

PANJAB UNIVERSITY CHANDIGARH



CHOICE BASED CREDIT SYSTEM

(CBCS as per UGC Guidelines)

For B.Sc. (Honours) 2018-19,
Anthropology (1st-6th Semester)

CURRICULUM FOR UNDERGRADUATE COURSES **UNDER CHOICE BASED CREDIT SYSTEM**

On the initiative of the University Grants Commission (UGC) to bring about qualitative improvements in the national higher education system, Choice-Based Credit System (CBCS) is being introduced. The main feature of the CBCS is to make undergraduate education student-centric rather than system-centric or teacher-centric. For achieving these objectives, the CBCS strives to create a holistic syllabus. Thus in addition to dedicated focus on a discipline through core papers whether in an honours curriculum or a regular curriculum, elective papers have been added which will give students the freedom to choose the allied/applied/broad areas of their discipline and also the areas of other disciplines of their interest. Further, in keeping with the vision of the Government, special emphasis has been given to ability enhancement and skill development of students through elective courses under these domains which every student is required to study. However, in keeping with the spirit of CBCS, the students will have complete freedom to choose these courses from a pool suggested by the UGC/Universities. These courses aim to provide a paradigm shift to bridge an increasing gap between an undergraduate degree and employability.

The courses are defined in terms of learning objectives and focus more on intended learning outcomes. The methodology of teaching-learning comprises lectures/tutorials/ laboratory work/field work /outreach activities/project work/seminars and term papers/assignments/ presentations/self-study or a combination of these. All papers except core papers offer complete freedom to the Universities in designing and reviewing the syllabi and enable them to offer their own distinct flavor and maintain their unique character. These elective papers provide them with the opportunity to develop competencies of students in their areas of strength, expertise and specialization. Even in the core papers under the proposed guidelines 30% flexibility is proposed in adopting the syllabus as per the template advised by the UGC. It is pertinent to point out that as per the existing education policy different institutions and universities are required to maintain 70% equivalence in the syllabi of core courses and the same is being maintained under the proposed system of CBCS.

The main advantages of this system include: **1.** Shift in focus from the teacher-centric to student-centric education. **2.** CBCS allows students to choose inter-disciplinary, intra-disciplinary courses, skill oriented papers (even from other disciplines according to their learning needs, interests and aptitude) and more flexibility for students. **3.** CBCS makes education broad-based and at par with global standards. One can take credits by combining unique combinations. For example, Physics with Economics, Microbiology with Chemistry or Environment Science etc. The courses will be evaluated following the grading system suggested by UGC as the uniformity in the grading system will benefit the students to move across institutions both within India and across countries.

Credit Scheme

1. **Core Course:** (14) A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
2. **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the proficiency/skill is called an Elective Course.
 - 2.1 **Discipline Specific Elective (DSE) Course** (4): Elective courses offered under the main discipline/subject of study is referred to as Discipline Specific Elective.
 - 2.3 **Generic Elective (GE) Course** (6): An elective course chosen from an unrelated discipline/subject, with an intention to seek exposure beyond discipline/s of choice is called a Generic Elective. The purpose of this category of papers is to offer the students the option to explore disciplines of interest beyond the choices they make in Core and Discipline Specific Elective papers.
3. **Ability Enhancement Courses (AEC):** The Ability Enhancement (AE) Courses may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). “AECC” courses are the courses based upon the content that leads to Knowledge enhancement; i. Environmental Science and ii. English/Hindi/MIL Communication. These are mandatory for all disciplines. SEC courses are value-based and/or skill-based are aimed at providing hands-on-training, competencies, skills etc.
 - 3.1 **Ability Enhancement Compulsory Courses (AECC):** (2) Environmental Science, English Communication/Hindi Communication/MIL Communication.
 - 3.2 **Skill Enhancement Courses (SEC)** (2): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge and should contain both theory and lab/hands-on/training/field work. The main purpose of these courses is to provide students life-skills in hands-on mode so as to increase their employability. The list provided under this category are suggestive in nature and each University has complete freedom to suggest their own papers under this category based on their expertise, specialization, requirements, scope and need.
4. **Credits** For the purpose of computation of work-load the following mechanism may be adopted:

1 Credit = 1 Theory period of one hour duration
1 Credit = 1 Practical period of two hour duration

The credit(s) for each theory paper/practical will be as per the details given below

I. <u>Core Course (6 Credits) (14 Papers)</u>	14×4= 56
Core Course Practical (14 Papers)	14×2= 28
II. <u>Elective Course (6 Credits) (8 Papers)</u>	
A.1. Discipline Specific Elective (4 Papers)	4×4=16

A.2. Discipline Specific Elective Practical (4 Papers)	4 × 2 = 8
B.1. Generic Elective/ Interdisciplinary (6 Papers)	6 × 4 = 24
B.2. Generic Elective Practical (6 Papers)	6 × 2 = 12

III. Ability Enhancement Courses

1. **Ability Enhancement Compulsory Courses (AECC) (2 Papers of 2 credit each)**
2 × 2 = 4

Environmental Science English/Hindi/MIL Communication

2. **Skill Enhancement Courses (SEC) (Minimum 2)** 2 × 2 = 4
(2 Papers of 2 credits each)

Total credit **152**

A student can opt for more number of Elective and AE Elective papers than proposed under the model curriculum. However the total credit score earned will not exceed 160 credits.

Obtaining 24 credits in the concerned discipline will be deemed sufficient to satisfy a requirement for admission to the M.Sc. course of that particular discipline.

PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM
FOR B.Sc Honours

Semester	CORE COURSE (14)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (2)	Elective: Discipline Specific DSE (4)	Elective: Generic (GE) (6)
II	C 1	(English/Hindi/MIL Communication)/ Environmental Science			GE-1 OPTIONAL
	C 2				GE-2 OPTIONAL
III	C 3	Environmental Science/(English/ Hindi/MIL Communication)			GE-3 OPTIONAL
	C 4				GE-4 OPTIONAL
I	C 5		SEC -1		GE-5 OPTIONAL
	C 6				
	C 7				
V	C 8		SEC -2		GE-6 OPTIONAL
	C 9				
	C 10				
V	C 11			DSE-1 OPTIONAL	
	C 12			DSE -2 OPTIONAL	
VI	C 13			DSE -3 OPTIONAL	
	C 14			DSE -4 OPTIONAL	

B.Sc. (Honours) Anthropology

Under the Framework of Honours School System

PANJAB UNIVERSITY, CHANDIGARH

**OUTLINES OF TESTS, SYLLABI AND COURSES OF READING FOR
CHOICE BASED CREDIT SYSTEM B.Sc. (HONOURS) ANTHROPOLOGY
UNDER THE FRAMEWORK OF HONOURS SCHOOL SYSTEM
(SEMESTER SYSTEM) EXAMINATION, 2018-19**

OUTLINES OF TESTS

OBJECTIVE OF THE COURSE

To teach the basic & fundamental concepts of Anthropology and their applications. The syllabus pertaining to B.Sc. (Honours) Anthropology (3 Year course & 6 Semesters) in the subject of Anthropology under Honours School Framework has been upgraded as per provision of the UGC module for CHOICE BASED CREDIT SYSTEM and demand of the present academic environment. The syllabus contents are made in such a way as to meet the needs of the international academic world. As Anthropology is a fieldwork science & due consideration has been given to various fieldwork techniques in this syllabus.

Semester I

CORE COURSE (ANTHROPOLOGY)

Theory Papers:

Core Course-1 (C 1): Introduction to Biological Anthropology 100 Marks (4 credits)

Core Course-2 (C 2): Introduction to Socio-cultural Anthropology 100 Marks (4 credits)

Practicals:

Core Course-1 Practical (C 1 Lab): Introduction to Biological Anthropology 50 Marks (2 credits)

Core Course-2 Practical (C 2 Lab): Introduction to Socio-cultural Anthropology 50 Marks (2 credits)

GENERIC ELECTIVE (ANTHROPOLOGY)

Theory Papers:

Each student from other disciplines may opt any two of the generic electives offered by the Science Departments of Panjab University out of following:

Generic Elective -1 (ANTH- CGE-1) 100 Marks (4 credits)

Generic Elective -2 (ANTH- CGE-2) 100 Marks (4 credits)

Practicals:

Generic Elective -1 Practical (ANTH- CGE-1 Lab) 50 Marks (2 credits)

Generic Elective -2 Practical (ANTH- CGE-2 Lab) 50 Marks (2 credits)

EVALUATION

1. There shall be one Mid Term Examination of 20% Marks (20 marks) in each semester.
2. End-semester examination will be of 80% of total marks (80 marks).
3. Each practical examination shall be of 3 hours duration.
4. There shall be continuous internal assessment for practicals of 20% marks (10 marks).
The final examination will be of 80% marks (40 marks).

Pattern of end-semester question paper

- (i) Nine questions in all with equal weightage (16 marks). The candidate will be asked to attempt five questions
- (ii) One Compulsory question (consisting of short answer type questions) covering whole syllabus. There will be no choice in this question.
- (iii) The remaining eight questions will have **Four Units** comprising two questions from each Unit.
- (iv) Students will attempt one question from each unit and the compulsory question.

ABILITY ENHANCEMENT COMPULSORY COURSE FOR ANTHROPOLOGY STUDENTS

Each student of Anthropology Department has to opt one Ability Enhancement Compulsory Course of the following:

1. English Communication (2 credits)
2. Environmental Science (2 credits)

PREAMBLE

The Department of Anthropology was established in 1960. During the last five decades, the department has not only grown in terms of personnel, equipment and laboratories, and library, it has contributed significantly to the furtherance of anthropological teaching and research in the country.

Infrastructure and Laboratories facilities for teaching and research are available in Anthropology: These include Osteology, Serology and Bio-chemical Anthropology, Palaeoanthropology and Prehistoric Archaeology, Dermatoglyphics, Forensic Anthropology, Radiology, Photographic and Sound Recording as well as Computers. The unique 'Museum of Man' in the Department has a Gallery of Fossil Apes, Primates and Man which includes life-size models, and an Ethnographic Gallery which includes items of material culture. The Dewan Bahadur Wali Ram Taneja Gold Medal is awarded annually to the student who stands first with a first division in M.Sc. (H.S.).

From the year 2006, Prof. (Dr.) S.R.K. Chopra memorial scholarship has been instituted and is awarded to the students who tops B.Sc. (H.S.) An oration award in the name of Prof. S.R.K. Chopra has also been instituted.

Fieldwork is organized by the Department where students are given instructions in the field and research methods and based on the empirical work they write dissertations. The Department was recognized as one of the centers under U.G.C. Programme of Special Assistance and Departmental Research Support in 1989, this programme was extended up to 2009. The Department has also been selected for support under U.G.C. assistance for strengthening of the infrastructure of the Humanities and Social Science (ASIHSS) Programme in Anthropology for a period of five years, i.e., 01-04-2005 to 30-03-2010. From 2010-2011, the Department was granted FIST-DST and is also a U.G.C. Centre for Advanced Studies (CAS) in Anthropology.

The subject of Anthropology has a wide scope in terms of job perspectives. The students passing out from this Department are absorbed in Government Institutions and Laboratories such as ICMR, ICAR, Home Science Colleges, Medical Institutes, Forensic Science Labs, Anthropological Survey of India, Archaeological Survey of India, Science and National Museums, NGOs and in Corporate Sector etc.

COURSE STRUCTURE

SEMESTER I		SEMESTER II	
C1	ANTH-C1: Introduction to Biological Anthropology	C3	ANTH-C3: Archaeological Anthropology
C2	ANTH-C2: Introduction to Socio-Cultural Anthropology	C4	ANTH-C4: Fundamentals of Human Origin & Evolution
AECC1	ANTH-AECC1: English	AECC2	ANTH-AECC2: Environmental Science
GE1*	ANTH- C-GE1: Introduction to Anthropology	GE2*	ANTH- C-GE2: Biological Anthropology

SEMESTER III		SEMESTER IV	
C5	ANTH-C5: Tribes and Peasants in India	C8	ANTH-C8: Theories of Culture and Society
C6	ANTH-C6: Human Ecology: Biological & Cultural Dimensions	C9	ANTH-C9: Human Growth and Development
C7	ANTH-C7: Biological Diversity in Human Populations	C10	ANTH-C10: Research Methods
SEC			
SEC1	Environmental Science	SEC2	English/MIL Communication
GE5*	ANTH-GE-5 Fundamental of Palaeoanthropology	GE6*	ANTH-GE-6 Human Growth & Human Genetics

