.3 of the Syllabus of Subject opted			
	SEC 1	Elementary Computer Application Software + <b>Lab</b>		100	
<b>IV</b>	C8	Development in Adolescence & Childhood + <b>Lab</b>	15	60	75
	C9	Nutrition + <b>Lab</b>	15	60	
	C10	Fashion Designing Concept + <b>Lab</b>	15	60	
	GE4	Refer Table AI-2.3 of the Syllabus of Subject opted			
	SEC 2	Maternal and Child Nutrition + <b>Lab</b>		75	25
<b>V</b>	C11	Life Sciences + <b>Lab</b>	15	60	50
	C12	Physical Sciences + <b>Lab</b>	15	60	
	DSE 1	Childhood in India + <b>Lab</b>	25	75	50
	DSE 2	Textile Processing + <b>Lab</b>	25	75	
<b>VI</b>	C13	Research Methodology in Home Sc + <b>Lab</b>	15	60	50
	C14	Socio Economic Environment + <b>Lab</b>	15	60	
	DSE 3	Public Nutrition + <b>Lab</b>	15	60	50
	DSE 4	Commercial Clothing + <b>Lab</b>	15	60	



**Table AI-2.2 Generic Subject Papers for B. A. Hons. Programme (140 Credits);  
All Four Papers of Any One Subject to be opted leaving aside the papers of Hons. Subject:**

Generic Elective Subject GE 4 Papers	Generic Elective Courses for Arts Stream (GE will be other than Core Subject opted)			
	Semester I GE1	Semester II GE2	Semester III GE3	Semester IV GE4
Hindi	कला और साहित्य +T	अनुवाद +T	साहित्य और पत्रकारिता +T	रचनात्मक लेखन की विधाएँ +T
English	Academic Writing +T	Language & Linguistics +T	Literature: Poems & Short Stories +T	Language, Literature & Culture +T
Bengali	History of Bengali Literature +T	Bengali Poetry, Novel, Short Stories +T	Bengali Poetry, Drama, Short Stories +T	Bengali Poetry, Short Stories, Bengali Essay +T
Urdu	Study of Poet Nazir Akbarabadi +T	Study of Short Story Writer Prem Chand +T	Mass Media: Principles and Practice +T	Study of Short Story Writer +T
Sanskrit	संस्कृत व्याकरण एवं व्याकरण शास्त्र का इतिहास +T	भारतीय संस्कृति एवं राजनीति +T	आयुर्वेद की परम्परा +T	भाषाविज्ञान +T
Ho	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	हो समुदाय की नृत्य शैलियाँ +T
Kharia	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	खड़िया समुदाय की नृत्य शैलियाँ +T
Khortha	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	खोरठा समुदाय की नृत्य शैलियाँ +T
Kurmali	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	कुरमाली समुदाय की नृत्य शैलियाँ +T
Kurux	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	कुंडुख समुदाय की नृत्य शैलियाँ +T
Mundari	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	मुण्डा समुदाय की नृत्य शैलियाँ +T
Nagpuri	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	नागपुरी समुदाय की नृत्य शैलियाँ +T
Panch Pargania	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	पंचपरगनिया समुदाय की नृत्य शैलियाँ +T
Santhali	कला, साहित्य एवं संस्कृति +T	पारम्परिक वाद्य यंत्र +T	झारखण्डी समुदाय का सांस्कृतिक केन्द्र +T	संताल समुदाय की नृत्य शैलियाँ +T
Geography	Geomorphology +Lab	Human Geography +Lab	Climatology +Lab	Economic Geography +Lab
History	Environmental Issues in India +T	Making of Contemporary India +T	History of West Asia +T	India and her Neighbours +T
Political Science	An Introduction to Political Theory +T	Indian Govt. and Politics +T	Comparative Govt. and Politics +T	Public Administration +T
Psychology	Introduction of psychology +Lab	Social psychology +Lab	Psychopathology +Lab	Psychological Statistics +Lab
Sociology	Indian Society and Culture +T	Social Movement in India +T	Sociology of Religion +T	Indian Sociological Theories +T
Economics	Principals of Microeconomics +T	Principals of Macroeconomics +T	Indian Economy +T	Money Banking & Public Finance +T
Anthropology	Economic Anthropology +T	Political Anthropology +T	Anthropology of Religion +T	Linguistic Anthropology +T
Philosophy	Indian Philosophy-I +T	Indian Philosophy-II +T	Indian Ethics +T	Western Ethics +T
Mathematics	Object oriented Programming in C++ +T	Econometrics +T	Information Security +T	Application of Algebra +T

**Table AI-2.3 Semester wise Structure for End Sem Examinations of Generic Elective in Home Science:**

Sem	Core Honours, Allied DSE, Compulsory AECC Courses		Examination Structure		
	Code	Papers	Mid Semester Theory (F.M.)	End Semester Theory (F.M.)	End Semester Practical/ Viva (F.M.)
<b>I</b>	GE1	Human Nutrition + <b>Lab</b>		75	25
<b>II</b>	GE2	Entrepreneurship for small Catering units + <b>Lab</b>		75	25
<b>III</b>	GE3	Current concerns in Public Health Nutrition + <b>T</b>		100	
<b>IV</b>	GE4	Care and Wellbeing in Human Development + <b>Lab</b>		75	25

**SEMESTER I****4 Papers****Total 100 x 4 = 400 Marks****I. ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)**

(Credits: Theory-02)

Any One Compulsory Language Communication Prescribed by Ranchi University:

English Communication/ Hindi Communication / NH + MB Communication

(Refer AECC Curriculum of Ranchi University)

**II. GENERIC ELECTIVE (GE 1)**

(Credits: 06)

All Four Papers (One paper to be studied in each semester) of any One Subject to be opted other than the Honours Subject. Refer Content from the Syllabus of Opted Generic Elective Subject.

**III. CORE COURSE –C 1:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for  
Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**INTRODUCTION TO HUMAN DEVELOPMENT****Theory: 60 Lectures****Unit-I: Introduction to Human Development**

- Definition, Principles of Growth and Development
- Stages of Development

**Unit-II: Prenatal Development, Birth and Neonate**

- Conception
- Factors affecting Prenatal Development
- Care of New Born

**Unit-III: Infancy and Pre-school Years**

- Physical and Social Development
- Language and Emotional Development

**HOME SCIENCE PRACTICAL- C 1 LAB****60 Lectures****Methods of study**

- Interview
- Observation
- Audio and Video sources of studying early childhood period

**Recommended Readings:**

- Bee. H. (1995). The Developing Child . Harper Collins
- Rice. F. P. (1998) Human Development : A Lifespan Approach. New Jersey: prentice Hall.

**IV. CORE COURSE- C 2:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

**Note:** *There may be subdivisions in each question asked in Theory Examinations.*

**FOOD AND NUTRITION****Theory: 60 Lectures****Unit-I: Basic concepts in food and nutrition**

- Relationship between Food Nutrition and Health
- Functions of Food

**Unit-II: Nutrients**

Functions, Sources and deficiency/excess of the following nutrients:

- Carbohydrates, lipids and Proteins
- Water soluble and Fat soluble Vitamins

**Unit-III: Methods of Cooking**

- Cooking methods with their advantages and disadvantages
- Microwave Cooking

**Unit-IV: Food Groups**

Structure, composition, and changes during cooking of the following Food Groups:-

- Cereals and Pulses
- Fruits and vegetables
- Milk and milk products
- Germination and Fermentation

**HOME SCIENCE PRACTICAL-C 2 LAB****60 Lectures**

Food preparation of the following :

- Beverages: Hot Tea/ Coffee Fruit Juices
- Cereals: Pulao, Parantha , Puri
- Pulses: Kachumber, Chole, Rajmah
- Vegetables: Mix Vegetable Dry/Curry

**Recommended Readings:**

- Srilakshmi(2007). Food Science, 4th Edition. New Age International Ltd.
- Wardlaw and Insel MG , Insel PM (2004) . Perspectives in Nutrition, Sixth Edition Mosby
- Raina U Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra S (2010). Basic Food Preparation; A Complete Manual, Frouth Edition . Orient Black Swan Ltd.

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**SEMESTER II**


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**4 Papers****Total 100 x 4 = 400 Marks****I. ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)**

(Credits: Theory-02)

**Marks : 100 (ESE: 3Hrs) =100****Pass Marks Th ESE = 40***Instruction to Question Setter for**End Semester Examination (ESE):**There will be **objective type test** consisting of hundred questions of 1 mark each. Examinees are required to mark their answer on **OMR Sheet** provided by the University.***AECC – ENVIRONMENT STUDIES****Theory: 30 Lectures****Unit 1 : Introduction to environmental studies**

Multidisciplinary nature of environmental studies;  
 Scope and importance; Concept of sustainability and sustainable development.

**(2 lectures)****Unit 2 : Ecosystems**

What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems :

Forest ecosystem

Grassland ecosystem

Desert ecosystem

Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**(2 lectures)****Unit 3 : Natural Resources : Renewable and Non--renewable Resources**

Land resources and landuse change; Land degradation, soil erosion and desertification.

Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.

Water : Use and over--exploitation of surface and ground water, floods, droughts, conflicts over water (international &amp; inter--state).

Energy resources : Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

**(5 lectures)****Unit 4 : Biodiversity and Conservation**

Levels of biological diversity : genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots

India as a mega--biodiversity nation; Endangered and endemic species of India

Threats to biodiversity : Habitat loss, poaching of wildlife, man--wildlife conflicts, biological invasions; Conservation of biodiversity : In--situ and Ex--situ conservation of biodiversity.

Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

**(5 lectures)**

#### **Unit 5 : Environmental Pollution**

Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution

Nuclear hazards and human health risks

Solid waste management : Control measures of urban and industrial waste.

Pollution case studies.

**(5 lectures)**

#### **Unit 6 : Environmental Policies & Practices**

Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture

Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).

Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

**(4 lectures)**

#### **Unit 7 : Human Communities and the Environment**

Human population growth: Impacts on environment, human health and welfare.

Resettlement and rehabilitation of project affected persons; case studies.

Disaster management : floods, earthquake, cyclones and landslides.

Environmental movements : Chipko, Silent valley, Bishnois of Rajasthan.

Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.

Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

**(3 lectures)**

#### **Unit 8 : Field work**

Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc.

Visit to a local polluted site--Urban/Rural/Industrial/Agricultural.

Study of common plants, insects, birds and basic principles of identification.

Study of simple ecosystems--pond, river, Delhi Ridge, etc.

**(Equal to 4 lectures)**

**Suggested Readings:**

- Raziuddin, M., Mishra P.K. 2014, *A Handbook of Environmental Studies*, Akanaksha Publications, Ranchi.
- Mukherjee, B. 2011: *Fundamentals of Environmental Biology*. Silverline Publications, Allahabad.
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- Gadgil, M., & Guha, R. 1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
- Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
- Gleick, P. H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
- Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science*, 339: 36---37.
- McCully, P. 1996. *Rivers no more: the environmental effects of dams*(pp. 29---64). Zed Books.
- McNeill, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth Century*.
- Odum, E.P., Odum, H.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
- Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. *Environmental and Pollution Science*. Academic Press.
- Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
- Rosencranz, A., Divan, S., & Noble, M. L. 2001. *Environmental law and policy in India*. Tripathi 1992.
- Sengupta, R. 2003. *Ecology and economics: An approach to sustainable development*. OUP.
- Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
- Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. *Conservation Biology: Voices from the Tropics*. John Wiley & Sons.
- Thapar, V. 1998. *Land of the Tiger: A Natural History of the Indian Subcontinent*.
- Warren, C. E. 1971. *Biology and Water Pollution Control*. WB Saunders.
- Wilson, E. O. 2006. *The Creation: An appeal to save life on earth*. New York: Norton.
- World Commission on Environment and Development. 1987. *Our Common Future*. Oxford University

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**II. GENERIC ELECTIVE (GE 2):**

(Credits: 06)

All Four Papers (One paper to be studied in each semester) of any One Subject to be opted other than the Honours Subject. Refer Content from the Syllabus of Opted Generic Elective Subject.

**III. CORE COURSE -C 3:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**DYNAMICS OF COMMUNICATION AND EXTENSION****Theory: 60 Lectures****Unit-I: Communication: Concepts**

- Functions of Communications
- Types of Communication – Communication transactions; Formal and informal communication; Verbal Non-Verbal Communication.
- Communication and mainstream media- newspaper, radio, television and Cinema.

**Unit-II: Understanding Human Communication**

- Models of Communications
- Barriers to Communication

**Unit-III: Communicating Effectively with Audio Visual Aids**

Concept, nature and relevance to communication process

- Empathy
- Persuasion
- Perception
- Listening

**Unit-IV: Communication for Extension**

- Concept Nature and Philosophy of Extension
- Principles of Extension

**HOME SCIENCE PRACTICAL -C 3 LAB****60 Lectures**

- Prepare Chart and Poster for General Awareness
- Design and Use of Graphic Media

**Recommended Readings:**

- Barker, L. (1990). "Communication", New Jersey: Prentice Hall , Inc; I7I
- Devito , J,(1998) Human Communication, New York : Harper and Row.
- Patri and Patri(2002) ; Essentials of Communication. Greenspan Publications



**IV. CORE COURSE -C 4:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**RESOURCE MANAGEMENT****Theory: 60 Lectures****Unit-I: Introduction to Resource Management**

- Concept and Scope of Management
- Approaches to Management

**Unit-II: Resources**

Availability and management of specific resources by an individual or family

- Money
- Time
- Energy
- Space

**Unit-III: Functions of Management: An Overview**

- Decision Making
- Management Process

**HOME SCIENCE PRACTICAL - C 4 LAB****60 Lectures**

- Making Budget
- Floor Plan For Middle and Lower Income group

**Recommended Readings:**

- Krentier, 2009, Management Theory and Applications, Cengage Learning ; India
- Rao V.S. and Narayana P.S. , Principles and Practices of Management , 2007, Konark Publishers Pvt. Ltd.

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**SEMESTER III**


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**5 Papers****Total 100 x 5 = 500 Marks****I. SKILL ENHANCEMENT COURSE SEC 1:**

(Credits: Theory-02)

**Marks : 100 (ESE: 3Hrs) =100****Pass Marks Th ESE = 40***Instruction to Question Setter for**End Semester Examination (ESE):**There will be **objective type test** consisting of hundred questions of 1 mark each. Students are required to mark their answer on **OMR Sheet** provided by the University.***ELEMENTARY COMPUTER APPLICATION SOFTWARES:**

A Common Syllabus Prescribed by Ranchi University

**Theory: 30 Lectures****Objective of the Course***The objective of the course is to generate qualified manpower in the area of Information Technology (IT) and Graphic designing which will enable such person to work seamlessly at any Offices, whether Govt. or Private or for future entrepreneurs in the field of IT.***A. INTRODUCTION TO COMPUTER SYSTEM****Basic Computer Concept**Computer Appreciation - Characteristics of Computers, Input, Output, Storage units, CPU, Computer System. **(1 Lecture)****Input and Output Devices**

Input Devices - Keyboard, Mouse, joystick, Scanner, web cam,

Output Devices- Soft copy devices, monitors, projectors, speakers, Hard copy devices, Printers – Dot matrix, inkjet, laser, Plotters. **(4 lectures)****Computer Memory and Processors**

Memory hierarchy, Processor registers, Cache memory, Primary memory- RAM, ROM, Secondary storage devices, Magnetic tapes, Floppy disks, hard disks, Optical Drives- CD-ROM, DVD-ROM, CD-R, CD-RW, USB Flash drive, Mass storage devices: USB thumb drive. Managing disk Partitions, File System. Basic Processor Architecture, Processor speed, Types of processor.

**(5 lectures)****Numbers Systems and Logic Gates**

Decimal number system, Binary number system, Octal number system, Hexadecimal number system, Inter-conversion between the number systems. Basic Logic gates-AND, OR, NOT, Universal logic gates- NAND, NOR

**(3 lectures)****Computer Software**

Computer Software- Relationship between Hardware and Software, System Software, Application Software, Compiler, Names of some high level languages, Free domain software.

**(2 Lectures)**

**Internet & its uses**

History of Internet, WWW and Web Browsers: Web Browsing software, Surfing the Internet, Chatting on Internet, Basic of electronic mail, Using Emails, Document handling, Network definition, Common terminologies: LAN, WAN, MAN, Node, Host, Workstation, Bandwidth, Network Components: Servers, Clients, Communication Media. Wireless network

**(3 Lectures)****Operating system-Windows**

Operating system and basics of Windows, The User Interface, Using Mouse and Moving Icons on the screen, The My Computer Icon, The Recycle Bin, Status Bar, Start and Menu & Menu-selection, Running an Application, Windows Explorer Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows, Windows Setting, Control Panels, Wall paper and Screen Savers, Setting the date and Sound, Concept of menu Using Help, Advanced Windows, Using right Button of the Mouse, Creating Short cuts, Basics of Window Setup, Notepad, Window Accessories

**(2 Lectures)****B. MICROSOFT OFFICE 2007 AND LATEST VERSIONS****Word Processing**

Word processing concepts: saving, closing, Opening an existing document, Selecting text, Editing text, Finding and replacing text, printing documents, Creating and Printing Merged Documents, Character and Paragraph Formatting, Page Design and Layout. Editing and Checking. Correcting spellings. Handling Graphics, Creating Tables and Charts, Document Templates and Wizards, Mail merge and Macros.

**(3 Lectures)****Microsoft Excel (Spreadsheet)**

Spreadsheet Concepts, Creating, Saving and Editing a Workbook, Inserting, Deleting Work Sheets, entering data in a cell / formula Copying and Moving from selected cells, handling operators in Formulae, Functions: Mathematical, Logical, statistical, text, financial, Date and Time functions, Using Function Wizard. Formatting a Worksheet: Formatting Cells changing data alignment, changing date, number, character or currency format, changing font, adding borders and colors, Printing worksheets, Charts and Graphs – Creating, Previewing, Modifying Charts. Integrating word processor, spread sheets, web pages. Pivot table, goal seek, Data filter and scenario manager

**(4 Lectures)****Microsoft Power Point (Presentation Package)**

Creating, Opening and Saving Presentations, Creating the Look of Your Presentation, Working in Different Views, Working with Slides, Adding and Formatting Text, Formatting Paragraphs, Drawing and Working with Objects, Adding Clip Art and other pictures, Designing Slide Shows, Running and Controlling a Slide Show, Printing Presentations. Creating photo album, Rehearse timing and record narration. Master slides.

