**Session 22-23**

**First Semester**

**( Deptt of Home Science)**

**Generic Paper**

**Ergonomics**

**Credit Value-4**

**Objectives**

To become aware of the role of ergonomics in work effectiveness and efficiency.

To understand the environmental factors contributing to productivity, safety, control and well being of individual performing the work.

**1. Ergonomics**

* Scope of ergonomics in home and other occupations.
* Nature of work in household and other occupations.
* Interdisciplinary and applied nature of ergonomics as a field of study.
* Man-Machine-Environment system.

**-** Physiological Aspects of Work

- Structure and Function of the muscles.

- Biochemistry of muscle work.

- Physiological factors involved in muscular work.

* Carbohydrates, fats & proteins
* Oxygen
* Cardio-vascular and respiratory system
* Thermo-regulatory system

-Sources of energy for muscular work

* ATP, Energy currency
* CP, Energy reserve
* Food, carbohydrates, fats & proteins

- Static and dynamic muscular effort

- Energy requirement for muscular work and efficiency

- Energy expenditure for different activities

- Endurance and muscular strength

* Dynamometer
* Skill
* Maximal work
* Speed
* Factors affecting physiological reactions doing work
* Workload and Posture

**2. Anthropometry and Biomechanics**

- Definition, scope

- Human body as a system of levers

- Identification and analysis of postures

- Effect of wrong postures on cardio-vascular and muscular skeletal system

- Correct techniques of lifting and carrying weights

- Principles of motion economy

- Design application of Anthropometry

- Work centers

- Equipments and Tools

- Other items of concern/protective use.

**3. Environment**

- Physical

- Heat

* Thermal regulation of the body at rest and during work
* Thermal balance
* Factors responsible for exchange of heat between body and surrounding
* environment.
* Heat stress
* Thermal comfort
* Noise-Music
* Effect of noise, music on productivity and well-being
* Vibrations and its effect on body parts during work with vibrating tools
  + Lighting and Colour
* Atmospheric Pollution
* Psychosocial Environment

**4. Engineering Psychology**

- Man-machine system

- Behavioral and Motivational Factors

6. Ergonomic consideration for the physically challenged

**References:**

1. Haupt, W.Q. and Feinicis, M.E. (1979): Physiology of Movements. Vol. 7. Verlag Publicationa: Berin Spingnt

2. Grandjean, E. (1968): Filling the Task to the Man; A Textbook of Occupational Ergonomies: Taylor and Francis, London.

3. McArdle, D.W. Kalch, F.l. and Katch, V.L (1981 & 1991): Exercise Physiology: 4° Edtian, Henry Kempion Publishers, Baltimore.

4. Chaffin,D.B. and Anderson G.B. (1984): Occupational Biomechanics, John Wiley and Sons.

5. Wells, K. and Luttgens Ksalhryn (1976): Kinesiology: Scientific Basis of Human Molion 6° Edition.

6. Davies, D.R. and Shackleton, V.J. (1975): Psychology of Work, Molunen & Co. LId.

7. Eastman Kodak Company (1986): Ergonomic Design for People at Work, Vol. 1 & 2, Van Nostrand Reinhold New York.

8. borne David (1950): Ergonomics at Work:, John Wiley and Sons, New York, London.

**Session 22-23**

**First Semester**

**( Open for All)**

**( Deptt of Home Science)**

**Generic Paper**

**ENVIRONMENT AND PUBLIC HEALTH**

**Credit Value-4**

**1. Linkages between Environment and Health**

Understanding linkages between Environment and Public Health: Effect of quality of air, water and soil on health. Perspective on Individual health: Nutritional, socio-cultural and developmental aspects, Dietary diversity for good health; Human developmental indices for public health.

**-** Climate Change and Implications on Public Health

Global warming - Agricultural practices (chemical agriculture) and Industrial technologies (use of non-biodegradable materials like plastics, aerosols, refrigerants, pesticides); Manifestations of Climate change on Public HealthBurning of Fossil fuels , automobile emissions and Acid rain.

**2. Diseases in Contemporary Society**

Definition- need for good health- factors affecting health. Types of diseases - deficiency, infection, pollution diseases- allergies , respiratory, cardiovascular, and cancer Personal hygiene- food - balanced diet. Food habits and cleanliness, food adulterants, avoiding smoking, drugs and alcohol. Communicable diseases: Mode of transmission -epidemic and endemic diseases. Management of hygiene in public places - Railway stations, Bus stands and other public places. Infectious diseases: Role of sanitation and poverty case studies on TB, diarrhea, malaria, viral diseases .Non-communicable diseases: Role of Lifestyle and built environment. Diabetes and Hypertension.

**3. Perspectives and Interventions in Public Health**

Epidemiological perspectives — Disease burden and surveillance; Alternative systems of medicine - Ayurveda, Yoga, Unani, Siddha and Homeopathy (AYUSH); Universal Immunization Programme (UIP); Reproductive health-Youth Unite for Victory on AIDS (YUVA) programme of Government of India. Occupational health hazards-physical-chemical and biological. Occupational diseases- prevention and control.

**4. Environmental Management Policies and Practices**

Municipal solid waste management: Definition, sources, characterization collection and transportation and disposal methods. Solid waste management system in urban and rural areas. Municipal Solid waste rules. Policies and practices with respect to Environmental Protection Act, Forest Conservation Act, Wild life protection Act, Water and Air Act, Industrial, Biomedical and E waste disposal rules.

**References**

1. Indian Academy of Paediatrics. (2011). Guidebook on Immunization. mfc bulletin, 45-50.

2. Nandini N, Sunitha N. and Sucharita Tandon, (2007), Environmental Studies, Sapna Book House, Bangalore

3. Michel, Mckinney, Robert and Logan (2007). Environmental Science – Systems & Solutions. Jones & Barlett Publishers, Canada.

4. Minkoff, E., & Baker, P. (2003). Biology Today: An Issues Approach (3 ed.).

5. Park, K. (2011). Preventive and Social Medicine. Benarsi Das Publications, (pp. 16- 19,24-27).

6. Public Health Nutrition in Developing Countries Part-2). Wood head Publishing India.

7. Sadgopal, M., & Sagar, A. (2007, July-September). Can Public Health open up to the AYUSH Systems and give space for People’s views of health and disease?.

8. Sekhsaria, P. (2007). Conservation in India and the Need to Think Beyond 'Tiger vs. Tribal'. Biotropica, 39(5), 575-577.

9. Tyler Miller and Scott E. Spoolman ‘Environmental Science’ (2012) 13th edition First Indian Reprint Chapters 14-17 (total pages 108) Cengage Learning, New Delhi. [www.cengage.co](http://www.cengage.co).

**Session 22-23**

**B.A.First Semester**

**Generic Course**

**( Deptt of Home Science)**

**FAMILY DYNAMICS**

**Credit Vlaue-4**

**Unit I**

The Family—definition functions , types.

Family life cycle- stages and sub stages

Changing trends in India and factors influencing social change, family value, and ideologies,

Family structure.

**Unit-II**

Marriage—Marriage as an institution,

Mate selection—Factors influencing, consideration s of exogamy and endogamy. Changing

Trends, arranged and personal choice of mates.

Marital adjustment areas and factors influencing.

**Unit-III**

Interpersonal relationship within the family—

Family interaction and communication—Importance ,types and methods of improvement.

Areas of adjustment within the family at different stages of family lifecycle.

**Unit IV**

Families with problems—

Families with marital disharmony and disruption, causal factor

Families in distress, violence and abuse, violence against women dowry victimization