

Courses of Studies for the M. A. /M. Sc. Anthropology For the Academic Session 2018-2020 Course Scheme

The Post-Graduate course of Anthropology is based on semester system and will have four semesters spread over two years. The course will consist of 20 papers with a total of 80 Credit Hours (hereafter CH). Each semester, consisting of five to six papers shall have maximum 20 CH. The total teaching hours in a semester shall be 35 hours per week. The credit component includes 28 teaching hours (Theory-16 and Practical-12) and the noncredit component includes 11 hours (Tutorial- 4, Proctorial-4 and Seminar-3) per week.

Specialisation Offered:

The course offers two specializations during the third and fourth semesters.

1. AN-BA-Physical/Biological Anthropology
2. AN-SA-Social Anthropology

Students will opt either of these specializations with three compulsory papers and two elective/special papers in each 3rd and 4th semester.

Evaluation:

- 50 per cent theory papers shall be evaluated by external examiners.
- All practicals will be evaluated by external examiner.
- Fieldwork/ Dissertation shall be evaluated internally by the concerned supervising teacher along with other teachers of the Department during the 3rd semester while in 4th Semester it will be evaluated by the external examiner.

The distribution of the total 80 CH over four semesters has been presented below.

FIRST SEMESTER (20 CH)

- AN.C. 411 (4 CH) Social/Cultural Anthropology
- AN.C. 412 (4 CH) Physical/Biological Anthropology
- AN.C. 413 (4 CH) Prehistoric Archeology
- AN.C. 414 (4 CH) Research Methodology
- AN.C. 415 (2 CH) Practical: Physical Anthropology
- AN.C. 416 (2 CH) Practical: Prehistoric Archeology

SECOND SEMESTER (20 CH)

- AN.C. 421 (4 CH) Understanding Society and Culture
- AN.C. 422 (4 CH) Social Exclusion and Inclusive Policy
- AN.C. 423 (4 CH) Tribal Anthropology
- AN.C. 424 (4 CH) Visual Anthropology
- AN.C. 425 (4 CH) Fundamentals of Human Genetics

THIRD SEMESTER (20 CH)

Specialization Course: A. Social Anthropology (AN-SA) Compulsory Courses

- AN-SA.C. 511 (4 CH) Tribal Studies
- AN-SA.C. 512 (4 CH) Theory and Method in Social-Cultural Anthropology

AN-SA.C. 513 (4 CH) Fieldwork

Elective Courses

AN-SA.E. 514 (4 CH) Anthropology of Children and Childhood-I

AN-SA.E. 515 (4 CH) Displacement and Rehabilitation

Specialization Course: B. Physical/Biological Anthropology (AN-BA)

Compulsory Courses

AN-BA.C. 511 (4 CH) Human Genetics

AN-BA.C. 512 (4 CH) Human Biology

AN-BA.C. 513 (4 CH) Fieldwork

Elective Courses

AN-BA.E. 514 (4 CH) Child Development

AN-BA.E. 515 (4 CH) Applied Biological Anthropology- I

FOURTH SEMESTER (20 CH)

Specialization Course: A. Social Anthropology (AN-SA)

Compulsory Courses

AN-SA.C. 521 (4 CH) Anthropological Thought

AN-SA.C. 522 (4 CH) Indian Anthropology

AN-SA.C. 523 (4 CH) Dissertation and Viva Voce

Elective Courses

AN-SA.E. 524 (4 CH) Anthropology of Children and Childhood-II

AN-SA.E. 525 (4 CH) Development Anthropology

Specialization Course: B. Physical/Biological Anthropology (AN-BA)

Compulsory Courses

AN-BA.C. 521 (4 CH) Human Population Genetics

AN-BA.C. 522 (4 CH) Laboratory Based Practical

AN-BA.C. 523 (4 CH) Dissertation and Viva Voce

Elective Courses

AN-BA.E. 524 (4 CH) Growth and Nutrition

AN-BA.E. 525 (4 CH) Applied Biological Anthropology-II

A student opting for Social Anthropology specialization has to select any two of the following elective (E) courses for course number AN-SA.E.514 and AN-SA.E.515 during the third semester and similarly two more elective courses for course number AN-SA.E.524 and AN-SA.E.525 during the fourth semester.

- E1. Anthropology of Children and Childhood-I
- E2. Anthropology of Children and Childhood-II
- E3. Displacement and Rehabilitation
- E4. Development Anthropology

A student opting for Biological Anthropology specialization has to select any two of the following elective (E) courses for course number AN-BA.E.514 and AN-BA.E.515 during the third semester and similarly two more elective courses for course number AN-BA.E.524 and AN-BA.E.525 during the fourth semester.

- E1. Child Development
- E2. Growth and Nutrition
- E3. Applied Biological Anthropology-I
- E4. Applied Biological Anthropology-II

DETAILS OF THE COURSE CURRICULUM

FIRST SEMESTER

AN.C-411 (4CH) Social/ Cultural Anthropology

Introduction: This course is designed to introduce students to the anthropological study of different cultures, including ways of comparing and contrasting the structures of social relationships and belief systems that operate in different cultural settings. It will explore ways of trying to understand the world views and belief systems of other peoples by studying each of those systems in their particular contexts, and then comparing and contrasting different cultures and the contexts in which they are situated.

Objectives:

1. To analyze the basic aims and scope of Social and Cultural Anthropology
2. To evaluate the marriage system and kinship pattern
3. To have an idea of the Economic and Political Organization

Expected Outcome: The students will hereby develop an overview on the different branches of social anthropology and the various aspects of cultural practices in our society

Unit- I: Aim and scope of Social and Cultural Anthropology, History and Development;
Major Areas of Interest: Ethnography, Ethnology, Folklore, Economic Anthropology, Political Anthropology, Psychological Anthropology, Linguistic Anthropology, Medical Anthropology, Urban Anthropology, Visual Anthropology, Applied and Action Anthropology.

Unit-II: Family, Marriage and Kinship

Family: Typology of family; Characteristics of Family, Joint Family System;
Marriage: Types of Marriage, Ways of Acquiring Mates, Laws of Marriage;

Kinship: Principle and Types of Descent and Rules of Residence; Kinship: Terminology; Kinship Usages.

Unit-III: Economic and Political Organization:

Economic Organization: Concept of property; Division of labour; Systems of distribution, gift and ceremonial exchange; reciprocity; redistribution and market; Technology; Foraging, Nomadism, Pastoralism, Transhumance, Horticulture, Swidden/Shifting Cultivation, Terrace Cultivation; Dry and Wet Cultivation; Mixed Farming

Political Organization: Concept; State; Stateless Society; Band, Segmentary Society; Primitive Government: Forms and Functions; Law and Justice; Customary Law;

Unit-IV: Religion: Concept, Origin, Function

Primitive Religion: animism, animatism, bongaism, totemism;

Magic: functions and types; Magico-religious functionaries: shaman, priest, medicine-man, sorcerer, witch; Religion, magic and science comparison.

Books Recommended:

1. Bohannan, Paul. 1971, *Social Anthropology*, New York: Holt Rinehart & Winston.
2. Clifton, A.J.(ed.) 1968, *Introduction to Cultural Anthropology*. Houghton Mifflin
3. Carol R. Ember, Melvin Ember, Peter N. Peregrine, 2010, *Anthropology*, NJ: Prentice Hall.
4. Evans-Pritchard, E.E. 1979. *Social Anthropology*. London: Routledge and Kegan- Paul.
5. Fox, Robin. 1984, *Kinship and Marriage: An Anthropological Perspective*, London: Cambridge University Press.
6. Gluckman, Max. 1965, *Politics, law & Ritual in Tribal Society*, Oxford: Basil Blackwell
7. Goode, J. 1982, *The Family*, New York: Prentice Hall

AN.C-412 (4CH) Physical/Biological Anthropology

Introduction: This paper is structured to give an understanding about the physical anthropology and its application in our life. The course deals with the evolution of human being as is evidenced by fossils discovered in course of time and the position of man in animal kingdom.