**(3 Lectures)****Reference Books**

- Nishit Mathur, Fundamentals of Computer , Aph publishing corporation(2010)
- Misty E. Vermaat, Microsoft word 2013 1<sup>st</sup> Edition (2013).
- Satish Jain, M.Geeta, MS- Office 2010 Training Guide, BPB publication (2010)
- Joan Preppernau, Microsoft PowerPoint 2016 step by step, Microsoft press(2015)
- Douglas E Corner, The Internet Book 4<sup>th</sup> Edition, prentice –Hall(2009)
- Faithe wempen, word 2016 in depth 1<sup>st</sup> edition, que publishing(2015)
- Steven welkler, Office 2016 for beginners, Create Space Independent publishing Plateform (2016)

## SKILL ENHANCEMENT LAB- SEC 1 LAB

### A. MS-WORD LAB ASSIGNMENT

1. Write down the following Paragraph OR any one provided by your teacher;

Without a doubt, the Internet is one of the most important inventions of modern times. The Internet is a global interconnected computer networks which allow each connected computer to share and exchange information with each other. The origins of the Internet can be traced to the creation of Advanced Research Projects Agency Network (ARPANET) as a network of computers under the auspices of the U.S. Department of Defense in 1969.

Apply following effects on The paragraph:

- i. Paragraph **font-size** and **font-type** must be 12 Verdana.
- ii. Paragraph **alignment** must be justified and double line spacing.
- iii. **Highlight** the “(ARPANET)” with green color.
- iv. Make the “Internet” keywords **Bold and Italic**.
- v. Insert any “**WordArt**” and a **symbol** to your document.
- vi. Insert a **clipart** to your document.
- vii. Add following lines to your document:  
Internet, Intranet, Extranet, URL, WWW, Networking, Protocols, HTTP, TCP/IP

2. Create a Table of following fields:

Name, Surname, Age, Gender, Job and apply the following effects

- i. Insert 10 records
- ii. Font size should be 12
- iii. Title size should be 14
- iv. Font type should be Times new Roman
- v. Title color should be blue
- vi. Text color should be black
- vii. Table border should be 2

3. Write a letter on ‘Road Safety’ and send to ‘Multiple Recipients’ using mail merge.

4. Type the paragraph given below:

Today, the Internet is a public, cooperative and self-sustaining facility accessible to hundreds of millions of people worldwide. Physically, the Internet uses a portion of the total resources of the currently existing public telecommunication networks. Technically, what distinguishes the Internet is its use of a set of protocols called TCP/IP (for Transmission Control Protocol/Internet Protocol). Two recent adaptations of Internet technology, the intranet and the extranet, also make use of the TCP/IP protocol. Today, the Internet is a public, cooperative and self-sustaining facility accessible to hundreds of millions of people worldwide. Physically, the Internet uses a portion of the total resources of the currently existing public telecommunication networks. Technically, what distinguishes the Internet is its use of a set of protocols called TCP/IP (for Transmission Control Protocol/ Internet Protocol). Two recent adaptations of Internet technology, the intranet and the extranet, also make use of the TCP/IP protocol.

Apply the following:

- i. Change Internet into Internets at a time
- ii. Highlight TCP/IP in red color
- iii. Replace protocol into protocols
- iv. Find the word "Public"

## **B. MICROSOFT EXCEL LAB ASSIGNMENT**

### **Basic Formatting and Spreadsheet Manipulation**

1. Add rows and columns to an existing spreadsheet
2. Reformat data (center, comma and currency styles, bold, text color)
3. Work with a simple formula (product) and function (sum)

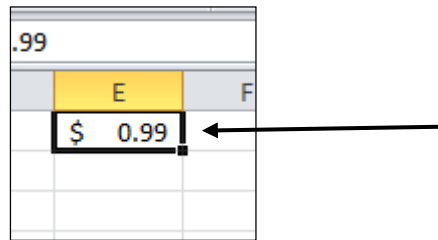
### **Assignment**

1. Create a workbook as shown below.
2. To enter new rows or columns, simply click on the row or column header to select the whole row or column. Then right click with the mouse and choose insert.
3. Add the new row for S Spade with the data that's shown below (between the original rows 7 and 8).
4. Add a column for gender and the data as shown below (between the original columns A and B). Enter the appropriate gender for yourself in the last row.

A	B	C	D
Name	Male/Female	Genre	Number of Songs
J Smith	F	Blues	50
B Doe	M	Country	110
S Spade	F	Country	200
F Zappa	M	Blues	1400
F Zappa	M	Alternative	2300
J Smith	F	Alternative	150
S Spade	F	Blues	1000
B Doe	M	Blues	75
yourname	M	Blues	800

5. Center the data in columns B and C. Do this by selecting the whole column and click the center icon on the ribbon.
6. Bold the data in row 1, the column headings (ensure that the data all remains visible within the column boundaries).
7. Change the font color for row 1 to Blue.
8. Change the format of the data in column D to comma style (no decimal places showing). There is an icon on the home tab that sets it to comma style easily.
9. Add two new column labels to the right of the current columns; **Unit Price** and **Total Cost**. (They will be in columns E and F.) These two columns of data should be currency type so that the dollar sign is shown. There is an icon to quickly format the selected column as currency type.
10. All tunes are \$.99, so enter that value for all rows in Column E. You can copy quickly by using the **Auto Fill** handle and drag that amount down. When you over your mouse over the tiny square in

the bottom right hand corner of the active cell, your mouse shape will become a skinny plus sign, and you can click and drag that cell to make a copy.



11. Calculate Total Cost (column F) as *column D times Column E*. You will type in a formula like this into cell F2: **=D2\*E2** (Be sure to begin the formula with an equal sign)
12. Use the AutoFill (skinny plus sign) again to copy the formula down column F; down to F10. Double check the picture below to make sure yours has the correct values
13. Add a border to all of the cells (A1-f10) using the Borders tool in the Fonts group on the Home Tab.
14. Change the page layout to landscape. Do this by clicking the Page Layout tab on the ribbon and then to Orientation to Landscape.
15. Save the file.
16. Click in cell F11 and Use the sum function or the shortcut icon that looks like  $\Sigma$  to get the total of the Total Cost column.
17. Ensure that the data is all visible within the column boundaries. Make the columns wider if needed.
18. Save the workbook. Your final spreadsheet should look like the following when printed.

Name	Male/Female	Genre	Number of Songs	Unit Price	Total Cost
J Smith	F	Blues	50	\$ 0.99	\$ 49.50
B Doe	M	Country	110	\$ 0.99	\$ 108.90
S Spade	F	Country	200	\$ 0.99	\$ 198.00
F Zappa	M	Blues	1,400	\$ 0.99	\$ 1,386.00
F Zappa	M	Alternative	2,300	\$ 0.99	\$ 2,277.00
S Spade	F	Blues	1,000	\$ 0.99	\$ 990.00
J Smith	F	Alternative	150	\$ 0.99	\$ 148.50
B Doe	M	Blues	75	\$ 0.99	\$ 74.25
yourname	M	Blues	800	\$ 0.99	\$ 792.00
					\$ 6,024.15

### Create a sample table given below in Excel

- Using formula find Total
- Find the maximum value using MAX function from the **Units** column
- Find minimum value from **Total** column

Order Date	Region	Rep	Item	Units	Unit Cost	Total
1/6/2016	East	Jones	Pencil	95	1.99	189.05
1/23/2016	Central	Kivell	Binder	50	19.99	999.50
2/9/2016	Central	Jardine	Pencil	36	4.99	179.64
2/26/2016	Central	Gill	Pen	27	19.99	539.73
3/15/2016	West	Sorvino	Pencil	56	2.99	167.44
4/1/2016	East	Jones	Binder	60	4.99	299.40
4/18/2016	Central	Andrews	Pencil	75	1.99	149.25
5/5/2016	Central	Jardine	Pencil	90	4.99	449.10
5/22/2016	West	Thompson	Pencil	32	1.99	63.68
6/8/2016	East	Jones	Binder	60	8.99	539.40
6/25/2016	Central	Morgan	Pencil	90	4.99	449.10
7/12/2016	East	Howard	Binder	29	1.99	57.71
7/29/2016	East	Parent	Binder	81	19.99	1,619.19
8/15/2016	East	Jones	Pencil	35	4.99	174.65
9/1/2016	Central	Smith	Desk	2	125.00	250.00
9/18/2016	East	Jones	Pen Set	16	15.99	255.84
10/5/2016	Central	Morgan	Binder	28	8.99	251.72
10/22/2016	East	Jones	Pen	64	8.99	575.36
11/8/2016	East	Parent	Pen	15	19.99	299.85
11/25/2016	Central	Kivell	Pen Set	96	4.99	479.04
12/12/2016	Central	Smith	Pencil	67	1.29	86.43
12/29/2016	East	Parent	Pen Set	74	15.99	1,183.26

### **C. MS-POWERPOINT LAB ASSIGNMENT**

#### **Activity 1 : Using Text & Background/Themes**

- i. Create one new slide and insert any text.
- ii. To make your slide more attractive, use the themes or background.
- iii. Make sure it apply for every slide not only one slide.

#### **Activity 2 : Apply Custom Animation On Text**

- i. Use the custom animation to add effects on your text. Set the text move after you click the mouse.
- ii. If you have more than one text, add effects for each of text.

#### **Activity 3 : Insert Image & WordArt**

- i. Insert one new blank slide.
- ii. Choose one pictures or clip art from any source and insert in your new slide.
- iii. Using the WordArt, make a note or title on your picture.
- iv. Use the custom animation again to add effects on your picture and WordArt.

#### **Activity 4 : Insert Text Box**

- i. Insert one new blank slide.
- ii. Use the text box to insert one paragraph of text and adjust your text.