SEMESTER V		SEMESTER VI	
C11	ANTH-C11: Human Population Genetics	C13	ANTH-C13: Forensic Anthropology
C12	ANTH-C12: Anthropology in Practice	C14	ANTH-C14: Anthropology of India
DSE1 or DSE 2	ANTH- DSE-1: Human Genetics ANTH-DSE-2: Demographic Anthropology	DSE5 or DSE 6	ANTH-DSE-5: Physiological Anthropology ANTH-DSE-6: Visual Anthropology
DSE3 or DSE 4	ANTH- DSE-3: Paleoanthropology ANTH-DSE-4: Tribal Culture of India	DSE7 or DSE 8	ANTH- DSE-7: Anthropology of Health DSE-8: Dissertation

C: Core Courses; GE: General Elective; AECC: Ability Enhancement Compulsory Courses; SEC: Skill Enhancement Courses; DSE: Discipline Specific Elective

***: GE subjects are to be selected by the students from the pool of GE Subjects offered by various Departments of the University.**

B.Sc. (Hons) Anthropology

****SKILL ENHANCEMENT COURSES (any one per semester in semesters 3-4)**

1. ANTH- SEC1: Environmental Science
2. ANTH- SEC2: English/MIL Communication

****DISCIPLINE SPECIFIC SUBJECTS (any two per semester in semesters 5-6)**

1. ANTH- DSE-1: Human Genetics
2. ANTH- DSE-2: Physiological Anthropology
3. ANTH- DSE-3: Paleoanthropology
4. ANTH- DSE-4: Tribal Cultures of India
5. ANTH- DSE-5: Visual Anthropology
6. ANTH- DSE-6: Anthropology of Health
7. ANTH- DSE-7: Demographic Anthropology
8. ANTH- DSE-8: Dissertation (in Semester VI only)

****Courses under these will be offered only if a minimum of 10 students opt for the same**
GENERIC ELECTIVE SUBJECTS (Offered by Anthropology Department) for
students of other departments for the session 2018-19.

Semester	Paper No.	Title of Paper
I	ANTH- C-GE-1	Introduction to Anthropology
II	ANTH- C-GE-2	Biological Anthropology
III	ANTH-GE-5	Fundamental of Palaeoanthropology
IV	ANTH-GE-6	Human Growth & Human Genetics

Outlines for Semester II will be same as for Semester I

A Department will run a particular Generic Elective Course only if the minimum number of students opting for that course is 10.

Year	Semester	Paper No.	Title of Paper
First	I	ANTH-C1	Introduction to Biological Anthropology
		ANTH-C2	Introduction to Socio-cultural Anthropology
	II	ANTH-C3	Archaeological Anthropology
		ANTH-C4	Fundamentals of Human Origin & Evolution
Second	III	ANTH-C5	Tribes and Peasants in India
		ANTH- C6	Human Ecology: Biological & Cultural dimensions
		ANTH- C7	Biological Diversity in Human Populations
	IV	ANTH- C8	Theories of Culture and Society
		ANTH- C9	Human Growth and Development
		ANTH- C10	Research Methods
Third	V	ANTH- C11	Human Population Genetics
		ANTH- C12	Anthropology in Practice
	VI	ANTH- C13	Forensic Anthropology
		ANTH- C14	Anthropology of India

CORE PAPERS

ANTH-C1: Introduction to Biological Anthropology **Marks: 100(80+20)**
Credits- 4

Total Lectures: 60

Theory

***Objective:** (The course is designed to teach basics and fundamentals of biological anthropology and its scope. The course aims to sharpen the skills of the students so that they can explain biological diversity observed in human species. The students will learn about primate and human evolution, primate behavior and racial diversity amongst the human populations. Seminars, hands on training, practicals and Workshops form an integral part of this course)*

Unit I:

History and development of understanding human variation and evolutionary thought.
Theories of evolution.

1. Human variation and evolution in ancient times pre-19th and post-19th Century.
2. Theories of evolution. Lamarckism, Neo Lamarckism, Darwinism, Synthetic theory, Mutation and Neo-Mutation theory.

Unit II:

History of Physical Anthropology and development of Modern Biological Anthropology, aim, scope and its relationship with allied disciplines.

1. Difference in the approaches of modern and traditional Biological Anthropology, with emphasis on human evolution.

Unit III:

Non human primates in relation to human evolution

1. Classification and characteristics of living primates.
2. Comparative anatomy and behaviour of human and non-human primates.
3. Significance of non-human primate study in Biological Anthropology.

Unit IV:

Great divisions of humanity

1. A comparative account of various racial classifications (Hooton, Deniker, Risley and Guha)
2. UNESCO Statement on Race.
3. Recent understanding of human biological categories in the context of human genome research.

C1-Lab:Practical
Total Lectures:60

Marks: 50(40+10)
Credits-2

Introduction to Human Osteology

Applications of Osteology in Anthropological Studies, Detailed morphology of Human Skull (Norma Verticalis, Norma Lateralis, Norma Frontalis, Norma Occipitalis, Norma Basalis and long bones (Humerus, Ulna, Radius, Femur, Tibia, Fibula)

Somatometry

- | | |
|--------------------------------|---------------------------------------|
| 1. Maximum head length | 9. Physiognomic facial height |
| 2. Maximum head breadth | 10. Morphological facial height |
| 3. Minimum fronta breadth | 11. Physiognomic upper facial height |
| 4. Maximum bizygomatic breadth | 12. Morphological upper facial height |
| 5. Bigonial breadth | 13. Head circumference |
| 6. Nasal height | 14. Stature |
| 7. Nasal length | 15. Sitting height |
| 8. Nasal breadth | 16. Body weight |

Somatосcopy

- | | | | |
|-------------|----------------|----------------|----------------|
| 1 Head form | 2. Hair form | 3. Facial form | 4. Eye form |
| | 6. Hair colour | | |
| 5 Nose form | | 7. Eye colour | 8. Skin colour |

Suggested Readings

1. Jurmain R., Kilgore L., Trevathan W., Ciochon R.L. (2012). *Introduction to Physical Anthropology*. Wadsworth Publ., USA
2. Kroeber A. L. (1948). *Anthropology*. Oxford & IBH Publishing Co., New Delhi.
3. Stanford C., Allen J.S. and Anton S.C. (2010). *Exploring Biological Anthropology. The Essentials*. Prentice Hall Publ, USA.
4. *Statement on Race: Annotated Elaboration and Exposition of the Four Statements on Race* (1972). Issued by UNESCO. Oxford University Press.