Objectives:

1. To provide knowledge about the physical anthropology and its scope and subject matter
2. To classify and describe the place of human being among all living animals and detail their affinity with other non human primates.
3. Different stages of human evolution will also be discussed

Expected Outcome: Students will be able to gain knowledge about the origin and evolution of man and their close relatives in animal kingdom. They will

also understand the various branches of physical anthropology and its use in our life.

Unit-I: Basic Concepts : Subject matters of physical anthropology/Biological anthropology and its scope, Difference from biological , Application of biological anthropology in medicine, forensic science, industries, defense services and genetic counseling.

Unit-II: Distribution, Classification and Characteristics of Order Primate. Living primates: Distribution and characteristics, Primate Evolution with respect to skull, jaw, limb and dentition; Comparison of Man and Ape.

Unit-III: Theories of Organic Evolution: Lamarkism, Neo Lamarkism, Darwinism, Neo Darwinism and Synthetic theories; Principles of Evolution: Convergence, Divergence, Parallelism, Adaptive Radiation and speciation. Evidences in support of Human Evolution, Evidence of human evolution from morphological, anatomical, serological, chromosomal and genetic similarities between human and non-human living primates; Adaptation: Meaning and its evolutionary significance

Unit-IV: Paleoanthropology: Discovery, anatomical features and distribution of Dryopithecene, Australopithecene, Homo-erectus, Hominid Neanderthalensis, Hominid sapien – Chancelade, Cromagnon and Grimaldi

Suggested Readings / Books Recommended:

1. Buettner Janusch, J. 1969. *Origins of Man: Physical Anthropology*. Wiley Eastern Pvt. Ltd., New Delhi.
2. Das B.M. 2008. *Outlines of Physical Anthropology*. Kitab Mahal, New Delhi
3. Boaz N.T. and A.J. Almquist. 1997. *Biological Anthropology – A Synthetic Approach to Human Evolution*. Prentice-Hall, New Jersey, USA.
4. Sarkar, R. M. 2004. *Fundamentals of Physical Anthropology (New Edition)*. Book World.Kolkata.
Anthropology, Eight Edition. Wordsworth Cengage Learning, USA.
London.
5. Shukla B.R.K. & Rastogi, S. 1990. *Physical Anthropology & Human Genetics: An Introduction*. Plaka Prakashan. Delhi.
6. Camilo J. Cela-conde and Francisco J. Ayala(2007) *Human Evolution: Trails from the past*: Oxford University Press.

AN.C-413 (4CH) Prehistoric Archeology

Introduction: The paper brings to light the past cultures through an analysis of artifacts, or materials left behind gathered through excavation. This is in contrast to history, which studies past cultures through an analysis of written records left behind.

Objectives;

1. It highlights the various methods of dating
2. It provides a rough sketch of the cultural chronology
3. It gives a description on the Indus valley civilization

Expected Outcome: Students will have a better understanding on the past of cultures or social classes that had no written history

Unit I: A brief outline on the origin of earth and life and geological time scale; Pleistocene epoch chronology, Pleistocene Glaciations' of Europe, Evidences and Causes of Great Ice Age, Typology and technology: tool making techniques, tool types.

Unit II: Dating methods: absolute and relative dating: stratigraphy, river terraces, dendrochronology, thermoluminescence dating, pollen dating, Glacial varve analysis, potassium-argon method, fluorine dating, C-14 dating.

Unit III: Cultural chronology: Paleolithic, Mesolithic, Neolithic and Megalithic cultures in India and Europe: special salient features of environment, sites and areas, typology, distribution, artifacts and their physical forms.

Unit IV: Indus valley civilization; Copper and Iron Age, features and distribution. Art in Prehistoric period: Home Art and Cave Art, Different Phases of art and their style.

Recommended Readings:

1. Agrawal, D.P. (1995) The Archaeology of India, Curzon Press.
2. Allchin, B. & Allchin, F.R. (1982) The Rise of Civilization of India and Pakistan. Cambridge University Press.
3. Banerjee (1965) Iron Age in India. Munshiram Manoharlal.
4. Sakalia, H.D., New Archaeology – Its Scope and Application to India,
5. Sankalia, H.D. (1964) Stone Age Tools, Families and Techniques. Pune, Deccan College.
6. Sankalia, H.D. Pre- and Proto-history of India and Pakistan. Pune, Deccan College.
7. Burkitt, M.C. 1969. Old Stone Age: Study of Palaeolithic Times.

AN.C-414 (4CH) Research Methodology

Introduction: The aim of the paper is to introduce students to the research methods employed in the anthropology. It deals with qualitative and quantitative methods of data collection and the means to analyze them.

Objectives:

1. An overview of research will be given to the students
2. To make them understand the various types of research designs to meet the goal of the study
3. It aims to acquaint student with the data collection techniques and use of statistics in arriving at a conclusion.

Outcome: Student would be able to design the research with respect to their study goal. The course will be helpful in building their capacity to take up research work in order to enhance their knowledge base.

Unit-I: Research and its Objectives Formulation and selection of a research problem; Objectivity of Research, Qualitative and Quantitative Research: Concept, Characteristics and differences, Research Design: Concept need and features of a research design. Different types of research design: Exploratory, descriptive Diagnostic and experimental research

Unit-II: Research Hypothesis: Types and Characteristics of a good hypothesis; Sampling Design Concept: universe and sample; Criteria for deciding a representative sample. Probability and non-probability sampling: Random, stratified, proportionate, quota, cluster or multistage, purposive and systematic sampling.

Unit-III: Methods of Data Collection Primary and secondary data; Methods of data collection: observation, questionnaire, interview, case study, genealogy, participatory rural appraisal (PRA), and Focused Group Discussion

Unit-IV: Statistics in social Research: Measure of Central Tendency: Mean, Median, Mode; Measure of Dispersion: Mean deviation, Standard deviation Range; Measure of Association-Correlation and Regression.

Suggested Readings:

1. Fetterman, M.D. 1989, *Ethnography: Step by Step*. London: Sage,.
2. Mc cracker, G. 1989, *The long Interview*. London: Sage.
3. Patton, M.Q. 2002, *Qualitative Research and Evaluation Methods*. London: Sage.
4. Kothari, C.R. Research Methodology, Methods and Techniques –Wiley Eastern Limited – New Delhi
5. Silverman, D. 1993, *Interpreting Qualitative Data*. London: Sage.
6. Singha, K. 1993. “Participant Observation and In-depth Interviewing” in B.Y. Attig, et. Al (eds), *Qualitative Methods for Population and Health Research*. Bangkok: Mahidol Univeristy, pp 120-128.
7. Bryman, A. 2008, *Social Research Methods*. 3rd edition Oxford: OUP.

AN.C. 415 (2 CH) Practical: Physical Anthropology

This course will be useful in learning about the variation in body measurement among individuals and identify their body shape and size. Study on skull and other bones will give an understanding of human skeletal system.

1. Somatometry and Somatoscopy: Selected measurements on head, height, breadth, and circumference, indices selected traits on somatoscopy.

2. Osteology and osteometry, Importance of studying human skeletal system in anthropology, Structure-function, classification Axes and planes Skull and mandible (description), Long bones (description and side identification), Vertebral column and girdles, Age and sex differences, Selected measurements and indices.
3. Assessment of Nutritional Status: Body-Mass Index, Conicity Index, Height for Age, Weight for Age and Weight for Height.