#### **Activity 5 : Insert Smart Art**

- i. Insert one new blank slide.
- ii. Insert the Smart Art and put your text on the Smart Art.

**Activity 6 : Insert Audio**

- i. Back to your first slide and insert one audio on that slide. The audio must play automatically when you show your slide.
- ii. Make sure the speaker also not appear when you show your slide. (the icon).
- iii. The audio must play when you show alls your slide, not only one slide.

**Activity 7 : inserting Video**

- i. Insert one new slide and insert one short video

**Activity 8 : Save File**

- i. Save your file

**Activity 9 : Create Photo Album & Hyperlink**

- i. Insert one new slide and put a text ex: “My Photo Album”
- ii. Create one photo album and adjust your text and your photos
- iii. Save your photo album with a new file
- iv. Make a hyperlink to your photo using the text “My Photo Album”

**Reference Books:**

- Faithe wempen, word 2016 in depth 1<sup>st</sup> edition, que publishing(2015)
- steven welkler, Office 2016 for bignners, Create Space Independent publishing plateform(2016)
- Elaine Marmel, office 2016 simplified, 1<sup>st</sup> Edition, John wiley and sons Inc(2016)
- Patrice-Anne Rutledge, Easy office 2016 1st edition, Que publishing(2016)

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**II. GENERIC ELECTIVE (GE 3)**

(Credits: 06)

All Four Papers (One paper to be studied in each semester) of any One Subject to be opted other than the Honours Subject. Refer Content from the Syllabus of Opted Generic Elective Subject.



**III. CORE COURSE -C 5:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**INTRODUCTION TO TEXTILES****Theory: 60 Lectures****Unit-I: Introduction to Textile Fibres**

- Identification of Fibres
- Classification of Fibres

**Unit-II: Production , Properties and uses of the following Fibres**

- Natural Fibre: Cotton, Silk, Wool
- Man-made Fibres: Rayon, Polyester, Acrylic

**Unit-III: Production and Properties of Yarns**

- Types of Yarns: Staple and Filaments, Simple yarns, Complex Yarns
- Textured Yarns : Types and Properties
- Difference between thread and yarns

**Unit-IV: Techniques of Fabric Construction and Basics of Wet Processing**

- Weaving
- Knitting
- Fundamentals of dyeing and printing

**HOME SCIENCE PRACTICAL -C 5 LAB****60 Lectures**

- Fibre Identification tests- Visual, burning, microscopic and chemical
- Weaves- Identification and their design interpretation on graph
- Tie and Dye

**Recommended Readings:**

- Sekhri S.,(2013) Textbook of Fabric Science : Fundamentals to Finishing , PHI Learning Delhi
- Tortora, G. Phyllis, Understanding Textiles, McMillan Co. USA.

**IV. CORE COURSE -C 6:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for  
Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**COMMUNICATION SYSTEMS AND MASS MEDIA****Theory: 60 Lectures****Unit-I: Self and Communication**

- Awareness of self in Communication
- Self concept and self esteem

**Unit-II: Interpersonal Communication**

- Concept, types and functions of interpersonal communication
- Small group communication: types and functions

**Unit-III: Organisation, Public and Mass Communication**

- Public Communication- concepts and technique
- Mass Communication- concepts, significance, functions and elements

**Unit-IV: Mass Media**

- Print Media- types, nature , characteristics
- Radio: types, nature, characteristics
- Television and Cinema : types, nature, characteristics

**HOME SCIENCE PRACTICAL - C 6 LAB****60 Lectures**

Content analysis of following mass media

- Newspapers
- News channels in television

**Recommended Readings:**

- Devito , J,(1998) Human Communication, New York : Harper and Row.
- Vivian , J(2012) , The Media Of Mass Communication, Pearson

**V. CORE COURSE -C 7:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for  
Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**PERSONAL FINANCE AND CONSUMER STUDIES****Theory: 60 Lectures****Unit-I: Income and Expenditure**

- Household Income- Types, sources, use of family income, budget
- Factors influencing expenditure pattern
- Family savings and investments-need, principles, channels of investment, tax implications.

**Unit-II: Consumer in India: Consumer problems and education**

- Definition of a consumer
- Consumer education and empowerment

**Unit-III: Consumer Protection**

- Consumer Protection
- Consumer rights and responsibilities
- Standardization and quality control measures: ISI, FPO, AGMARK, ISO, Wool Mark, Silk Mark, Cotton Mark, Handloom Mark and star labelling

**HOME SCIENCE PRACTICAL -C 7 LAB****60 Lectures**

- Evaluation and designing of advertisements in the print media including products, services and social adds.
- Evaluation and designing of informative and attractive labels of different types of food products
- Food Adulteration Tests

**Recommended Readings:**

- Khanna S.R. , Hanspal S., Kapoor S. & Awasthi H.K, 2007, Consumer Affairs , Universities Press India Pvy. Ltd.
- Sawhney , H.K. & Mital , M, 2007 , Family Finance and Consumer Studies, Elite Publishing House Pvt. Ltd.

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**SEMESTER IV**
**5 Papers****Total 100 x 5 = 500 Marks****I. SKILL ENHANCEMENT COURSE SEC 2:**

(Credits: Theory-02)

**Marks : 100 (ESE: 3Hrs) =100****Pass Marks Th ESE = 40***Instruction to Question Setter for**End Semester Examination (ESE):*

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type six questions of fifteen marks each, out of which any four are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**MATERNAL AND CHILD NUTRITION****Theory: 30 Lectures****Unit-I: Nutritional needs during pregnancy**

Nutritional needs during pregnancy, common disorders of pregnancy (Anaemia, HIV Infection)  
Maternal health and Nutritional Status,

**Unit-II: Nursing mothers and infants**

Nutritional need of nursing mothers and infants.

**Unit-III: Infant and child mortality**

- Breast feeding, weaning and complementary feeding.
- Child health and morbidity, neonatal, infant and child mortality.

**Unit-IV: Nutrition policies**

Overview of maternal and child nutrition policies

**Recommended Readings:**

- Wadhwa A and Sharma S (2003), Nutrition in the Community- A Textbook, Elite Publishing House Pvt. Ltd. New Delhi
- National Guidelines on Infant and Young Child Feeding (2006). Ministry of Women and Child Development, Government of India.

**II. GENERIC ELECTIVE (GE 4)**

(Credits: 06)

All Four Papers (One paper to be studied in each semester) of any One Subject to be opted other than the Honours Subject. Refer Content from the Syllabus of Opted Generic Elective Subject.

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**III. CORE COURSE -C 8:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**DEVELOPMENT IN ADOLESCENCE AND ADULTHOOD****Theory: 60 Lectures****Unit-I: Introduction to Adolescence**

- Developmental task during adolescence
- Puberty, sexual maturity, nutrition, health and psychological well-being

**Unit-II: Cognitive, Language and Moral Development**

- Perspectives on cognitive development
- Development of intelligence and creativity

**Unit-III: Introduction to Adulthood**

- Definitions, transition from adolescence to adulthood
- Developmental tasks of adulthood

**Unit-IV: Socio-Economic and Cognitive Development**

- Diversity roles and relationships
- Marriage- Contemporary trends

**HOME SCIENCE PRACTICAL -C 8 LAB****60 Lectures**

To study physical and sexual changes in adolescence

Use of interview/ questionnaire method to study adult roles (atleast one male and female)

- Father/ husband
- Homemaker
- Employed woman
- Grandfather/ grandmother

**Recommended Readings:**

- Berk, L.E. (2007). Development through the lifespan. Delhi: Pearson Education
- Rice F.P. (1998). Human Development : A lifespan approach. New Jersey : Prentice Hall

**IV. CORE COURSE -C 9:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**NUTRITION****Theory: 60 Lectures****Unit-I: Principles of meal planning**

- Food groups and food exchange list
- Factors affecting meal planning and food related behaviour

**Unit-II: Nutrition during adulthood**

Physiological changes, RDA and nutritional guidelines of the following:-

- Adults
- Pregnant woman
- Nursing mother

**Unit-III: Nutrition during childhood**

Growth and development RDA and nutritional requirements of the following:-

- Infants
- Pre-school children

**Unit-IV: Nutrition for special conditions**

- Nutrition for physical fitness and sport
- Feeding problems in children with special needs

**HOME SCIENCE PRACTICAL -C 9 LAB****60 Lectures****Introduction to meal planning**

- Rich sources of nutrients
- Use of food exchange list

**Planning nutrient rich snacks/ dishes for**

- Infants (complementary foods)
- Children / Adults

**Recommended Readings:**

- Chadha R and Mathur P (eds). Nutrition : A Lifecycle Approach. Orient Blackswan, Delhi. 2015
- Gopalan C. Rama Sastri BV, Balasubramanian SC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.

**V. CORE COURSE -C 10:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**FASHION DESIGN CONCEPT****Theory: 60 Lectures****Unit-I: Fashion**

- Fashion cycle
- Role of a designer

**Unit-II: Importance of clothing**

- Selection of clothes for self
- Selection and evaluation of readymade garments

**Unit-III: Components of garments : Classification and Application**

- Fabric, seams, stitches, shaping methods, dart equivalents
- Sleeves, cuffs, necklines, collars, plackets, yolks, pockets and trims

**Unit-IV: Design**

- Elements and principles of design
- Structural and applied design

**HOME SCIENCE PRACTICAL -C 10 LAB****60 Lectures**

- Flat sketching of garment components
- Study of collections of famous designers

**Recommended Readings:**

- Brown Patty, Rice J., 1998, Ready to Wear Apparel Analysis, Prentice Hall.
- Marshall S G Jackson H O, Stanley MS, Kefgen M & Specht T, 2009 Individuality in Clothing & Personal Appearance, 6th Edition, Pearson Education, USA.