ANTH-C2: Introduction to Socio-Cultural Anthropology

Marks: 100(80+20)

Credits-4

Total Lectures: 60

Theory

Objective: (This is a foundation course in social cultural anthropology conveying to students the meaning of the key concepts and to familiarize the students with the elementary concepts of the discipline. It conveys the basic categories which have emerged due to comparison of groups and institutions in the global context particularly the simpler societies. This knowledge will help better appreciation of the materials in human understanding in social relations. Seminars, hands on training, and Workshops form an integral part of this course.)

Unit I:

Anthropological perspective and orientation; Scope and relevance of Social Anthropology; Cultural Anthropology; Relationship of Social Anthropology with Sociology

Unit II:

Concepts of society and culture; status and role; groups and institution, social stratification, and civil society

Unit III:

Social fact; social action; social conflict; social system

Unit IV:

Theory and practice of ethnographic fieldwork; survey research; comparative and historical methods

C2-Lab:Practical

Marks: 50(40+10)

Total Lectures:60

Credits-2

Methods and Techniques of Social Anthropology: The practical will include the following techniques and methods in collection of data in Social Anthropology.

1. Observation
2. Interview
3. Questionnaire and Schedule
4. Case study
5. Life history

Suggested Readings

1. Beattie J. (1964). *Other Cultures*. London: Cohen & West Limited.
2. Bernard H.R. (1940). *Research Methods in Cultural Anthropology*. Newbury Park: Sage Publications.
3. Davis K. (1981). *Human Society*. New Delhi: Surjeet Publications.
4. Delaney C. (2004). 'Orientation and disorientation' In *Investigating Culture: An Experiential Introduction to Anthropology*. Wiley-Blackwell.
5. Ember C. R. et al. (2011). *Anthropology*. New Delhi: Dorling Kindersley.
6. Ferraro G. and Andreatta S. (2008). In *Cultural Anthropology: An Applied Perspective*. Belmont: Wadsworth.
7. Karen O'reilly. (2012). 'Practical Issues in Interviewing' *Ethnographic Methods*. Abingdon: Routledge
8. Lang G. (1956). 'Concept of Status and Role in Anthropology: Their Definitions and Use. *The American Catholic Sociological Review*.17(3): 206-218
9. O'reilly K. (2012). *Ethnographic Methods*. Abingdon: Routledge.
10. Parsons T. (1968). *The Structure of Social Action*. New York: Free Press
11. Rapport N. and Overing J. (2004). *Key Concepts in Social and Cultural Anthropology*. London: Routledge.
12. Royal Anthropological Institute of Great Britain and Ireland (1971). 'Methods' In *Notes and Queries on Anthropology*. London: Routledge & Kegan Paul Ltd.*****

ANTH-C3: Archaeological Anthropology

Marks: 100(80+20)

Credits-4

Total Lectures: 60

Theory

Objective: (The paper gives an idea about the importance of study of artifacts in Anthropology. This course introduces the students the dating methods and geochronology of the Pleistocene Epoch. The paper introduces methodological techniques and anthropological interpretation of the human past through material culture. This course is primarily a survey of European cultural development as seen through prehistoric records. The practical training, hands on practice and archaeological field works are integral part of this course).

Unit I:

Introduction

- Definition and scope of archaeological anthropology
- Relation with other disciplines
- Methods of studying archaeological anthropology

Unit II:

Methods of Estimation of Time and Reconstruction of the Past

- Absolute dating methods
- Relative dating methods
- Methods of climatic reconstruction: palynology, paleontology, soil pH estimation.

Unit III:

Geochronology of Pleistocene Epoch

- Glacial and Interglacial
- Pluviation and Inter Pluviation
- Different types of geoclimatic events

Unit IV:

Understanding Culture

- Technique of tool manufacture and estimation of their relative efficiency
- Classification of tools: primary and combination fabrication techniques
- Typology and cultural nomenclature

Earliest Evidence of Culture in the World

- Konso, Olorgesailie, Olduvai Gorge
- Pirro Nord, Dmanisi
- Attirampakkam, Isampur

C3-Lab:Practical

Total Lectures: 60

Marks: 50(40+10)

Credits-2

Typo-technological Analysis of Prehistoric Tools: Identification, Interpretation and

Drawings of the tool Types

1. Core Tool Types
2. Flake Tool Types
3. Blade Tool Types
4. Microlithic Tool Type
5. Neolithic Tool Type

Suggested Readings

1. Allchin and Allchin (1993). *The Rise of Civilization of India and Pakistan*. Cambridge University Press
2. Bhattacharya D.K. (1978). *Emergence of Culture in Europe*, Delhi, B.R. Publication.
3. Bhattacharya D.K. (1979). *Old Stone Age Tools and Techniques*. Calcutta, K.P. Bagchi Company
4. Bhattacharya D.K. (1996). *Palaeolithic Europe*. Netherlands, Humanities Press.
5. Champion et al. (1984). *Prehistoric Europe*. New York, Academic Press.
6. Fagan B.M. (1983). *People of Earth: An Introduction*. Boston, Little, Brown & Company.
7. Phillipson D. W. (2005). *African Archaeology*. Cambridge, Cambridge University Press.
8. Sankalia H.D. (1964). *Stone Age Tools*. Poona Deccan C

ANTH-C4 Fundamentals of Human Origin & Evolution

Marks: 100(80+20)

Credits- 4

Total Lectures: 60

Theory

Objective: (This paper introduces Palaeoanthropology- one of the major branches of biological anthropology to the budding anthropologists. It instills evolution of life through Ages, by means of the imprints that were left behind by various organisms along with the process therein. It will follow the faunal/floral remains of the Siwalik system- an imperative home to the terrestrial fossil deposits of South Asia. The students will learn identification of various Siwalik formations, methods of collecting fossils and recording information in the field. The course provides basic training in different chemical and mechanical methods of preparation of fossils, molding and casting and photographic techniques. Palaeoanthropological field work is an integral part of this course.)