Suggested Readings / Books Recommended:

1. Singh I.P. and M.K. Bhasin. 1989. *A Laboratory Manual on Biological Anthropology: Anthropometry*. Kamal-Raj Entreprises, Delhi.
2. Mukherji, D., D. Mukherjee and P. Bharti. 2009. *Laboratory Manual for Biological Anthropology*. Asian Books Pvt. Ltd., New Delhi.
3. Carter, J. and B.H. Heath. 1990. *Somatotyping – Development and Application*. Cambridge University Press, Cambridge.
4. Das, B.M. and R. Deka. 1998. *Physical Anthropology Practical*. Kitab Mahal, Allahabad.
5. Rao, V.K. (Ed.) 1996. *Biostatistics: A Manual of Statistical Methods for use in Health, Nutrition and Anthropology*. Jaypee Brothers Medical Publishers (P) Ltd., New Delhi.

AN.C. 416 (2 CH) Practical: prehistoric archeology

This course will give help the students to know and draw the techniques of manufacture, function of artifacts.

1. Demonstrate the techniques of manufacture, function and social implications of artifacts.
2. Handle stone artifacts, characterizing lower, middle, upper Palaeolithic, Mesolithic and Neolithic periods.
3. Drawing and description of prehistoric tools of Palaeolithic, Mesolithic and Neolithic periods.
4. Periodic maintenance of practical records shall be taken into consideration while awarding grades to the candidates.

SECOND SEMESTER

AN.C. 421 (4 CH) Understanding Society and Culture

Introduction: The central goal of this paper is to educate students about the essential concepts, skills, competencies and knowledge to encourage a process of independent thinking that can be used to explain patterns of behavior, solve problems, and engage in and actively contribute to all levels of society. It will promote an awareness of individuals, groups and institutions and facilitates intercultural understanding and communication.

Objectives:

1. It discusses personal, social and cultural identity and interactions within societies and cultures
2. It brings in an understanding on Basis of stratification and Social progress
3. It analyses the changing dimensions of caste system in India

Expected Outcome: Students will develop an insight to analyze relationships and interactions within and between social and cultural groups

Unit I : Culture: Concept, Definition; Nature of Culture, Characteristics of Culture; Culture Change: Innovation, Diffusion, Acculturation, Assimilation, Attenuation, Integration, Cultural Adaptation; Enculturation and Socialization; Cultural Pattern, Cultural Focus, Cultural System; Culture Shock and Culture Conflict; Cultural Lag, Cultural Relativism.
Culture and Civilization; Meaning and characteristics of Society, Community, Institution, Association and Organization.

Unit II: Social Change: Theories and factors of social change, Processes of social change: Sanskritization, Westernization, Urbanization, Industrialization
Little tradition and great tradition, Universalization and Parochialization.

Unit III: Social Stratification

Basis of stratification, Social Differentiation and Ranking, Social Evolution and Social Progress

Unit IV: Caste system

Meaning and characteristics of caste system in India; Status and Role; Caste, Class and Power in India; Changing dimension of caste; Jajmani System; Social mobility;

Recommended Readings:

1. Evans-Pritchard, E.E. (1951) Social Anthropology. London: Cohen & West
2. Fox, Robin. (1984) Kinship and Marriage. Cambridge University Press
3. Sahlins & Service. (2017) Evolution and Culture. The University of Michigan Press, Ann Arbor.
4. Radcliffe Brown, A.R. (1965) Structure and Function in Primitive Society. Free Press
5. Harris, Marvin. (2006) Cultural Anthropology. Pearson

AN.C. 422 (4 CH) Social Exclusion and Inclusive Policy in India

Introduction: The aim of the paper is understand how social exclusion excludes certain communities from interaction and access to social resources through social arrangements, normative value systems and customs. Such systemic exclusion is reinforced by instrumental exclusion, which is embedded in the economic structure and the macroeconomic policies associated with them.

Objectives:

1. To evaluate the specific cases to Social Exclusion
2. Developing an understanding of discrimination at an empirical level
3. Formulating policies for protecting the rights of these groups and eradicating the problem of exclusion and discrimination.

Expected Outcome: Students will develop conceptualizing discrimination, exclusion and inclusion based on castes/ethnicity and religion.

UNIT-I Social Exclusion: Concept, Meaning and forms of social exclusion, Who is socially excluded and why this matter, Role of culture in social exclusion.

UNIT-II Cases of Social Exclusion: Dalit, ST, Religious minorities, Children, Women, Aged, Physically and mentally challenged people.

UNIT-III Specific areas of Social Exclusion and marginalization: People affected by HIV/AIDS, Displaced people of mega development projects, Poverty leading to social marginalization, Caste system, inequality and social exclusion, Social exclusion and exploitation, Reducing poverty by tackling social exclusion.

UNIT-IV Inclusive Policy: Current policies of protective discrimination, Public policies to reduce social exclusion, Constitutional safeguards, Panchayati Raj and women empowerment, Convention on the Rights of the Child, Sub-plan approach to tribal development, Possible improvement in current policies and strategies relating to weaker section.

Recommended Readings:

1. Thorat, 2006. Social Exclusion in India. Oxford
2. DFID Report.2005. Tackling Poverty by Reducing Social Exclusion
3. Contemporary Society: Tribal Studies (Vol. I to X). New Delhi: Concept Publishing Company
4. Fuchs, S.(1973): The Aboriginal Tribes of India. Delhi: The Macmillan Co. of Ind. Ltd

AN.C. 423 (4 CH) Tribal Anthropology

Introduction: The paper emphasizes the need for the tribal people to come to terms with their own past avoiding danger of pauperism and without creating a sense of inferiority. It stresses on recognizing the role of the tribal people and their culture in the developmental scenario of the nation and need to assist them in reorganizing their life within the developmental framework.

Objectives:

1. To discuss the Tribal rights on forest and land
2. To assess the various tribal problems and the constraints towards tribal education
3. To broadly examine the steps towards sustainable tribal development

Expected Outcome: Students will have a better understanding that neither isolation nor assimilation rather ultimately integration of tribes into the mainstream of national life is a solution towards tribal development

Unit I: The Concept of Tribal Society

Anthropology as a field in understanding tribal society, Concept of Tribe, Tribal situation in India, Tribal Situation in Orissa

Unit-II: Forest and Tribe

Forest-tribe interaction, Deforestation and its impact on tribal population, Tribal rights on forest and land, Role of State and NGOs to protect and promote the tribals

Unit III: Tribal Problems

Major Tribal Problems; Structural constraints to tribal education, Social and economic constraints to their development, Migration.

Unit-IV: Tribal Development

Sustainable Tribal development, Pre-independence and post- independence era of tribal development; Nehru's perspectives on tribal development. PESA Act.

Recommended Readings:

1. Behera, D.K and Georg Pfeffer. Contemporary Society Tribal Studies, Volume I to X. New Delhi: Concept Publishing Company
2. Vidarthy, L.P. (1977) Tribal Culture in India. Concept Publishing House
3. A.K. Pandey. (1997) Tribal Situation in India. New Delhi: Manak
4. Hassnain, Nadim.(1982). Tribal India
5. Bhowmik, K.L. (1971): Tribal India: A Profile in Indian Ethnology. Kolkota: World Press Pvt. Ltd.

AN.C. 424 (4 CH) Visual Anthropology

Introduction: The paper encompasses a much wider study of visual systems. Apart from the depiction of culture by ethnographic film, it is concerned with understanding the production and consumption of various forms of visual cultures and the role of photography and other visual texts in their interpretation.

Objectives:

1. It aims to make learner aware of the vast source of visual stimuli which interpret the culture
2. It discusses role of photography in Ethnographic Research
3. It elaborates the different indigenous kinds of photography and it's documentation through digital work
4. It critically examines the ethical dimensions of ethnographic film

Expected Outcome: Students will be exposed to visual representations often photographs, but also video footage, maps, artifacts, drawings and diagrams.