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**SEMESTER V**


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**4 Papers****Total 100 x 4 = 400 Marks****I. HOME SCIENCE SPECIFIC (DSE 1):**

(Credits: Theory-05, Tutorials-01)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**CHILDHOOD IN INDIA****Theory: 60 Lectures****Unit-I: Introduction to childhood in India**

- Social construction of childhood and family
- Childhood in mythology

**Unit-II: Multiple contexts of childhood in India**

- Belonging to a minority community

**Unit-III: Psycho-social dimensions of childhood**

- Being a girl in India
- Growing up in tribal family

**Unit-IV: Contemporary issues of childhood in India**

- Caste and childhood
- Children on street

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**HOME SCIENCE PRACTICAL – DSE 1 LAB:**
**60 Lectures**

Personal social experiences of childhood in families

**Recommended Readings:**

- Behera D.K. (Ed) (2007) Childhood in South Asia : New Delhi. Pearson- Longman
  - Sharma D. (2003), Infancy and childhood in India, In, D. Sharma (Ed), Childhood, Family and socio-cultural changes in India (13-47). New Delhi: Oxford
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**II. HOME SCIENCE SPECIFIC (DSE 2):**

(Credits: Theory-05, Tutorials-01)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**TEXTILE PROCESSING****Theory: 60 Lectures****Unit-I: Dyeing**

- Terminology and theory of dyeing
- classification of dyes.

**Unit-II: Printing**

- Methods of printing :
  - Block printing
  - Transfer printing
- washing of printed goods

**Unit-III: Finishing**

- Classification of finishes
- Finishes affecting appearance and texture

**HOME SCIENCE PRACTICAL – DSE 2 LAB:****60 Lectures**

- Dyeing on cotton
- Printing with blocks and screens

**Recommended Readings:**

- Sekhri S, (2013) Textbook of Fabric Science : Fundamentals of Finishing, PHI Learning, Delhi.
- Miles L.W.C.(1994), Textile Printing, 2nd edition, England, Society of Dyers and Colourists
- Shenai, V.A. (1987) Chemistry of Dyes and principles of Dyeing ,Vol II, Bombay, India, Sevak Publications.

**III. CORE COURSE -C 11:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**LIFE SCIENCES****Theory: 60 Lectures****SECTION A- BOTANY****Unit-I: Introduction to Plant Kingdom**

- Classification of Plant Kingdom
- Formation of fruit, seed and embryo

**Unit-II: Propagation of plants- seeds and vegetative**

- Seed Propagation
- Cuttings- Stem, leaf and root

**Unit-III: Types of Garden**

- Kitchen Garden
- Herbal Garden

**SECTION B – ZOOLOGY****Unit-I: Classification**

- Classification of animal kingdom
- Cell theory, electron microscopic structure and function of a cell

**Unit-II: Biotechnology**

- Introduction to Biotechnology
- Significance of Biotechnology to humans

**Recommended Readings:**

- Introduction to Quantum mechanics, Nikhil Ranjan Roy, 2016, Vikash Publishing House Pvt. Ltd.
- A Text book of Quantum Mechanics, P.M.Mathews and K.Venkatesan, 2nd Ed., 2010, McGraw Hill

**HOME SCIENCE PRACTICAL -C 11 LAB****60 Lectures****BOTANY**

- Floral description of few angiospermic families
- Propagation of plants by seeds and vegetative methods

**ZOOLOGY**

- Study of cells- different types of blood groups
- Survey of animal kingdom (2 specimens from each class/ phylum)

**Recommended Readings:**

- Gopalaswamianger K.S.1991, Compete gardening in India, Messers Nagaraj And Co. Madras
- Soni N.K. and Soni V. 2010. Fundamentals of Botany. Tata Mc Graw Hill Education.
- Kotpal, 2000, Modern Textbook of Zoology, Rastogi Publications.
- Vij and Gupta (2011) Applied Zoology Phoenix Publishing House.

**I. CORE COURSE -C 12:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**PHYSICAL SCIENCES****Theory: 60 Lectures****SECTION A- CHEMISTRY****Unit-I: Carbohydrates**

- Classification and chemical composition of carbohydrates

**Unit-I: Lipids**

- Building blocks of lipids- fatty acids, glycerol, triglyrides

**SECTION B- PHYSICS****Unit-I: House hold Equipment and Consumer Awareness**

- Motorized equipments : Vacuum cleaners, Clothes washing machine, Dish washers, Food processors
- Heating appliances : Electric irons, Electric water heaters, Gas and electric cooking ranges
- Cooling appliances : Refrigeration and air conditioning
- Guarantee and warranty all household equipments

**Unit-II: Electricity**

- Concept- Battery charger, inverter, UPS, Voltage stabilizer
- Lighting fixtures in the home- Fluorescent tube, CFL, LED, Halogen lamp.

**Unit-III: Sound and Light**

- Knowledge of sound, echo and their uses
- Recording and reproduction of sound- various methods

**HOME SCIENCE PRACTICAL -C 12 LAB****60 Lectures****CHEMISTRY**

- Qualitative tests for carbohydrates and preparation of derivative (Osazone)

**PHYSICS**

- To repair and test an electric iron
- To repair the given chord and fuse and test them

**Demonstration experiments**

- To study the various sources of light and record their wattages
- To obtain a pure spectrum of various sources of light (Na and Hg) using a spectrometer

**Recommended Readings:**

- Nelson, D.L. and Cox, M.M., Lehninger's principles of Biochemistry, 6th edition, (2012) W.H. Freeman
- Household Physics (2012), Vlaude H. Brechner, Hardpress
- B.Sc. Practical Chemistry by P.L. Soni and S.C Jain, Sultan Chand and Sons (1978)
- College Practical Physics by Khanna and Gulati, S. Chand and Co. (1999)

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**SEMESTER VI**


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**4 Papers****Total 100 x 4 = 400 Marks****I. HOME SCIENCE SPECIFIC (DSE 3):**

(Credits: Theory-06)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**PUBLIC NUTRITION****Theory: 60 Lectures****Unit-I: Public Nutrition**

- Definition of Public Nutrition
- Concept and Scope,
- Role of public nutritionist

**Unit-II: Nutritional problems**

- Undernutrition
- PEM
- Vitamin "A" Deficiency

**Unit-III: Nutrition Education**

- Objectives, Principles and scope of nutrition and health education and promotion.
- Behaviour Change Communication

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**HOME SCIENCE PRACTICAL – DSE 3 LAB:**
**60 Lectures**

- Planning of low cost nutritious recipes for infants, preschoolers, pregnant.
- Anthropometry- weight and height measurements.

**Recommended Readings:**

- Wadhwa A and Sharma S (2003). Nutrition in the Community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi.
  - Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
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**II. HOME SCIENCE SPECIFIC (DSE 4):**

(Credits: Theory-06)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**COMMERCIAL CLOTHING****Theory: 60 Lectures****Unit-I: Introduction to Commercial Clothing**

- Anthropometric measurements and Taking accurate body measurement
- Sewing problems - Drafting and its importance

**Unit-II: Selection of Fabric & Accessories**

- Selection of appropriate apparel fabrics for girls, women, boys and men's wear

**Unit-III: Fashion materials**

- Sourcing of Fashion materials

**Unit-IV: Fashion Promotion**

- Fashion Promotion by Visual Merchandizing

**HOME SCIENCE PRACTICAL – DSE 4 LAB:****60 Lectures**

Drafting and Construction of : -

- Kameez
- Salwaar
- Churidar

**Recommended Readings:**

- Armstrong, H.J., 2009, Pattern Making for Fashion Design, Harper Collins Publishers Inc., Ney York.
- Stamper, A.A., S. H. Sharp and L.B. Donnell, 1986, Evaluating Apparel Quality, Fairchild Publications, America

**III. CORE COURSE -C 13:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**RESEARCH METHODOLOGY IN HOME SCIENCE****Theory: 60 Lectures****Unit-I: Research – Meaning ,purpose and approaches**

- Research Designs- Experimental and Observational
- Quantitative and Qualitative approaches
- Variables, concepts and measurement

**Unit-II: Sampling and Tools**

- Role of sampling in research
- Types of sampling
- Interviewing and observational methods

**Unit-III: The Research Process**

- Planning the research
- Subjects context and ethics
- Methodology and tools

**Recommended Readings:**

- Electromagnetic Theory, Chopra and Agarwal.

**HOME SCIENCE PRACTICAL -C 13 LAB****60 Lectures**

- Exercise in designing tools and their analysis : interview, questionnaire
- Data collection process : conducting interview

**Recommended Readings:**

- Kumar. R (2005) Research Methodology: A Step by Step Guide for Beginners. Sage Publications, New Delhi
- Kerlinger F.N. and Lee, H.B. (2000) Foundations of Behavioural Research 4th Ed. Harcourt College Publishers.