UNIT-I

Introduction to Palaeoanthropology – definition, scope, objectives and its relationship with other scientific disciplines. Fossils and their preservation and their use in Palaeoanthropology

UNIT-II

Methods of estimation of time and reconstruction of the past: Relative dating methods; Absolute dating methods. Life through the ages, with special reference to Cenozoic Era.

Siwalik Group: Classification, age, lithological and characteristic, Fauna (especially primates)

UNIT-III

Primate origins and radiation with special reference to Mio-Pliocene Hominoids. Diagnosis, description and distribution through time and space of Lorisids (*Nycticeboides*), Adapids (*Indraloris* and *Sivaladapis*), Cercopithecoids (*Theropithecus*); Hominoids (*Krishnapithecus*, *Sivapithecus*, *Gigantopithecus* in brief).

UNIT-IV

Distribution, features and phylogenetic relationships, in brief, of Australopithecines (*A. ramidus*, *A. africanus*), Homo (*H. habilis*; *H. erectus*), Neanderthals and Archaic *Homo sapiens*.

C4-Lab:Practical

Marks: 50(40+10)

Total Lectures:60

Credits- 2

Methods of collecting fossils: Where to look for fossils and how to collect them; Recording information in the field (Field diary & Field Catalogue Register); Washing and Screening Processes.

Identification of various Siwalik Formations. Identification of various rock types (granite, basalt, dolomite, conglomerate, sandstone, limestone, quartzite, chert and flint, etc.)

Preparation of fossils: Mechanical and Chemical treatment. Moulding and casting of fossils (basics only); Illustration and photography of fossils.

Identification and description of major mammalian groups.

Note: Students will be taken for the palaeoanthropological field-work where possible.

Suggested Readings

- Buettner-Janusch, J (1969): *Origins of Man*, Wiley Eastern Pvt. Ltd, New Delhi.
- Clark, Le Gros (1959): *The Antecedents of Man*, Edinburgh University Publication, Edinburgh.
- Gaur, R. (1987): *Environment and Ecology of Early Man in Northwest India*, BR Publishing Corporation, Delhi.
- Jurman R. et al (1998): *Essentials of Physical Anthropology*. 3rd Edition, Wadsworth Publishing House, N.Y.
- Kummel, (1961): *History of the Earth: An Introduction to Historical Geology*. San Francisco: Freeman
- Kummel, B. and Raup, D, (1970): *Handbook of Palaeontological Techniques*. San Francisco: Freeman
- Lewin, R. (1999): *Human Evolution: An Illustrated Introduction*. Massachusetts: Blackwell Science.
- Poirier, Frank E. and Mckee JK. (1999): *Understanding Human Evolution*, 4th Ed. Prentice Hall, Upper Saddle River, New Jersey
- Stirton, R.A. Time, (1967): *Life and Man*, John Wiley, N.Y.
- Szaley, F.S. and Delson, E. (1979). *Evolutionary History of the Primates*. New York: Academic Press
- Vashisht, R.N. (1985): *Antecedents of Early Man in Northwest India*. Inter-India Publications.
- Wadia, D.N. (1992): *Geology of India and Burma*. New Delhi: CBS Publishers.

ANTH-C 5: Tribes and Peasants in India

Marks: 100(80+20)

Credits- 4

Total Lectures: 60

Theory

Unit I:

Anthropological Concept of Tribe
Problems of nomenclature, definition and classification.
Features of tribes in India.

Unit II:

Tribes and Wider world.
The history of tribal administration; Constitutional safeguards
Draft National Tribal Policy, Issues of acculturation assimilation and integration.
Impact of development schemes and programme on tribal life.

Unit III:

Anthropological Concept of Village
The concept of peasantry.
Approaches to the study of peasants – economic, political and cultural.
Characteristics of Indian village: social organization; economy and changes.
Caste system and changes.

Unit IV:

Ethnicity Issues: Tribal and peasant, movements; Identity issues

C5-Lab: Practical

Marks: 50(40+10)

Total Lectures: 60

Credits- 2

Reading of Ethnography: Students are required to read and analyze any two of the ethnographies (as listed below) and prepare a report based upon it. The report should clearly link up the study with the concept of tribe and peasantry and delineate clearly the concept used in the text.

1. Research questions/objectives of the study and their relevance.
2. Theoretical schema.
3. Methods and techniques used in the study.
4. Key findings and their significance in the context of the objectives of the study.
5. Critical analysis of the finding on the basis of contemporary available resources.

List of Ethnographies:

- Walker A. (1986). *The Todas*. Delhi : Hindustan Publishing Corporation Verrier Elwin (1992). *The Muria and their Ghotul*. USA: Oxford University Press.
- Malinowski M. (1922). *Argonauts of the Western Pacific*. London: Routledge and Kegan Paul Ltd.
- Furer-Haimendorf C.V. (1939). *The Naked Nagas*. London: Methuen and Co.
- Evans-Pritchard E.E. (1940). *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People*. Oxford : Clarendon Press.
- Majumdar D. N. (1950). *Affairs of tribes*. Lucknow: Universal Publishers Ltd.
- Dube S.C. (1955). *Indian Village*. London: Routledge and Kegan Paul Ltd.
- Berreman G.D. (1963). *Hindus of the Himalayas*. Berkeley: California University Press.
- Nature-Man-Spirit complex LPV

Suggested Readings

1. Gupta D. (1991). Social Stratification. Oxford University Press: Delhi.
2. Madan V. (2002). The Village in India. Oxford University Press: Delhi.
3. Nathan D. (1998). Tribe-Caste Question. Simla: IAS.
4. National Tribal Policy (draft). (2006). Ministry of Tribal Affairs. Government of India.
5. Patnaik S.M. (1996). Displacement, Rehabilitation and Social change. Inter India Publication, Delhi.
6. Shah G. (2002). Social Movement and the State. Delhi: Sage.
7. Shanin T. (1987). Peasants and Peasantry. New York, Blackwell.
8. Vidyarthi L.P. and Rai B.K. (1985) Tribal Culture in India, New Delhi, Concept Publishing Company.
9. Wolf E. (1966). Peasants. NJ, Prentice Hall.