Unit I: Introducing Visual Culture

What is Visual Culture? Photographic and Digital Media: Still, Interactive and Moving

Unit-II: Ethnographic Photography

Early Ethnographic Photography: Contexts and Trends, Ethnographic Photography: Conventions and Methodologies, Photography in Ethnographic Research

Unit-III: Indigenous Uses of Photography

Different kinds of photography work individually and collaboratively in different contexts, Documentation of personal experiences through photographic and digital work,

Unit-IV: Ethnographic Films

Theoretical issues concerning ethnographic film, ethical dimensions of ethnographic film, Interdependency of technology and culture.

Recommended Readings:

1. Collier, John and Malcolm Collier. 1986: Visual Anthropology: Photography as a Research method. University of New Mexico Press.
2. Pink, Sarah. 2013: Doing Visual Ethnography . Sage Publication.
3. Gundi, El Fatwa. 2004: Visual Anthropology: Essential Method and Theory. Rowmen Altamira
4. Bank, Marcus and Howard Murphy. 1999: Rethinking Visual Anthropology. Yale University Press.
5. Hockings, Paul. 2003: Principles of Visual Anthropology. Mouton de Gruytor
6. Pink, Sarah. 2006: The Future of Visual Anthropology. Routledge
7. Joy, Ruby. 2000. Picturing Culture.
8. Mirzoeff, N. 2008. The Visual Culture Reader, London: Rutledge.

AN.C-425 (4 CH) Fundamentals of Human Genetics

Introduction: This paper will impart knowledge about the genetic constituent of human being. It will deal with the science of inheritance wherein various modes by which transmission of trait from the parents to offspring is accomplished.

Objectives:

1. An overview of human genetics will be given to make learner understand the cell structure and cell division responsible for the growth and reproduction of the species.

2. Mode of transmission of parental characters into offspring will be discussed
3. Human variation and their division into various groups on the basis of morphological and physiological markers will be discussed.

Expected outcome: The student will learn the structure and function of cell and the significance of cell division. Student will be able to understand the inheritance pattern of various traits and the basis for the variation in human population.

Unit I: Meaning and Scope of Human Genetics; Structure and function of Human Cell, RNA and DNA , Genetic Code; Cell Division- Mitosis and Meiosis , significance of cell division.

Unit II: Mendel's law of Inheritance and its application; Pattern of Inheritance- Autosomal-Dominant and Recessive, co- dominance, Sex Linked and Sex Limited inheritance.

Unit III: Methods of Studying Heredity: Twin, Sibs, Pedigree, Family and Adopted child.

Unit IV: Human variation: Morphological, environmental and genetic basis of Human Variation; Concept of Race- UN statement on Race, Distribution and Characteristics of Major races of World-Caucasoid, Mongoloid and Negroid. Classification of Indian population by Risley, Guha and Sarkar. Blood group variation in Human Population- ABO, MN, Rh, and ABH (secretor factor)

Suggested Reading:

1. Buettner Janusch, J. 1969. *Origins of Man: Physical Anthropology*. Wiley Eastern Pvt. Ltd., New Delhi.
2. Das B.M. 2008. *Outlines of Physical Anthropology*. Kitab Mahal, New Delhi
3. Cavalli-Sforza, L., P. Menozzi, and A. Piazza. 1996. *The History and Geography of Human Genes*. Princeton University Press.
4. Klung S. W, M. R.Cummings and C. A. Spencer.2007. *Essentials of Genetics*, Sixth Edition. Pearson Education International. Crawford, M. (Ed). 2006 *Anthropological Genetics*. Cambridge University Press.
6. Cummings, M. R. 2009. *Human Genetics*. Cengage Learning.

THIRD SEMESTER

Specialization Course: A. Social Anthropology Compulsory Courses

AN-SA.C. 511 (4 CH) Tribal Studies

Introduction: The paper aims in helping students to develop skills of analysis for tribal societies and understand their socio-economic status and programmes.

Objectives:

1. To understand the Tribal ethnicity in India
2. To evaluate the various constraints towards tribal education
3. To discuss the different approaches to tribal development

Expected Outcome: Student will be able to gain deeper understanding about tribal culture and their socio economic condition. They will know about the tribal problem and constitutional provision therein.

Unit I Concept of Tribe

Meaning and Characteristics of Tribe, Tribes in India: Classification and Distribution of Tribes based on Economic, Cultural, Linguistic and Racial. Primitive Tribal groups of India/Odisha, Tribal Ethnicity.

Unit II Problems of Tribes

Land Alienation, Indebtedness, Housing, Rise of Radicalism, Migration and Trafficking, Tribal Education: Problems and Prospects, Structural Constraints to Tribal Education. Tribal Health in Orissa/India

Unit III Tribal Economy

Shifting Cultivation, Man-Nature Relationship, Deforestation and its Impact on Tribal, Tribal Craft, Women in Tribal Societies: Their Contribution to Household Economy.

Unit IV Tribal Policy

Constitutional Safeguards for the Tribal, Fifth and Sixth Schedules, The National Tribal Policy in India, Different approaches to tribal development, Sub-Plan Approach, ITDA, Cultural Constraints to Tribal Development
STs and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act. 2006

Recommended Readings:

1. Behera, D.K and Georg Pfeffer. Contemporary Society Tribal Studies, Volume I to X. New Delhi: Concept Publishing Company
2. Vidarthy, L.P. and Rai. (1981) Applied Anthropology in India. Kitab Mahal
3. Vidarrthy.L.P. and B.N. Sahay. (1997) Applied Anthropology and Development in India. New Delhi: National Publishing House

4. Vidarthy, L.P. (1977) Tribal Culture in India. Concept Publishing House
5. A.K. Pandey. (1997) Tribal Situation in India. New Delhi: Manak
6. Vidyut Joshi. Tribal Situation in India. New Delhi: Rawat
7. Ghure, G.S. (1963) :The Scheduled Tribes (3rd Edit.). Bombay: Popular Prakashan

AN-SA.C. 512 (4 CH) Theory and Method in Social-Cultural Anthropology

Introduction: This course will help students to develop an insight into the anthropological theories on growth and development of the culture and society and culture. It also emphasizes the importance of ethnographic research methods, conducted through intensive fieldwork in a single site or in a network of sites

Objectives:

1. It highlights the emergence of Anthropology as an Empirical Discipline
2. It examines the writings of some of the most important thinkers, schools, and debates in the history of anthropological thought.

Expected Outcome: Student will understand various concept and theories regarding growth and development of culture.

Unit I Emergence of Anthropology as an Empirical Discipline; Anthropology as a Social Science; Natural Science and Natural History in Anthropology; Scientific and Historical Methods in Anthropology, Comparative Methods

Unit II Evolutionism

Cultural evolutionism: Unilinear (E.B. Tylor, Morgan, Frazer), Universal (White and Childe) and Multi-linear (Julian Steward)

Unit III Diffusionism

British, German-Austrian and American school of thoughts

Unit IV Functionalism and Structuralism

Malinowski; Structural-functionalism: Radcliffe Brown; Structuralism: Levi Strauss and Leach

Recommended Readings:

1. Barth, Frederik. 1981. *Models of Social Organization*, Royal Anthropological Institute, Occasional Paper-23. London: Routledge and Kegan Paul.
2. Bidney, D. 1964. *Theoretical Anthropology*, New York: Columbia University Press,
3. Childe, V. Gordon. 1963. *Social Evolution*, A.A Watt and Co ltd, 1951, First Meridian printing,
4. Durkheim, E. 1938 (1895). *The Rules of the Sociological Method* (S.Solovay and J. Meuller, trans,) New York: Free Press
5. Geertz, C. 1973. *The Interpretation of Culture*, New York: Basic Books.
6. Kuper, Adam. 1985. *Anthropology and Anthropologists: The Modern British School* (rev. ed.), Boston: Routledge & Kegan Paul.

