

Undergraduate Program in Anthropology

Human Growth and Adaptation

Semester V

Paper No- 12

Marks: 150 (Theory = 75; Internal Assessment = 25; Practical / Project = 50)

Theory

Unit I: Concept of human growth, maturation, differentiation and development

Unit II: Patterns of prenatal (conception till birth) and postnatal (birth till senescence) growth.

Unit III: Methods of studying growth, factors influencing growth, variation from normal growth: catch-up growth, ethnic and gender differences in growth curves

Unit IV: Bio-cultural adaptation to environmental stresses. Ecological rules and their applicability among human being.

Unit V: Homeostasis, thermoregulation and impact of environmental stresses of heat and cold. Multiple stress strain relationship to high altitude.

Unit VI: Problems of over nutrition and under nutrition with special reference to obesity, Kwashiorkor and Marasmus.

Practical

1. Growth monitoring : Somatometry (stature, body weight, waist circumference, hip circumference etc), age recording and grouping, percentile, z-score, height for age, weight for age, BMI for age
2. Obesity assessment: General (BMI, body fat %, Conicity index, body adiposity indices) and regional adiposity indices (WC, WHR, WHtR)
Estimation of fat percentage with skinfold thickness and bioelectric impedance
3. Nutritional epidemiology and Nutritional assessment through
 - I. Dietary pattern (Project)
 - II. Anthropometric indices

Readings:

1. Bogin B. (1999) Patterns of human growth. 2nd edition CUP. Frisancho, R. (1993) *Human Adaptation and Accommodation*. University of Michigan Press. [Unit III (Page: 1-14; 54-97; 268-328; 243-253; 394-396)]
2. Cameron Noel and Bogin Barry. (2012) *Human Growth and Development*. Second edition, Academic press Elsevier. [Unit V and VI (Page 8-19; 25-30; 245-286)]
3. Harrison G.A. and Howard Morphy (ed.) (1998). *Human Adaptation*. Oxford University Press. [Unit IV and V (Page 55-71, 99-141)]
4. Harrison G.A., Tanner JM, Pibeam DR, Baker PT (1988). *Human Biology*. Oxford University Press [Unit IV and V (Page 339-358, 361-369, 377-380, 405-416, 439-445, 450-478, 479-503)]
5. Jurmain Robert, Trevathan Lynnkilgore Wenda. *Essentials of physical anthropology*. Wadsworth publishing 9th edition. [Unit V (Page 96-120)]
6. Kapoor A.K. and Kapoor Satwanti (ed.) (1995) *Biology of Highlanders*. Jammu, Vinod Publisher & Distributor. [Unit IV and V (Page 07-110)]
7. Keller Kathleen (2008). *Encyclopedia of Obesity*. Volume 2. Sage. [Unit VI (Page 536-537) and Practical]
8. Malik S.L. and D.K. Bhattacharya: *Aspects of Human Ecology*. Northern Book Centre, Delhi, 1986. [Unit IV and V]
9. Malina Robert M, Bouchard Claude, Bar-Or Oded. (2004) *Growth, Maturation, and Physical Activity*. *Human Kinetics*. [Unit I, II, III and VI (Page: 3-18; 21-77; 369-577; 651-671)]
10. McArdle William D, Katch Frank I., Katch Victor L (2001) *Exercise Physiology: Energy, Nutrition, and Human Performance*. (Practical)

11. Singh I., Kapoor A.K., Kapoor Satwanti. (1989). Morpho-Physiological and demographic status of the Western Himalyan population. *Human Biology of Asian Highland Populations in the global context* edited by Basu and Gupta. [Unit IV (Page: 105-125)]
12. Sinha Rashmi and Kapoor Satwanti (2009) *Obesity: A multidimensional approach to contemporary global issue*. (Edited volume). Dhanraj Publishers. Delhi. [Unit VI (Page 3-7, 65-81, 143-151, 195-219)]