ANTH-C6: Human Ecology: Biological & Cultural Dimensions

Marks: 100(80+20)

Credits-4

Total Lectures: 60

Theory

Biological Dimensions

Unit 1:

Concepts in Ecology: Definition, ecosensitivity adaptation, acclimation, acclimatization, biotic and abiotic component.

Methods of studying human ecology.

Unit II:

Adaptation to various ecological stresses; Ecological rules and their applicability to human populations.

Impact of urbanization and industrialization on Man.

Unit III:

Culture as a tool of adaptation; Various modes of human adaptation in pre-state societies.

Hunting and food gathering

Pastoralism

Shifting cultivation

Unit IV:

Ecological themes of state formation: i. Neolithic revolution, ii. Hydraulic civilization

Agriculture and peasantry; Industrial civilization and growth of urban societies

C6-Lab:Practical

Total Lectures:60

Marks: 50(40+10)

Credits-2

Biological Dimensions

Size and Shape

Measurements

. Stature . Total Lower Extremity Length

. Sitting Height . Nasal Breadth

. Body Weight . Nasal Height

. Total Upper Extremity Length

Size and Shape Indices

. Body Mass Index . Relative Upper Extremity Length

. Ponderal Index . Relative Total Lower Extremity Length

. Relative Sitting Height . Nasal Index

Cultural Dimensions

1. Make a research design pertaining to any environmental problem and do a project based on it.

Suggested Reading

1. Human ecology: biocultural adaptation in human communities. (2006) Schutkowski, H. Berlin. Springer Verlag.
2. Human ecology and cognitive style: comparative studies in cultural and physical adaptation. (1976).Berry, J.B. New York: John Wiley.
3. Human ecology. (1964) Stapledon. Faber & Faber.
4. Studies in Human Ecology. (1961) Theodorson, G.A. Row, Peterson & Company Elmsford, New York.
5. Human ecology: (1973) Problems and Solutions. Paul R. Ehrlich, Anne H. Ehrlich and John P. Holdress. W.H. Freeman & Company, San Francisco.
6. Cohen, Yehudi A. 1968. Man in adaptation; the cultural present. Chicago: Aldine Pub. Co.
7. Redfield, Robert. (1965). Peasant society and culture an anthropological approach to civilization. Chicago [u.a.]: Univ. of Chicago Press.
8. Symposium on Man the Hunter, Richard B. Lee, and Irven DeVore. 1969. Man the hunter. Chicago: Aldine Pub. Co.

ANTH-C7: Biological Diversity in Human Populations

Marks: 100(80+20)

Credits-4

Total Lectures: 60

Theory

Unit I:

Concept of Biological Variability; Race; Hardy-Weinberg Law; Sources of Genetic Variation; Structuring Genetic Variation; Interpretation of Human Variation, Genetic Polymorphism (Serological, Biochemical and DNA Markers); Human Adaptability – Adaptive Mechanisms determining the types of adaptation.

Unit II:

A critical appraisal of contribution of Risley, Guha, Rickstett and Sarkar towards understanding ethnic elements in the Indian populations.

Pre and Proto historic racial elements in India. Linguistic classification of Indian population.

Unit III:

Role of Bio-cultural Factors

Cultural Biology; Bio-cultural factors influencing the diseases and nutritional status. Evolution of Human diet, biological perspectives of ageing process among different populations.

Unit IV:

Demographic Perspective

Demographic Anthropology; Sources of Demographic Data, Demographic Processes, Demographic profile of Indian populations and its growth structure; Inbreeding and Consanguinity – Biological consequences of inbreeding, frequency of inbreeding in world populations; Methods of counselling.

Genetic diversity among Indian Population

C7-Lab:Practical

Total Lectures:60

Marks: 50(40+10)

Credits-2

1. Craniometric Measurements (Skull & Mandible)
2. Determination of A1, A2, B, O; M N; and Rh (Test with five Anti-Rh sera) blood groups of ten subjects.
3. Analysis and interpretation of finger ball pattern types, palmar main lines and pattern index; Finger print classification and development of chance prints and statistical treatment of the data collected (Ten Subjects)
4. Collection of demographic data from secondary sources.

Suggested readings:

1. Baker P.T. and J.S. Weiner (ed.) (1996) *The Biology of Human Adaptability*. Oxford & New York, Oxford University Press.
2. Bhende A. and T. Kantikar (2006) *Principles of Population Studies*. Himalayan Publishing House, Mumbai
3. Bogin B. (1999). *Pattern of Human Growth*. 2nd edition CUP.
4. Cameron Noel and Barry Bogin (2012) *Human Growth and development*. Second edition, Academic Press Elsevier.
5. Eckhardt R.B.(1979) *The Study of Human Evolution*. McGrand Hill Book Company, USA.
6. Frisancho R. (1993) *Human Adaptation and Accommodation*. University of Michigan press

7. Harrison G.A., Tanner, J.M., Pilbeam, D.R., Baker, P.T. (1988) *Human Biology*. Oxford University Press.
8. Jurmain Robert Lynn kilgore Wenda Trevathan and Ciochon (2010). *Introduction to Physical Anthropology*. Wadsworth Publishing, USA.
9. Kapoor A.K. and Satwanti Kapoor (ed) (1995). *Biology of Highlanders*. Jammu, Vinod Publisher & Distributor.
10. Kapoor A.K. and Satwanti Kapoor (eds) (2004) *India's Elderly-A Multidisciplinary Dimension*. Mittal Publication, New Delhi.
11. Klepinger L.L. (2006). *Fundamentals of Forensic Anthropology*. John Willey & Sons.,New Jersey.
12. Malhotra K.C. and B. Balakrishnan(1996) *Human Population Genetics in India*
13. Malina Robert M., Claude. Bouchard, Oded. Bar-Or. (2004) Growth, and Physical Activity. *Human Kinetics*.
14. Stanford C., Allen, S.J. and Anton, C.S. (2013): *Biological Anthropology*. 3rd edition, Pearson, USA.

ANTH-C8: Theories of Culture and Society

Marks: 100(80+20)

Credits-4

Total Lectures: 60

Theory

Unit I:

Emergence of Anthropology: Evolutionism, Diffusionism and Culture area theories

Unit II:

Emergence of fieldwork tradition, Historical Particularism,

Unit III:

Functionalism and Structural-functionalism.