AN-SA.C. 513 (4 CH) Fieldwork

Each student shall have to undergo training for learning and use of different techniques of scientific data collection during 30 days of fieldwork under the supervision of teachers, as nominated by the head of the department, in a tribal/rural area. The fieldwork for a particular year may be camp-based or non-camp based one depending on the decision of the teachers' council of the department. The exact date of commencement of fieldwork shall be announced by the department. Student failing to complete the fieldwork in a particular year can only clear the paper by completing fieldwork next year. No separate fieldwork shall be arranged for such students during the same semester. There shall be instructional hours or classes per week for every candidate for the preparation of synopsis and questionnaire/schedule for the topic of the study during the semester. Classes shall be taken by the concerned supervisors. The supervising teacher shall be the examiner for the paper. The performance of the candidate will be evaluated on the basis of the field notes and fieldwork performance by the supervising teacher during the fieldwork. The final grading will be done by the supervising teacher at the end of the semester.

Elective Courses for Social Anthropology Specialization (For paper AN-SA.E. 514 and AN-SA.E. 515)

E 1. Anthropology of Children and Childhood-I

Introduction: The paper introduces the students to understand children and childhood across diverse culture. It tries to evaluate the concept of children's identity in our contemporary society.

Objectives:

1. To critically understand children under difficult situations
2. To elaborate the rights of children as per enshrined in United Nation's CRC
3. To address the strategy evolved in the punishment pattern for the children and the various forms of abuse.

Outcome: Student will be aware of the precarious condition in which children are made to live under various socio economic condition. They will also know about children's right and government policies for the betterment of children.

Unit-I: Situation of Children in India

Child labour in India, Female working children, Street children, Impact of poverty and drought on children, Child domestic workers

Unit-II: Children Under difficult Situations

Overburdened school-going children, Growing up in slums, Plight of the girl-child in India, Children in cyber environment.

Unit-III: Rights of the Child

UN Convention on the Right of the Child, What is children's participation? Why should children participate? Children's independent mobility

Unit-IV: Corporal Punishment

Strategy to address the physical punishment and emotional abuse of children,
Strategy to address corporal punishment, National Policy for Children

Recommended Readings:

1. Verhellen, Eugene, 1991. Understanding Children's Right.
2. Verhellen, Eugene, 1981 Monitoring Children's Right.
3. Pfeffer, George & D.K. Behera, 2006. Contemporary Society: Childhood and Complex Order.
4. James, Alison and Allan Prout. 1991 Structuring and Restructuring of Childhood
5. Behera, D.K., 1996. Children and Childhood in our Contemporary Societies.
6. Qvortrup, J. et al. 1995. (Eds), Childhood Matters, Social Theory, Practice and Politics.

E 2. Displacement and Rehabilitation

Introduction: The course aims at highlighting the displacement situation throughout the world with special emphasis on Indian situation

Objectives:

1. To understand the displacement situation and the causes responsible
2. To assess the role of developmental projects in displacement with specific case studies.
3. To discuss the different R&R policies.

Outcome: student will understand the displacement and its consequences to the displaced communities. Policies and approaches to resettlement will also be understood by them

Unit I Basic Concepts of Displacement and Resettlement

R & R – A Global Scenario, R & R – A National Scenario,
A Case Analysis: Irrigation projects, Industrial projects, Hydro-electric project,
Mining project

Unit II Impact of displacement: Socio-cultural, Economic, Psychological, and Environment.
Women in resettlement

Unit III. Policies, Act and Reconstruction Model

National R & R Policies and Act. Planning for Resettler's Recovery by using Risks and Reconstruction Model of Michael Cernea.

Unit IV: Facilitating proper R&R

Identification of PAPs & baseline data collection, Process of Planning R & R,

Minimization of displacement, Valuation of Assets, Monitoring task & Institutional Arrangement. Preparation of RAP with proper budget and action plan, Preparation of Community Development activities for displaced people

Recommended Readings:

1. Fernandes, Walter and Thakria, Enekshi G. 1993., Development, Displacement and Rehabilitation.
2. Gangopadhyay, T. and Mankodi, K.A.1987. , Rehabilitation: The Ecological and Economic Crisis.
3. Keiler, Stephen L.,1997. Uprooting and Social Change.
4. Schdder, T.,2003. The Human Ecology and Big Projects: River Basin Development and Resettlement.

**Specialization Course: B. Physical/Biological Anthropology
Compulsory Courses**

AN-BA.C. 511 Human Genetics

Introduction: This paper deals with the different aspect of human genetics. It will also throw light on the interaction of gene with the physical environment, bringing in an array of the manifestation of the characters.

Objectives:

1. Understanding the human cytogenetic and functioning of various organelles of cell
2. Conceptual understanding of Transmission and transcription of genetic information by DNA
3. Various genetic abnormalities and their transmission into offspring.
4. Expression of traits that are manifested beyond the Mendelian inheritance due to interaction between various genes.

Outcome: With this course student will be able to learn the functioning of human body at the cellular and molecular level. They can comprehend the abnormality in human being due to genetic reason and expression of gene in determining human physical and physiological make up.

Unit I: Difficulties in Subjecting Man for Genetic Investigations, Methods of Studying Heredity: Pedigree Method, Twin Method- Diagnosis of Zygoty, Family, Linkage Studies, Foster child study, Heritability Estimate

Unit II: Genetic Significance of Cell Division, Sex Determination. Karyotype- Normal and abnormal human karyotypes, Chromosomal Abberations-numerical. Structural,

translocation and inversion: Numerical abnormalities in Man – Down's Syndrome, Turner Syndrome, Klinefelter Syndrome, Patau's syndrome and Edward syndrome; structural abnormality-Cri-du-Chat syndrome and Philadelphia chromosome,

Unit III: Structure and Function of DNA, RNA, Proteins, Concept of Gene, Genetic Code and its Expression: Replication, Transcription and Translation. Method of Creating Recombinant DNA, Genetic Engineering, Genome Project

Unit IV: Gene Action: Complementary, Supplementary, Duplicative, Cumulative or Additive Genes. Suppressor and modifier gene, Epistasis, Pleiotropism, Penetrance and Expressivity; Epigenetic inheritance, Multiple allelic Inheritance: Two gene and Three gene hypothesis in ABO Blood Groups.

Suggested Reading:

1. Muller, R. F. And I. D. Young. 2001. *Emery's Elements of Medical Genetics*, 11th Edition. Churchill Livingstone.
2. Crawford, M. (Ed). 2006 *Anthropological Genetics*. Cambridge University Press.
3. Stern, C. 1960. *Principles of Human Genetics*. W.H. Freeman and Co., San Francisco and London
4. Cummings, M. R. 2009. *Human Genetics*. Cengage Learning. USA
5. Bajema, C. J. 1971. *Natural Selection in Human Populations. The Measurement of Ongoing Genetic Evolution in Contemporary Societies*. John Wiley & Sons, Inc. Canada.

AN-BA. C. 512 Human Biology

Introduction: this paper deals with the development and growth of human being during different stages of life. It also talks about the role and requirement of nutrition for the proper functioning of its biological entity.

Objectives:

1. To present the historical perspective in the study on human biology
2. To give an understanding about the growth and development of different phases of human life and the factors affecting their potential.
3. Role of nutrition and nutrient in maintaining body functionality will also be discussed.

Outcome: student will be able to learn about the biological aspect of man and their interaction with the niche where they are living.

Unit I Meaning, scope and development of human biology, major problems in human population biology and the IBP approach.

Unit II Human growth and development: growth from conception to maturity, senescence, differences in physique; Factors affecting growth: Genetic, Environmental, Hormonal, Nutritional and Socio economic.

Unit III Nutritional and diet survey method: nutritional requirement for normal growth from infancy to old age; The energy value of foods: undernutrition, and malnutrition, nutritional adaptation in man; Human adaptation – physiological adaptation to heat, cold and high altitude.

Unit IV; Human hemoglobin synthesis, Hemoglobin Variants-Distribution and inheritance of normal and abnormal Hb types HbA, HbB, HbC, HbE and HbS and Thalassaemia.