**IV. CORE COURSE -C 14:**

(Credits: Theory-04, Practicals-02)

**Marks : 15 (MSE: 1Hr) + 60 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th (MSE +ESE) = 30 + Pr ESE =10*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

*There will be two group of questions. Group A is compulsory and will contain five questions of very short answer type consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.*

***End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**SOCIO ECONOMIC ENVIRONMENT****Theory: 60 Lectures****SOCIOLOGICAL CONCERNS AND ORIENTATION****Unit-I: Sociological Orientation**

- Society , Culture and Institution
- Social Groups and multiplicity

**Unit-II: Emergence of New Ideological Orientations**

- Social mobility and social change
- Sociological Studies of Children, Youth and Women the aged: Empirical Problem & Frameworks.

**ECONOMIC THEORY AND ENVIRONMENT****Unit-III: Introduction to Economic System**

- Definition and scope of economics
- Wants- Classification and characteristics
- Utility- Law of Diminishing Marginal Utility, Law of Equi-Marginal Utility
- Demand- Law of Demand, Elasticity of Demand
- Types of Markets.

**Unit-IV: Indian Economic Environment**

- Structure of Indian Economy: Changing structure of Indian Economy
- Role and Importance of Indian Agriculture
- Recent development programmes of the Government of India: Jana Dhana Yojana, Sarva Siksha Yojana.

**HOME SCIENCE PRACTICAL -C 14 LAB****60 Lectures****SOCIOLOGICAL CONCERNS AND ORIENTATION**

- Changing families & relating in society
- Religion and Culture

**ECONOMIC THEORY AND ENVIRONMENT**

- Data interpretation and analysis (to see the trends of growth and development of certain sectors or vice versa)

**Recommended Readings:**

- Johnson, M.H. (2001). Sociology: A systematic introduction. New Delhi : Allied Publishers Limited
  - Rawat, H.K. (2007), Sociology: Basic concepts. New Delhi : Rawat Publications
  - Dhingra IC and Garg VK,2010, Introductory Economic Theory , Sultan Chand & Sons
  - Mishra & Puri , Recent edition 2014, Indian Economy, Himalya Publishing House
  - Sundaram K.P.M., 2010, Introduction to Economics. Ratan Prakashan
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COURSES OF STUDY FOR **GENERIC ELECTIVE 'B. A. Hons'** PROGRAMME IN  
**"HOME SCIENCE"**

**SEMESTER I****GENERIC ELECTIVE****1 Paper**

**Total 100 x 1 = 100 Marks**

**I. GENERIC ELECTIVE (GE 1)**

(Credits: Theory-04, Practicals-02)

- All Four Generic Papers (One paper to be studied in each semester) of Home Science to be studied by the Students of **Other than Home Science Honours**.
- Students of **Home Science Honours** must Refer Content from the **Syllabus of Opted Generic Elective Subject**.

Marks : 75 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100	Pass Marks: Th ESE = 30 + Pr ESE =10
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***Instruction to Question Setter for******End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type six questions of fifteen marks each, out of which any four are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**HUMAN NUTRITION****Theory: 60 Lectures****Unit-I: Basic Concepts in Nutrition**

- Relationship between food, nutrition and health
- Functions of food- Physiological, psychological and social

**Unit-II: Nutrients**

Functions, Recommended Dietary Allowances, dietary sources, effects of deficiency and/ or excess consumption on health of the following nutrients:

- Carbohydrates
- Lipids
- Proteins
- Fat soluble vitamins-A, D,E and K
- Water soluble vitamins – Thiamin, Riboflavin, Niacin, Pyridoxine, Folate, Vitamin B12 and Vitamin C

**Unit-III: Nutrition during Lifecycle**

Physiological considerations and nutritional concerns for the following life stage

- Adult man / woman
- Preschool children

**HOME SCIENCE LAB: GE 1 LAB:****60 Lectures**

- Identifying Rich Sources of the following Nutrients
- Protein, Iron, Calcium, Fiber, Vitamin A & C
- Introduction to Meal Planning
- Basic food groups & Planning nutritious diets /Snacks for Pre-school children

**Recommended Readings:**

- Srilakshmi B (2012). Nutrition Science.4th Revised Edition, New Age International Publishers.
  - Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.
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**SEMESTER II****GENERIC ELECTIVE****1 Paper****Total 100 x 1 = 100 Marks****II. GENERIC ELECTIVE (GE 2)**

(Credits: Theory-04, Practicals-02)

**Marks : 75 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th ESE = 30 + Pr ESE =10*****Instruction to Question Setter for******End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type six questions of fifteen marks each, out of which any four are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**ENTREPRENEURSHIP FOR SMALL CATERING UNITS****Theory: 60 Lectures****Unit-I: Introduction to Food Service Units**

- Origin of Food Service units
- Kinds of food service units

**Unit-II: Menu Planning**

- Importance of menu
- Factors affecting menu planning

**Unit-III: Organization & Management**

- Principles of management
- Functions of management/ manager

**Unit-IV: Food Production Process**

- Food purchase and receiving
- Storage
- Food hygiene and sanitation

**HOME SCIENCE GE 2 LAB:****60 Lectures**

- Survey of food service units
- Planning menus for the following:
  - Packed meals for office employees
  - Nutritious tiffins for school children

**Recommended Readings:**

- West B Bessie & Wood Levelle (1988) Food Service in Institutions 6th Edition Revised By Hargar FV, Shuggart SG, & Palgne Palacio June, Macmillian Publishing Company New York.
- Sethi Mohini (2005) Institution Food Management New Age International Publishers

**SEMESTER III****GENERIC ELECTIVE****1 Paper****Total 100 x 1 = 100 Marks****III. GENERIC ELECTIVE (GE 3)**

(Credits: Theory-05, Tutorial-01)

**Marks : 100 (ESE: 3Hrs) =100****Pass Marks: Th ESE = 40***Instruction to Question Setter for**End Semester Examination (ESE):*

There will be two group of questions. **Group A is compulsory** and will contain two questions. **Question No.1 will be very short answer type** consisting of ten questions of 1 mark each. **Question No.2 & 3 will be short answer type** of 5 marks. **Group B will contain descriptive type** six questions of twenty marks each, out of which any four are to answer.

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**CURRENT CONCERNS IN PUBLIC HEALTH NUTRITION****Theory: 75 Lectures; Tutorial: 15 Lectures****Unit-I: Nutritional problems affecting the community**

- Etiology, prevalence, clinical features and preventive strategies of-
- Overnutrition – obesity, coronary heart disease, diabetes
- Fluorosis

**Unit-II: Nutrition Policy and Programmes**

- Integrated Child Development Services (ICDS) Scheme, Mid day Meal Programme (MDMP), National programmes for prevention of Anaemia, Vitamin A deficiency, Iodine Deficiency Disorders

**TUTORIAL**

- Planning and evaluation of low cost nutritious recipes for preschoolers, school age children, adolescents, pregnant and nursing mothers.
- Planning and evaluation of low calorie nutritious recipes for weight management.
- Planning and conducting a food demonstration.

**Recommended Readings:**

- Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
- Gibney MJ (2005). Public Health Nutrition.
- Vir S. (2011) Public Health Nutrition in developing countries. Vol 1 and 2 •
- ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.

**SEMESTER IV****GENERIC ELECTIVE****1 Paper****Total 100 x 1 = 100 Marks****IV. GENERIC ELECTIVE (GE 4)**

(Credits: Theory-04, Practicals-02)

**Marks : 75 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100****Pass Marks: Th ESE = 30 + Pr ESE =10*****Instruction to Question Setter for******End Semester Examination (ESE):***

*There will be two group of questions. Group A is compulsory and will contain two questions. Question No.1 will be very short answer type consisting of ten questions of 1 mark each. Question No.2 will be short answer type of 5 marks. Group B will contain descriptive type six questions of fifteen marks each, out of which any four are to answer.*

*Note: There may be subdivisions in each question asked in Theory Examinations.*

**CARE AND WELL BEING IN HUMAN DEVELOPMENT****Theory: 60 Lectures****Unit-I: Care and Human Development**

- Definition, concepts & relevance of care
- Vulnerable periods in life that require care
- Principles & components of care

**Unit-II: Well-being and Human Development**

- Concept of well-being-- physical, psychological, spiritual
- Factors & experiences that promote well-being

**Unit-III: Care & well-being at different stages of life**

- Childhood years
- Adolescence

**Unit-IV: Policies, Services & Programs**

- School health programs
- Nutrition & health for all

**HOME SCIENCE LAB- GE 4 LAB:****60 Lectures**

- Observations of children ( 1 infant, 1 toddler) to understand their care needs
- Interview of a mother of a school-going child to understand her perspective of care and child's well-being
- Interaction with two adolescents ( male, female) to explore their perspectives on well-being

**Recommended Readings:**

- Sriram, R. ( 2004). Ensuring infant and maternal health in India. In J. Pattnaik (Ed.). Childhood in South Asia: A critical look at issues, policies and programs. Conn.USA: Information Age.
- Singhi, P.( 1999). Child health & well-being: Psychosocial care within & beyond hospital walls. In T.S. Saraswathi (Ed.).Culture, socialization and human development. New Delhi: Sage..