Structuralism: Claude Levi-Strauss and Edmund Leach

Unit IV:

Culture and Personality: Meaning, characteristics and determinants of personality
contribution of Ruth Benedict and Margaret Mead.

C 8 -Lab:Practical

Marks: 50(40+10)

Total Lectures:60

Credits-2

As a part of the practical following exercises will be undertaken by the students so as to enable them to connect the theories they learn with things of everyday living.

1. To identify a topic relating to contemporary issue and formulate research questions and clearly identify the theoretical perspectives from which they are derived.
2. Identification of variables of a study.
3. Various types of hypotheses.
4. Formulation of hypothesis.
5. Distinction between hypothesis testing and exploratory research.
6. Identification of universe and unit of study with justifications.
7. Choice of appropriate research technique and method in the context of theoretical framework.
8. Data collection and analysis

Suggested Readings

1. Applebaum H.A. (1987) *Perspectives in Cultural Anthropology*. Albany: State University of New York.
2. Barnard A. (2000). *History and Theory in Anthropology*. Cambridge: Cambridge University.
3. McGee R.J. and Warms R.L. (1996) *Anthropological Theories: An Introductory History*.
4. Moore M. and Sanders T. (2006). *Anthropology in Theory: Issues in Epistemology*, Malden, MA: Blackwell Publishing.

ANTH-C 9: Human Growth and Development

Marks: 100(80+20)

Credits-4

Total Lectures: 60

Theory

Unit I:

Concept of human growth, development, differentiation and maturation. Evolutionary perspective on human growth (including living primates and fossil human ancestors) Prenatal (conception till birth) and postnatal (birth till senescence) period of growth, pattern of normal growth curves, variation from normal growth (canalization, catch-up growth and catch-down growth), ethnic and gender differences in growth curves, secular trend

Unit II:

Bio-cultural factors (genetic, social, and ecological factors) influencing patterns of growth and variation, methods and techniques to study growth, significance/ applicability of growth studies

Nutritional epidemiology -concept of balanced diet, impact of malnutrition (over and under) with special reference to obesity, Kwashiorkor and Marasmus. Assessment of nutritional status.

Unit III:

Human physique and body composition – concept and techniques; gender and ethnic differences

Somatotyping and human physique with reference to Sheldon, Parnell, Heath and Carter methods

Unit IV:

Bio-cultural adaptation to environmental stresses- heat, cold and altitude. Homeostasis and thermoregulation, ecological rules and their applicability among human beings

C 9 -Lab: Practical

Marks: 50(40+10)

Total Lectures:60

Credits-2

1. Growth status: Somatometry (stature, body weight, mid upper arm circumference etc), assessment of chronological age, 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)
3. Estimation of body composition (fat percentage and muscle mass) with skinfold thickness and bioelectric impedance
4. Nutritional assessment through dietary pattern and anthropometric indices

Suggested Readings

1. Bogin B. (1999) Patterns of human growth. Cambridge University Press.
2. Frisancho R. (1993) Human Adaptation and Accommodation. University of Michigan Press.
3. Cameron N and Bogin B. (2012) Human Growth and Development. Second edition, Academic press Elsevier.
4. Harrison GA and Howard M. (1998). Human Adaptation. Oxford University Press.
5. Harrison GA, Tanner JM, Pibeam DR, Baker PT. (1988). Human Biology. Oxford University Press.
6. Jurmain R, Kilgore L, Trevathan W. Essentials of physical anthropology. Wadsworth publishing.
7. Kapoor AK and Kapoor S. (1995) Biology of Highlanders. Vinod Publisher and Distributor.

8. Kathleen K. (2008). Encyclopedia of Obesity. Sage.
9. Malina RM, Bouchard C, Oded B. (2004) Growth, Maturation, and Physical Activity. Human Kinetics.
10. McArdle WD, Katch FI, Katch VL. (2001) Exercise Physiology: Energy, Nutrition, and Human Performance.
11. Singh I, Kapoor AK, Kapoor S. (1989). Morpho-Physiological and demographic status of the Western Himalayan population. In Basu and Gupta (eds.). Human Biology of Asian Highland Populations in the global context.
12. Sinha R and Kapoor S. (2009). Obesity: A multidimensional approach to contemporary global issue. Dhanraj Publishers. Delhi.

ANTH-C 10: Research Methods

Marks: 100(80+20)

Credits-4

Total Lectures: 60

Theory

Unit I:

Research Design

Review of literature, conceptual framework, formulation of research problem, formulation of hypothesis, sampling, tools and techniques of data collection, data analysis and reporting, guiding ideals and critical evaluation of major approaches in research methods, basic tenets of qualitative research and its relationship with quantitative research.

Field work tradition in Anthropology

Ethnographic approach, contribution of Malinowski, Boas and other pioneers; cultural relativism, ethnocentrism, etic and emic perspectives, comparative and historical methods, techniques of rapport establishment identification of representative categories of informants, maintenance of field diary and logbook

Unit II:

Tools and techniques of data collection

Concept of survey, relationship of survey method with ethnographic method, construction of questionnaire and interview schedule, validation and internal consistency of questionnaire Observation - Direct, Indirect, Participant, Non-participant, Controlled Interview - Structured and unstructured, Focussed Group Discussion, key informant interview

Case Study and life history

Genealogy - Technique and application

Unit III:

Ethics and Politics of Research

Identify, define, and analyze ethical issues in the context of human subject research.

Reasons for conducting ethical review of research, theories and concepts related to ethical decision-making including consequentialism, deontology, respect, dignity, discourse ethics, communitarianism, liberalism and the four principles approach.

Ethical importance of consent, privacy and confidentiality in research

Issues of academic fraud and plagiarism, conflicts of interest, authorship and publication

Unit IV:

Analysis and Writing Up

Chapterization, preparing a text for submission and publication, concepts of preface, notes (end and footnotes), glossary, prologue and epilogue, appendix, bibliography (annotated) and references cited, review and index.

Similarities and differences between qualitative and quantitative data analysis; introduction of software for data analysis.

Bio-Statistics

Types of variables, presentation and summarization of data (tabulation and illustration).

Descriptive statistics- Measurers of Central Tendency, Measure of Variation.

Tests of Inference- Variance ratio test, Student's 't' tests, Chi-square test.

Pedigree Analysis- Importance and implication.