Suggested Reading:

1. Bogin, B. 1988. *Patterns of Human Growth*. Cambridge University Press, Cambridge.
2. Mader, S.S. (6th Ed.). 2000. *Human Biology*. Mc Graw Hill, New Delhi.
3. Campbell, N.A , J.B. Reece and E.J. Simon (2nd Ed.)S. 2010. *Essential Biology with Physiology*. Pearsons, New Delhi.
4. Harrison, G.A., J.S. Weiner, J.M. Tanner and N.A. Barnicot. 1964. *Human Biology: An Introduction of Human Evolution, Variation and Growth*. Claredon Press, Oxford.
5. Tanner, J. M. 1978. *Growth at Adolescence*. Blackwell Science Ltd. London.
6. Lasker, G. W. and C. G. N. Mascie-Taylor (Ed.). 1993. *Research strategies in human biology: field and survey studies*. Cambridge University Press, Cambridge.
7. Weiss, K. M. 1993. *Genetic variation and human disease: Principles and evolutionary approaches*. Cambridge University Press, Cambridge.

AN-SA.C. 513 (4 CH) Fieldwork

Each student shall have to undergo training for learning and use of different techniques of scientific data collection during 30 days of fieldwork under the supervision of teachers, as nominated by the head of the department, in a tribal/rural area. The fieldwork for a particular year may be camp-based or non-camp based one depending on the decision of the teachers' council of the department. The exact date of commencement of fieldwork shall be announced by the department. Student failing to complete the fieldwork in a particular year can only clear the paper by completing fieldwork next year. No separate fieldwork shall be arranged for such students during the same semester. There shall be instructional hours or classes per week for every candidate for the preparation of synopsis and questionnaire/schedule for the topic of the study during the semester. Classes shall be

taken by the concerned supervisors. The supervising teacher shall be the examiner for the paper. The performance of the candidate will be evaluated on the basis of the field notes and fieldwork performance by the supervising teacher during the fieldwork. The final grading will be done by the supervising teacher at the end of the semester.

Elective courses for Physical/Biological Anthropology Specialization

(For Paper AN-BA. E. 514 and AN-BA. E. 515)

E 1. Child Development

Introduction: Children are very sensitive to biological and environmental stimulus which shape their growth and development. The course aims to acquaint student with various factors that affect the intra and extra uterine development of child.

Objectives:

1. To give an understanding about the differential pattern of growth and development of preterm and post term children.
2. Determinants of growth during this phase will be discussed
3. To understand the growth deficit, methods to assess the growth during this period will also be a part of the learning.

Outcome: Student will be able to learn the variation in the growth and development of preterm and post term children and the factors influencing them. They will also learn the assessment of growth faltering at specific periods.

Unit I: Introduction to the field of child development and principles of development .Extra-uterine growth of pre-term and small for gestational age children. Factors influencing birth weight: maternal anthropology, nutrition and socio-economic status.

Unit II: Infant feeding and growth: Breast feeding, bottle feeding and weaning foods. Growth and Development during infancy. Factors influencing infant growth.

Unit III: Motor skills: Milestones, functions and sequences of the motor skill development. Endocrinological regulation of postnatal growth

Unit IV: Assessment of growth retardation of children born on term and pre-term. The creation and use of growth references for evaluating growth.

Suggested Reading:

1. Lamb M.E. Lamb, Marc H. Bornstein, Douglas M. Teti 2002. Development in Infancy: An Introduction . Lawrence Erlbaum Associates

2. Emde R. N., John K. Hewitt 2001 *Infancy to Early Childhood: Genetic and Environmental Influences on Developmental Change*. Oxford University Press,
3. Masteni A.S. 1999. *Cultural Processes in Child Development* .Lawrence Erlbaum Associates,
4. Hurlock,E.B. : 1981. *Developmental Psychology: A life span Approach*. Tata Mcgraw-Hill Publishing Company Ltd, New Delhi
5. Cole, M. and S. Cole 1989. Child Development. Scientific American Library
6. Penn,Helen 2005.*Understanding Early Childhood: Issues and Controversies*. Open Univ Press.

E 2. Applied Biological Anthropology-I

Introduction: this course is to give a view of physiological composition of body and their response to various social, physical and environmental activities. It aims to give an understanding about the physiological functioning of the body.

Objective:

1. To provide a detail about the changes in physiology of body with age
2. The physiological response of body to various activities will be discussed
3. Impact of Genetic and environmental factors upon body shape and size will be elaborated

Expected Outcome: Students will be able to understand the physiology of human body and their role in aiding normal and specialized activities performed by the body. It will also be helpful in enhancing their knowledge about the working of their vital organs and its relevance in the maintenance of healthy life.

Unit I Meaning and scope of biological anthropology, Structure, function and physiological changes of various body parts according to age.

Unit II Testing of pulmonary, circulatory and muscular changes during rest and exercise according to age, sex, occupation.

Unit III Heredity and environment in body dimensions – relationship of different types of sports efficiency and different body proportions.

Unit IV Blood pressure: age and sex variation; Human body composition: body density, lean body mass and body fat, muscular strength, work capacity ; Ecological, ethnic/racial and genetic variation of body shape and size.

Suggested Reading:

1. Forbes, GB Human 1987. *Body Composition Growth, Aging, Nutrition, and Activity*. Springer-Verlag New York
2. Heyward, VH; D.R.Wagner 2009. *Applied body Compositon Assessment*. Human Kinetic.
3. Davson.Hugh, Eggleton, M Grace. Lea & Febiger 1968.*Principles of Human Physiology* .
4. Vander, Arthur J; Sherman, James H,Luciano, Dorothys 1978. *Human Physiology: The Mechanisms of Body Functions*. Me Graw-Hill Education.
5. Hale,Tudor (2003). *Exercise Physiology* . John Wiley & Sons Inc, England.
6. Damon, A.(Ed.). 1975. *Physiological Anthropology*. Oxford University Press, London.
7. Shephard, R. J. 1991. *Body composition in biological anthropology*. Cambridge University Press, Cambridge.

FOURTH SEMESTER

Specialization Course: A. Social Anthropology Compulsory Courses

AN-SA.C. 521 (4 CH) Anthropological Thought

Introduction: The course aims at introducing the learners on the theoretical dimensions of symbolic and psychological anthropology. Further the students are oriented on history and development of anthropology in India through different theoretical developments.

Objectives:

1. Holistic understanding on the symbolic and culture and personality school of thought.
2. Critically examine the contribution of Indian Anthropologists.
3. Discuss theory on Post-Modern Anthropology.

Outcome: The course will make student knowledgeable about different thoughts that have been propounded by the scholars in understanding the culture and the personality.

Unit: I Science and Humanity in Social Anthropology; Humanistic Tradition and Social Anthropology;

Unit: II Symbolic and Interpretative Anthropology: Victor Turner, Schneider and Clifford Geertz; Mary Douglas

Unit: III Culture and Personality School of Thought: Mead and Benedict Basic Personality: Ralph Linton, A. Kardiner and Cora-du-Bois, Post-Modern Anthropology: Contribution of Raheja, Apadurai, Bruno, Bordeu

Unit: IV Contributions to Indian Studies S.C. Roy, D.N. Majumdar, V. Elwin, L.P. Vidyarthi, M.N. Srinivas, S.C. Dube, G.S. Ghurey, N.K. Bose.