**SAMPLE CALCULATION FOR SGPA & CGPA FOR UNDERGRADUATE 'B.Sc./B.A./B.Com  
Honours & General' PROGRAMME**

**Distribution of Credits Semester wise for Undergraduate Honours Courses**

**Table B-1: UG (B.A./ B.Sc./B.Com. Hons. Programme)**

**Semester wise distribution of 140 Credits**

	<b>CC</b>	<b>AECC</b>	<b>GE</b>	<b>SEC</b>	<b>DSE</b>	<b>Total credits</b>
Semester I	12	02	06			20
Semester II	12	02	06			20
Semester III	18		06	02		26
Semester IV	18		06	02		26
Semester V	12				12	24
Semester VI	12				12	24
	<b>84</b>	<b>04</b>	<b>24</b>	<b>04</b>	<b>24</b>	<b>140</b>

CC=Core Course; AECC=Ability Enhancement Compulsory Course; GE=Generic Elective; SEC=Skill Enhancement Course; DSE=Discipline Specific Elective

**Table B-2: UG (B.A./ B.Sc./B.Com. Programme)**

**Semester wise distribution of 120 Credits**

	<b>CC</b>	<b>AECC</b>	<b>GE</b>	<b>SEC</b>	<b>DSE</b>	<b>Total credits</b>
Semester I	18	02				20
Semester II	18	02				20
Semester III	18			02		20
Semester IV	18			02		20
Semester V				02	18	20
Semester VI				02	18	20
	<b>72</b>	<b>04</b>		<b>08</b>	<b>36</b>	<b>120</b>

CC=Core Course; AECC=Ability Enhancement Compulsory Course; GE=Generic Elective; SEC=Skill Enhancement Course; DSE=Discipline Specific Elective

**Table B-3: Sample calculation for SGPA for B.Sc./B.A./B.Com Honours Programme**

Course	Credit	Grade Letter	Grade Point	Credit Point (Credit X Grade)	SGPA (Credit Point/Credit)
<b>Semester I</b>					
C-1	06	A	8	48	
C-2	06	B+	7	42	
AECC-1	02	B	6	12	
GE-1	06	B	6	36	
<b>Total</b>	<b>20</b>			<b>138</b>	<b>6.9 (138/20)</b>
<b>Semester II</b>					
C-3	06	B	6	36	
C-4	06	C	5	30	
AECC-2	02	B+	7	14	
GE-2	06	A+	9	54	
<b>Total</b>	<b>20</b>			<b>134</b>	<b>6.7 (134/20)</b>
<b>Semester III</b>					
C-5	06	A+	9	54	
C-6	06	O	10	60	
C-7	06	A	8	48	
SEC-1	02	A	8	16	
GE-3	06	O	10	60	
<b>Total</b>	<b>26</b>			<b>238</b>	<b>9.15 (238/26)</b>
<b>Semester IV</b>					
C-8	06	B	6	36	
C-9	06	A+	9	54	
C-10	06	B	6	36	
SEC-2	02	A+	9	18	
GE-4	06	A	8	48	
<b>Total</b>	<b>26</b>			<b>192</b>	<b>7.38 (192/26)</b>
<b>Semester V</b>					
C-11	06	B	6	36	
C-12	06	B+	7	42	
DSE-1	06	O	10	60	
DSE-2	06	A	8	48	
<b>Total</b>	<b>24</b>			<b>186</b>	<b>7.75 (186/24)</b>
<b>Semester VI</b>					
C-13	06	A+	9	54	
C-14	06	A	8	48	
DSE-3	06	B+	7	42	
DSE-4	06	A	8	48	
<b>Total</b>	<b>24</b>			<b>192</b>	<b>8.0 (192/24)</b>
<b>CGPA</b>					
<b>Grand Total</b>	<b>140</b>			<b>1080</b>	<b>7.71 (1080/140)</b>

**Table B-4: Sample calculation for CGPA for B.Sc./B.A./B.Com Honours Programme**

Semester I	Semester II	Semester III	Semester IV	Semester V	Semester VI
Credit:20; SGPA:6.9	Credit:20; SGPA: 6.7	Credit:26; SGPA: 9.15	Credit:26; SGPA: 7.38	Credit:24; SGPA: 7.75	Credit:24; SGPA: 8.0

Thus CGPA= (20x6.9+20x6.7+26x9.15+26x7.38+24x7.75+24x8.0)/140=7.71

**Table B-5: Sample calculation for SGPA for B.A./B.Sc./B.Com. Program**

Course	Credit	Grade Letter	Grade Point	Credit Point (Credit X Grade)	SGPA (Credit Point/Credit)
<b>Semester I</b>					
DSC - 1A	06	B	6	36	
DSC - 2A	06	B+	7	42	
DSC - 3A	06	C	5	30	
AECC – 1	02	B	6	12	
<b>Total</b>	<b>20</b>			<b>120</b>	<b>6.0 (120/20)</b>
<b>Semester II</b>					
DSC - 1B	06	B	6	36	
DSC - 2B	06	B	6	36	
DSC - 3B	06	C	5	30	
AECC – 2	02	A+	9	18	
<b>Total</b>	<b>20</b>			<b>120</b>	<b>6.0 (120/20)</b>
<b>Semester III</b>					
DSC - 1C	06	A	8	48	
DSC - 2C	06	A+	9	54	
DSC - 3C	06	A	8	48	
SEC – 1	02	A	8	16	
<b>Total</b>	<b>20</b>			<b>166</b>	<b>8.3 (166/20)</b>
<b>Semester IV</b>					
DSC - 1D	06	C	5	30	
DSC - 2D	06	B	6	36	
DSC - 3D	06	B+	7	42	
SEC - 2	02	A+	9	18	
<b>Total</b>	<b>20</b>			<b>126</b>	<b>6.3 (126/20)</b>
<b>Semester V</b>					
DSE - 1A	06	B	6	36	
DSE - 2A	06	A+	9	54	
DSE - 3A	06	A	8	48	
SEC – 3	02	B	6	12	
<b>Total</b>	<b>20</b>			<b>150</b>	<b>7.5 (150/20)</b>
<b>Semester VI</b>					
DSE - 1B	06	B+	7	42	
DSE - 1B	06	B	6	36	
DSE - 1B	06	C	5	30	
SEC - 4	02	C	5	10	
<b>Total</b>	<b>20</b>			<b>118</b>	<b>5.9 (118/20)</b>
<b>CGPA</b>					
<b>Grand Total</b>	<b>120</b>			<b>800</b>	<b>6.67 (800/120)</b>

**Table B- 6: Sample calculation for CGPA for B.A./B.Sc./B.Com. Program**

Semester I	Semester II	Semester III	Semester IV	Semester V	Semester VI
Credit:20; SGPA: 6.0	Credit:20; SGPA: 6.0	Credit:20; SGPA: 8.3	Credit:20; SGPA: 6.3	Credit:20; SGPA: 7.5	Credit:20; SGPA: 5.9

Thus CGPA= (20x6.0+20x6.0+20x8.3+20x6.3+20x7.5+20x5.9)/120=6.67



## MARKS DISTRIBUTION FOR EXAMINATIONS AND FORMAT OF QUESTION PAPERS

**Marks Distribution of Mid Semester Theory Examinations:****Table No. C1:** Marks distribution of Theory Examinations of Mid Semester

Topic	Code	Full Marks	Pass Marks	Time	Group-A (Very short answer type Compulsory Questions) No. of Questions x Marks = F.M.	Group-B (Descriptive Questions with Choices) No. of Questions x Marks = F.M.	Total No. of Questions to Set	
							Group A	Group B
Mid Sem*	T15	15	6	1 Hr	5 x 1 =5	2 (out of 3) x 5 =10	5	3
	T25	25	10	1 Hr	5 x 1 =5	4 (out of 6) x 5 =20	5	6

**Marks Distribution of End Semester Theory Examinations:****Table No. C2:** Marks distribution of Theory Examinations of End Semester

Topic	Code	Full Marks	Pass Marks	Time	Group-A# (Very short answer type Compulsory Questions) No. of Questions x Marks = F.M.	Group-B (Descriptive Questions with Choices ) No. of Questions x Marks = F.M.	Total No. of Questions to Set	
							Group A#	Group B
End Sem	T60	60	24	3 Hrs	Q.No.1 (10x1) + 1x5 =15	3 (out of 5) x 15 =45	2	5
	T75	75	30	3 Hrs	Q.No.1 (10x1) + 1x5 =15	4 (out of 6) x 15 =60	2	6
	T100	100	40	3 Hrs	Q.No.1 (10x1) + 2x5 =20	4 (out of 6) x 20 =80	3	6
	T50 +T50	50X2=100	20	3 Hrs	2 x 5 =10	2 (out of 3) x 20 =40	2	3

# Question No.1 in Group-A carries 10 very short answer type 1 Mark Questions.

**Marks Distribution of Mid/End Semester Practical Examinations:****Table No. C3:** Marks distribution of Practical Examinations of End Semester

Topic	Code	Full Marks	Pass Marks	Time	Distribution of Marks			Total No. of Questions to Set
					Experiment	Record	Viva	
End Sem	P25	25	10	3 Hrs	15	5	5	
	P50	50	20	3 Hrs	30	10	10	Pr. with components of both papers
	P75	75	30	3 Hrs	45	15	15	Pr. with components of all three papers
	P100	100	40	3 Hrs	60	20	20	Pr. with components of all four papers

**Abbreviations :** T= Theory Examination, P= Practical Examination.

**Mid Sem\*** : There will be 15 Marks Theory Examination in Practical Subjects and 25 Marks Theory Examination in Non-Practical Subjects/ Papers. 25 Marks Theory Examination may include 10 Marks questions from Assignment/ Project/ Tutorial where ever applicable.