Suggested Readings / Books Recommended:

1. Durkheim, E. 1938 (1895). *The Rules of the Sociological Method* (S.Solovay and J. Meuller, trans,) New York: Free Press
2. Geertz, C. 1973. *The Interpretation of Culture*, New York: Basic Books.
3. Gluckman, M. 1949. *An Analysis of the Sociological Theories of Bronislaw Malinowski*. New York and London: Oxford University Press
4. Harris, M. 1969. *The Rise of Anthropological Theory*, London: Routledge and Kegan Paul.
5. Honnigman, J. J. (Ed). 1997, *A Hand Book of Social and Cultural Anthropology*, Vol-II, University of North Carolina, New Delhi: Rawat Publications.
6. Kroeber, A. L. 1953. *Anthropology Today: An Encyclopedic Inventory*. Chicago
7. Kuper, Adam. 1985. *Anthropology and Anthropologists: The Modern British School* (rev. ed.), Boston: Routledge & Kegan Paul.

AN-SA.C. 522 (4 CH) Indian Anthropology

Introduction: The paper aims to focus on the various social problems in our contemporary societies. It further highlights the unity of different cultures in spite of the prevalence of diversity.

Objectives:

1. It discusses the status of women in our changing society
2. It examines the different social problems in our society
3. It evaluates the traditional Indian social structure

Outcome: Learner of this course will understand the diversity in Indian culture and the changes therein that have taken place in course of time.

UNIT-I	Major Socio-cultural changes Joint Family System, Status of Women in India, Jajmani System, Modernity and Weakening of Caste System
UNIT-II	Major Social Problems Poverty, Unemployment, Crime, Drug Addiction; Welfare Schemes, Programmes, Government Organizations and Voluntary Organizations
UNIT-III	Unity and diversity in Indian society and culture: linguistic, political, ethnic, communal and religious tensions and conflicts; national integration.
Unit IV	Basis of traditional Indian social structure and life cycle: varnasharam dharma, purushartha, Indian village as a peasant society; Studies of rural and peasant societies, Tribe –caste and folk urban continuum

Recommended Readings:

1. Kothari, Rajni (ed.), 1985. *Caste in Indian Politics*. Orient Longman,
2. Mandelbaum, D.G., 1970, *Society in India*, Berkeley: University of California Press
3. Singh, Y. 1994, *Modernization of Indian Tradition*, Jaipur: Rawat Publications
4. Evans-Pritchard, E.E. 1979. *Social Anthropology*. London: Routledge and Kegan- Paul.
5. Fox, Robin. 1984, *Kinship and Marriage: An Anthropological Perspective*, London: Cambridge University Press.

AN-SA. C. 523 Dissertation and Viva Voce

The dissertation shall be based on the data collected by the candidate in the course of a month-long fieldwork conducted during third semester. Dissertation is to be prepared by the student under the supervision of the concerned teacher. The student is required to submit the dissertation through the supervising teacher to the Head of the Department for its evaluation at least fifteen days in advance of the date notified for examination. The dissertation shall be evaluated by an external examiner in consultation with the internal examiner (the supervising teacher). The candidate shall be awarded grade both by the internal and external examiners on the basis of his/her dissertation and performances in the viva-voce.

Elective Courses for Social Anthropology Specialization (For paper AN-SA. E. 524 and AN-SA. E. 525)

E 3. Anthropology of Children and Childhood-II

Introduction: The course helps the students for a better understanding of children without childhood. It further tries to unearth the situation of children in the modern 21st century.

Objectives:

1. To understand the dynamics that positively and negatively influences children
2. To examine children's creativity and competency in the digital world
3. To discuss the concept of a child researcher and its role as a social actor

Outcome: Students will become more sensitive to the cause of children and their vulnerability under certain circumstances.

Unit I Childhood in Changing Context

Concept of child researcher, Child as a social actor, Influence of Dual-Career Family on the Youth in Urban India

Unit II Children in 21st Century

Children's Creativity, Children's Competency, Children's Use of Social Space

Unit III Child Abuse

HIV/AIDS Affected Children, Children Affected by Armed Conflict, Child Sex Workers,

Unit IV Children without Childhood

Invisible Little Big Work Force, Children and migration, Impact of Poverty and Drought on Children

Recommended Readings:

1. Verhellen, Eugene, 1991. Understanding Children's Right.
2. Verhellen, Eugene, 1981 Monitoring Children's Right.
3. Pfeffer, George & D.K. Behera, 2006. Contemporary Society: Childhood and Complex Order.
4. James, Alison and Allan Prout. 1991 Structuring and Restructuring of Childhood
5. Behera, D.K., 1996. Children and Childhood in our Contemporary Societies.
6. Qvortrup, J. et al. 1995. (Eds), Childhood Matters, Social Theory, Practice and Politics.

E.4 (4 CH) Development Anthropology

Introduction: This course is aimed at acquainting students with the anthropological approaches toward the development of communities. It also talks about the planning process that need to be sensitive to the culture of people.

Objectives:

1. To provide knowledge about the development and the policies related to them.
2. To give insight into anthropological approach to development

Outcome: A better understanding about the Anthropological approach to development will be gained by the students.

Unit I Development: Meaning and evolution of the concept: Indices and measurements of development; Development theories and Models.

Unit II Applied, Action and Development Anthropology: Meaning, scope and the emerging trends; Contributions of anthropology to development studies; Development studies' contribution to anthropological thought and method.

Unit III Policy and Planning: Concept of planning; formulation of policy and strategy – phases, targets, regions, resources and people.

Gender issues in development, Sustainable development: Environment, natural resources, peoples' concerns and needs.

Unit IV Participatory approach in development; Anthropological perspectives and data in development planning; Conflict in people centered and programme centered paradigms.

Recommended Readings:

1. Zamara, D. Mario, 1998. *Perspectives on Cultural Change and Development*.
2. Vorhies *et al.*, 1988. *The Politics of Hunger*.
3. Rogers Everll, 1987. *Communication and Development: Critical Perspectives*.
4. Chambers Robert, 1999. *Rural Development*.
5. Kapoor & Singh, 1987. *Rural Development through NGOs*.
6. Vidyarthi, L.P. 1982. (Ed.), *Applied Anthropology in India*.

Specialization Course: B. Physical/Biological Anthropology

Compulsory Courses

AN-BA. C. 521. Human Population Genetics

Introduction: Human population genetics is aimed at presenting an overview of genetic variation within and between the populations. These variations have the potential to lead evolutionary changes with the underlying anthropogenic and environmental forces.

Objectives:

- Student will be given the conceptual clarity on the gene pool and gene frequency relevant for their statistical application in ensuring variation within and between population with respect to various characteristics
- Understanding the causes leading to changes in the gene frequency.
- It will also deal with the maintenance of polymorphic genes in the population and their differential fitness to human population.

Outcome: A broad understanding about genetic variation, imparting specific characteristics to the population will be developed. Students will be able to learn the social and environmental forces like mating pattern, selection and migration in bringing in changes in the population genetic structure.

Unit I : Scope of human population genetics, its relevance in anthropology; concept of gene frequency and gene pool. Population structure and genetic structure. Mendelian population as the ultimate endogamous unit of population genetic study. Population structure in India. Role of social divisions and heirarchy in genetic isolation. Models of isolation and reproductive isolates.

Unit II : Models to study gene flow – ‘island’ model, ‘diffusion’ model, ‘isolation by distance’ model. Mating system: Random mating or panmixis, nonrandom mating or selective mating/ preferential or assortative mating. Inbreeding and outbreeding. Inbreeding coefficient, inbreeding depression, homozygosis and heterozygosis.

Unit III : Principles of genetic equilibrium, Hardy-Weinberg law and its application, causes for changes in gene frequencies in a population: mutation, hybridization, genetic drift and selection.

Unit IV :Genetic polymorphism – Balanced and transient polymorphism with reference to Haemoglobins-Sickle cell gene and Thalesemia, Red cell enzymes-Haptoglobin, G6PD. Inborn error of metabolism- biochemical pathways and inheritance of Phenylketonuria (PKU), Alkaptonuria, Galactosemia and Albinism.

Suggested Reading:

1. Gardener, A.; R. T. Howell and T. Davies. 2008. *Human Genetics*. Viva Books Private Limited, New Delhi.
2. Tamarin, R. H. 2002. *Principles of Genetics*. Tata Mc Graw-Hill Edition.
3. Gelehrort, T.D, F. S. Collins and D. Gineburg.1998.*Princeples of Medical Genetics*. Williams & Wilkins, USA
4. Malhotra, K.C. & ISHG, Calcutta, Statistical Methods in Human Population Genetics, IBRAD, ISI.
5. Templeton, AR. 2006. *Population Genetics and Micro-evolutionary Theory*. Wiley Liss, New York.
6. Daniel Hartl & A.G. Clark 1997. *Principles of Population Genetics* Sinaver Associates, Inc.

AN-BA. C. 522 Laboratory Based Practical

This paper is divided into two groups with the first being broadly based on the human and population genetics followed by craniometry, osteometry and dermatoglyphics.

GROUP A

The Objective of Group A is to provide hand on practice to the theoretical knowledge of the student. They will be able to learn the method of detection of genetic disorders like sickle

cell and colour blindness along with the estimation of gene frequency in the given population.

1. Advanced practical in serology: ABO, MN, and Rh systems,
2. ABH secretion in the saliva
3. Hemoglobin estimation
4. Sickle cell trait detection
5. PTC and colour-blindness
6. Midphalangial hair, Hypertrichosis of the ear
7. Estimation of allele frequencies for autosomal genes- Rh and MN loci
8. Estimation of allele frequencies for sex-linked genes- Colour blindness locus
9. Estimation of allele frequencies for multiple allelic locus-ABO blood group locus
10. Statistical test for equilibrium frequencies
11. Pedigree analysis

GROUP B

This paper is meant to teach student, variation between the individuals with respect to several measurements on skull, mandible and other bones. Human variation is also apparent with respect to dermatoglyphic features which students are to perform on various individuals.

1. Basic instruments especially used for craniometry and osteometry; Craniometric measurements: About 30 measurement taken directly covering linear, transverse, arcs, chords and circumference measurements on crania.
2. Measuring directly and indirectly at least 5 angles on crania. Calculation of at least two cranial indices. Observations of a few traits on crania: supra orbital ridges, pterion, nuchal lines.
3. Mandibulometry: At least 8 direct measurements on mandibles, teeth
4. Dermatoglyphics: Topography of palm and sole, Methods of taking palm, finger and sole printings, Galton and Henry systems of analysis - Dermatoglyphic patterns on fingers and palm, Main Line Formulae and indices, atd and other angles

Suggested Reading

1. Mukherji, D., D. Mukherjee and P. Bharti. 2009. *Laboratory Manual for Biological Anthropology*. Asian Books Pvt. Ltd., New Delhi.
2. Rao, V.K. (Ed.) 1996. *Biostatistics: A Manual of Statistical Methods for use in Health, Nutrition and Anthropology*. Jaypee Brothers Medical Publishers (P) Ltd., New Delhi.
3. Malhotra, K. C. (Ed.) 1988. *Statistical Methods in Population Genetics in India*. ISI, Kolkata.
4. Mohanty, D. And R. Colah. 2008. *Laboratory Manual for screening, Diagnosis and Molecular Analysis of Haemoglobinopathies and Red Cell Enzymopathies*. Bhalani Publishing House, Mumbai

5. Chatterjee S.K.1967. *Finger, Palm and Sole Print*. Calcutta,17. Lake Avenue.
6. Singh, I.P. and Bhasin, M.K. 1968. *Anthropometry*. Kamala Raj Enterprises , New Delhi

AN-BA. C. 523 Dissertation and Viva Voce

The dissertation shall be based on the data collected by the candidate in the course of a month-long fieldwork conducted during third semester. Dissertation is to be prepared by the student under the supervision of the concerned teacher. The student is required to submit the dissertation through the supervising teacher to the Head of the Department for its evaluation at least fifteen days in advance of the date notified for examination. The dissertation shall be evaluated by an external examiner in consultation with the internal examiner (the supervising teacher). The candidate shall be awarded grade both by the internal and external examiners on the basis of his/her dissertation and performances in the viva-voce.

Elective Courses for Physical/Biological Anthropology Specialization

(For paper AN-BA. E. 524 and AN-BA. E. 525)

E 3. Growth and Nutrition

Introduction: The paper is structured to give an understanding about the development and growth of human being and the nutritional factors that influences it.

Objectives:

1. To give the broad view of stages of growth and the underlying features of each stage of growth
2. Nutritional requirement for the proper development and its associated problems would have to discuss.
3. Vulnerability of various population groups is to be understood.

Outcome: with this course students will be able to understand the relationship between growth, development and nutritional requirement. They will be able to take up research in growth studies. The details of the paper are as follows

Unit I Human growth and development: pre-natal and post-natal- definition; history of growth studies; pattern of growth: Infancy, childhood Juvenile, adolescence, adulthood, senility- human growth curves; - basic methods of growth studies-cross sectional; longitudinal, mixed longitudinal

Unit II Factors for/against growth – Genetics of growth, heredity and environment, concept of age – chronological, skeletal, dental, morphological and based on body size; changing human growth patterns, secular trend.

Unit III Nutrition: Socio-cultural attributes of foods, hot, cold, preferences and avoidances, nutrition, nutrients: malnutrition, undernutrition, overnutrition, obesity. Nutrients: Types, functions and their uses, Health problems related to various Nutrient deficiencies, special problems related to growth and nutrition (Kwashiorker, Marasmus, Thyroid, and Cretinism).

Unit IV Groups at risk: infants, pregnant and lactating mothers , old age problems, birth weight variation. Determinants of nutritional levels: anthropometrics, clinical signs, biochemical test

Suggested Reading:

1. Tanner,J.M. 1990. *Fetus into Man: Physical Growth from Conception to Maturity*. Harvard Uni Press, Cambridge.
2. Malina, Robert M; Bouchard, Claude, Bar-Or, Oded 2004. Growth, maturation & physical activity. Human Kinetics.
3. Noel, Cameron (2002). *Human growth and development* St. Louis, Academic Press.
4. Bogin, Barry (1999). Patterns of human growth . Cambridge University Press.
5. Harrison, GA;Tanner, JM; Pilbeam, DR; Baker PT (1988). *Human biology: An introduction to human evolution, variation, growth & adaptability..* Oxford, England, Oxford University Press.
6. S Park K. (2007) *Text book of Preventive and Social Medicine*. Banarsidas Bhanot, Jabalpur.

E. 4. Applied Biological Anthropology-II

Introduction: The paper acquaints the learner with the application of Biological Anthropology in our life. Apart from application of blood group compatibility it will also broaden the knowledge about genetic counseling, gene-manipulation/genetic engineering for the improvement of people's life and population.

Objectives:

1. To understand the relevance of blood groups and its practical application in the life of human being
2. Interaction of gene and physical environment in the expression of characteristics

3. Understanding genetic disorders and their management.

Outcome: Students will gain a better understanding of individual being as a unitary system of gene and its environment. The details of the course are as follows

Unit I Compatible and incompatible mating in respect to ABO and Rh. blood groups and their consequences.

Unit II Gene and environment interaction: Twin studies, Heredity environment interaction – different approaches.

Unit III Eugenics: Historical perspective, Methods of positive and negative eugenics: Genetic engineering, Medico legal application of human genetics

Unit IV Society and genetic diseases: Knowledge, attitude and curing practices. Genetic counseling approaches.

Suggested Reading:

1. Relethford, John. H. 1996. *Fundamentals of Biological Anthropology*, (Third Ed).. Me Graw-Hill.
2. Mielke, J.H, L. N. Konigsherg, JH Relethford 2004. *Human Biological Variation* . Oxford University Press.
3. Jonathan Marks. Aldine. *Human Biodiversity: Genes, Race and History* (Foundations of Human Behaviour)
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