**Note** : There may be subdivisions in each question asked in Theory Examinations.

## FORMAT OF QUESTION PAPER FOR MID SEM EXAMINATION

OF

SUBJECTS WITH PRACTICAL



## Ranchi University, Ranchi

Mid Sem No.Exam Year**Subject/ Code****F.M.** =15**Time**=1Hr.**General Instructions:**

समान्य निर्देश :

- i. **Group A** carries very short answer type compulsory questions.  
(खंड 'A' में अत्यंत लघु उत्तरीय अनिवार्य प्रश्न हैं।)
- ii. **Answer 2 out of 3** subjective/ descriptive questions given in **Group B**.  
(खंड 'B' के तीन में से किन्हीं दो विषयनिष्ठ/ वर्णनात्मक प्रश्नों के उत्तर दें।)
- iii. Answer in your own words as far as practicable.  
(यथासंभव अपने शब्दों में उत्तर दें।)
- iv. Answer all sub parts of a question at one place.  
(एक प्रश्न के सभी भागों के उत्तर एक साथ लिखें।)
- v. Numbers in right indicate full marks of the question.  
(पूर्णांक दायीं ओर लिखे गये हैं।)

**Group A**

1. .... [5x1=5]
2. ....
3. ....
4. ....
5. ....

**Group B**

6. .... [5]
7. .... [5]
8. .... [5]

**Note:** There may be subdivisions in each question asked in Theory Examination.

## FORMAT OF QUESTION PAPER FOR MID SEM EXAMINATION

OF

SUBJECTS WITHOUT PRACTICAL



## Ranchi University, Ranchi

Mid Sem No.Exam Year

**Subject/ Code**

**F.M.** =25**Time**=1Hr.

### General Instructions:

समान्य निर्देश :

- i. **Group A** carries very short answer type compulsory questions.  
(खंड 'A' में अत्यंत लघु उत्तरीय अनिवार्य प्रश्न हैं।)
- ii. **Answer 4 out of 6** subjective/ descriptive questions given in **Group B**.  
(खंड 'B' के छः में से किन्हीं चार विषयनिष्ठ/ वर्णनात्मक प्रश्नों के उत्तर दें।)
- iii. Answer in your own words as far as practicable.  
(यथासंभव अपने शब्दों में उत्तर दें।)
- iv. Answer all sub parts of a question at one place.  
(एक प्रश्न के सभी भागों के उत्तर एक साथ लिखें।)
- v. Numbers in right indicate full marks of the question.  
(पूर्णांक दायीं ओर लिखे गये हैं।)

### Group A

- |         |         |
|---------|---------|
| 1. .... | [5x1=5] |
| 2. .... |         |
| 3. .... |         |
| 4. .... |         |
| 5. .... |         |

### Group B

- |          |     |
|----------|-----|
| 6. ....  | [5] |
| 7. ....  | [5] |
| 8. ....  | [5] |
| 9. ....  | [5] |
| 10. .... | [5] |
| 11. .... | [5] |

**Note:** There may be subdivisions in each question asked in Theory Examination.

## FORMAT OF QUESTION PAPER FOR END SEM EXAMINATION

OF

AECC NH + MB COMMUNICATION



## Ranchi University, Ranchi

End Sem No.Exam Year

Subject/ Code

**F.M.** =50**P.M.**=20**Time**=1.5Hrs.

### General Instructions:

- Group A** carries short answer type **compulsory** questions.  
(खंड 'A' में लघु उत्तरीय अनिवार्य प्रश्न हैं।)
- Answer 2 out of 3** subjective/ descriptive questions given in **Group B**.  
(खंड 'B' के तीन में से किन्हीं दो विषयनिष्ठ/ वर्णनात्मक प्रश्नों के उत्तर दें।)
- Answer in your own words as far as practicable.  
(यथासंभव अपने शब्दों में उत्तर दें।)
- Answer all sub parts of a question at one place.  
(एक प्रश्न के सभी भागों के उत्तर एक साथ लिखें।)
- Numbers in right indicate full marks of the question.  
(पूर्णांक दायी ओर लिखे गये हैं।)

### Group A

- ..... [5]
- ..... [5]

### Group B

- ..... [20]
- ..... [20]
- ..... [20]

**Note:** There may be subdivisions in each question asked in Theory Examination.

## FORMAT OF QUESTION PAPER FOR END SEM EXAMINATION

OF

SUBJECTS WITH PRACTICAL



## Ranchi University, Ranchi

End Sem No.Exam Year

**Subject/ Code**

**F.M.** =60**P.M.**=30 (Including Mid Sem)**Time**=3Hrs.

**General Instructions:**

- i. **Group A** carries very short answer type **compulsory** questions.
- ii. **Answer 3 out of 5** subjective/ descriptive questions given in **Group B**.  
(खंड 'B' के पाँच में से किन्हीं तीन विषयनिष्ठ/ वर्णनात्मक प्रश्नों के उत्तर दें।)
- iii. Answer in your own words as far as practicable.  
(यथासंभव अपने शब्दों में उत्तर दें।)
- iv. Answer all sub parts of a question at one place.  
(एक प्रश्न के सभी भागों के उत्तर एक साथ लिखें।)
- v. Numbers in right indicate full marks of the question.  
(पूर्णांक दायीं ओर लिखे गये हैं।)

**Group A**

- |       |       |           |
|-------|-------|-----------|
| 1.    |       | [10x1=10] |
| i.    | ..... | [10x1=10] |
| ii.   | ..... |           |
| iii.  | ..... |           |
| iv.   | ..... |           |
| v.    | ..... |           |
| vi.   | ..... |           |
| vii.  | ..... |           |
| viii. | ..... |           |
| ix.   | ..... |           |
| x.    | ..... |           |
| 2.    | ..... | [5]       |

**Group B**

- |    |       |      |
|----|-------|------|
| 3. | ..... | [15] |
| 4. | ..... | [15] |
| 5. | ..... | [15] |
| 6. | ..... | [15] |
| 7. | ..... | [15] |

**Note:** There may be subdivisions in each question asked in Theory Examination.

## FORMAT OF QUESTION PAPER FOR END SEM EXAMINATION

OF

SUBJECTS WITHOUT PRACTICAL



## Ranchi University, Ranchi

End Sem No.Exam Year

**Subject/ Code**

**F.M.** =75**P.M.**=40 (Including Mid Sem)**Time**=3Hrs.

**General Instructions:**

- i. **Group A** carries very short answer type **compulsory** questions.
- ii. **Answer 4 out of 6** subjective/ descriptive questions given in **Group B**.  
(खंड 'B' के छः में से किन्हीं चार विषयनिष्ठ/ वर्णनात्मक प्रश्नों के उत्तर दें।)
- iii. Answer in your own words as far as practicable.  
(यथासंभव अपने शब्दों में उत्तर दें।)
- iv. Answer all sub parts of a question at one place.  
(एक प्रश्न के सभी भागों के उत्तर एक साथ लिखें।)
- v. Numbers in right indicate full marks of the question.  
(पूर्णांक दायीं ओर लिखे गये हैं।)

**Group A**

- |    |            |           |
|----|------------|-----------|
| 1. |            | [10x1=10] |
|    | i. ....    |           |
|    | ii. ....   |           |
|    | iii. ....  |           |
|    | iv. ....   |           |
|    | v. ....    |           |
|    | vi. ....   |           |
|    | vii. ....  |           |
|    | viii. .... |           |
|    | ix. ....   |           |
|    | x. ....    |           |

- |    |       |     |
|----|-------|-----|
| 2. | ..... | [5] |
|----|-------|-----|

**Group B**

- |    |       |      |
|----|-------|------|
| 3. | ..... | [15] |
| 4. | ..... | [15] |
| 5. | ..... | [15] |
| 6. | ..... | [15] |
| 7. | ..... | [15] |
| 8. | ..... | [15] |

**Note:** There may be subdivisions in each question asked in Theory Examination.

## FORMAT OF QUESTION PAPER FOR END SEM EXAMINATION

OF

GE, SEC, GENERAL &amp; AECC HINDI/ ENGLISH COMMUNICATION



## Ranchi University, Ranchi

End Sem No.Exam Year

**Subject/ Code**

**F.M.** =100

**P.M.**=40

**Time**=3Hrs.

**General Instructions:**

- i. **Group A** carries very short answer type **compulsory** questions.
- ii. **Answer 4 out of 6** subjective/ descriptive questions given in **Group B**.  
(खंड 'B' के छः में से किन्हीं चार विषयनिष्ठ/ वर्णनात्मक प्रश्नों के उत्तर दें।)
- iii. Answer in your own words as far as practicable.  
(यथासंभव अपने शब्दों में उत्तर दें।)
- iv. Answer all sub parts of a question at one place.  
(एक प्रश्न के सभी भागों के उत्तर एक साथ लिखें।)
- v. Numbers in right indicate full marks of the question.  
(पूर्णांक दायीं ओर लिखे गये हैं।)

**Group A**

- |    |            |           |
|----|------------|-----------|
| 1. |            | [10x1=10] |
|    | i. ....    |           |
|    | ii. ....   |           |
|    | iii. ....  |           |
|    | iv. ....   |           |
|    | v. ....    |           |
|    | vi. ....   |           |
|    | vii. ....  |           |
|    | viii. .... |           |
|    | ix. ....   |           |
|    | x. ....    |           |
| 2. | .....      | [5]       |
| 3. | .....      | [5]       |

**Group B**

- |    |       |      |
|----|-------|------|
| 4. | ..... | [20] |
| 5. | ..... | [20] |
| 6. | ..... | [20] |
| 7. | ..... | [20] |
| 8. | ..... | [20] |
| 9. | ..... | [20] |

**Note:** There may be subdivisions in each question asked in Theory Examination.