C 10 -Lab:Practical
Total Lectures:60

Marks: 50(40+10)
Credits-2

1. Construction of Genealogy.
2. Observation: Direct, Indirect, Participant, Non-participant, Controlled
3. Questionnaire and Schedule, Interview- Unstructured, Structured, Key informant interview, Focussed Group Discussion, and Free listing, pile sorting
4. Case study and life history
5. Preparation of research problem, study design, data collection techniques, analysis and report writing based on somatometric, dermatoglyphic and serological data or social problem.

Suggested Readings

- Garrard E and Dawson A. What is the role of the research ethics committee? Paternalism, inducements, and harm in research ethics. *Journal of Medical Ethics* 2005; 31: 419-23.
- Bernard H.R. *Research Methods in Anthropology, Qualitative and Quantitative Approaches*. Jaipur: Rawat Publications. 2006.
- Madrigal L. *Statistics for Anthropology*. Cambridge: Cambridge University Press. 2012.

Skill enhancement courses (SEC) for B.Sc. (Honours) 3rd and 4th semesters.

The course given to a student is value based and/or skill based knowledge and content theory/laboratory/work/training and field-work so that after training they may get more chances for employment.

The training of the students regarding instruments and equipments in the field of Anthropology would be imparted to the students.

SEC I (for SEMESTER III)

Maximum Marks 50

The students would be imparted lab training/hands on workshops in fingerprint and footprint techniques – from the anthropological as well as forensic points of view. The students would be assessed on the basis of a Powerpoint presentation at the end of the semester.

SEC II (for SEMESTER IV)

Maximum Marks 50

The students would be imparted lab training/hands-on workshops in the field of Physical Growth and Development/Auxology. The students would be assessed on the basis of a Powerpoint presentation at the end of the semester.

SEMESTER I

ANTH-C-GE-1

B.Sc (Hons.) Ist year (Choice Based Credit System)

ANTH-C-GE-I Introduction to Anthropology
100(80+20)

Marks:

Credits: 4

Total Lectures:60

Theory

Objective: (The course is designed to teach basics and fundamentals of the discipline of Anthropology and its scope. The course will introduce to the students various branches of anthropology including biological, socio cultural anthropology and Prehistoric archaeology. Seminars, hands on training, practicals and Workshops form an integral part of this course)

Unit I

Introduction to Anthropology: Definition, historical development, perspectives and subfields, Relationship of anthropology with allied disciplines like History, Sociology, Psychology, Geography, Human Biology and Medicine, Scope and Applications of anthropology.

Unit II

Social/ Cultural Anthropology: Definition, aims and scope of social / cultural anthropology, Sub-divisions of social-cultural anthropology, Ethnography and Ethnology, Relationship of social anthropology with other disciplines, especially sociology, psychology and history, Definition and meaning of culture.

Basic Concepts: Society, Culture, Civilization; differences between culture and civilization; Culture Trait, Culture Complex; Community, Groups and Institutions;

Unit III

Physical Anthropology: Definition, scope and objectives of Physical Anthropology, its relationship with allied disciplines. Theories of evolution: contributions of Darwin and Lamark; synthetic theory. Morphological and anthropometric criteria of race (skin colour, hair, face, head, ear, nose, eyes and physique).

Unit IV

Pre-historic Archaeology: Definition, aims, and scope, Relationship of archaeology with other disciplines, Principles of archaeology, Tools, typology and technology, General introduction to cultural chronology. Tool typology and technology. Technique of tool manufacture. Classification of tools. Typology and cultural nomenclature.

ANTH- C-GE1 -Lab: Practical

Marks: 50(40+10)

Total Lectures:60

Credits-2

Introduction to Human Osteology; Applications of Osteology in Anthropological Studies, Detailed morphology of Human Skull (Norma Verticalis, Norma Lateralis, Norma Frontalis, Norma Occipitalis, Norma Basalis and long bones (Humerus, Ulna, Radius, Femur, Tibia, Fibula).

Anthropometry: Somatometry and Somatoscopy; Anthropometric instruments. Somatoscopic observations (Eye, nose, hair, lips). Somatometric landmarks (vertex, glabella, opisthocranium, eurion, nasion, sub-nasale, pro-nasale, alare). Basic body measurements (Weight, stature, sitting height, span, head circumference, head length, head breadth, nose length, nose breadth, upper-arm circumference, calf circumference).

ESSENTIAL READINGS

Brace, C.L. & Montagu, A.: *Man's Evolution-An Introduction to Physical Anthropology*. Macmillan: New York.

Brues, A.M. (1977): *People and Races*. Macmillan: New York

Buettner-Janusch, John (1969): *Origins of Man*. Wiley Eastern Private Limited: New Delhi.

Ember, C. (2002) : *Introduction to Anthropology and Archaeology*, Prentice Hall.

Harrison, G.A., Weiner, J.S. (1977): *Human Biology*. Oxford University Press: Oxford.

Tanner, J.M., Barnicot, N.A. & Reynolds, V. Barnouw, Victor J.H.(1982): *Physical Anthropology and Archaeology*. The Dorsey Press, Homewood Illinois Press, Homewood, Illinois).

Montagu, M.F.A. (1960): *Introduction to Physical Anthropology*.

Coon, C.S. Garn, S.M.I. &: *Races –A Study of the Problems of Race Formation*

Birdsell, R. (1950) *in Man*, Charles C. Thomas, Springfield.

Montagu, M.F.A.: *Concept of Race*.

Sarkar, S.S. (1954): *Aboriginal Races of India*.

Comas, Juan. (1960): *Manual of Physical Anthropology* (Spring-Fields: C. C.Thomas USA

Hooton, E.A. (1947): *Up from the Ape*. Macmillan, New York.

Guha, B.S. (1964): *Racial Elements in Indian Population*.

Hulse, F.S. (1971): *Human Species–An Introduction to Physical Anthropology*, Random House

Ember, C.R. and Ember, M. (1996): *Anthropology*. New Jersey: Prentice Hall. (Eighth Edition)

Haviland W.A. (1991): *Cultural Anthropology*. New York: Holt,(6th Edition) Rinehart and Winston, Inc.

SEMESTER II

ANTH-C-GE-2

B.Sc (Hons.) Ist year (Choice Based Credit System)

ANTH- C-GE-2 Biological Anthropology

Marks: 100(80+20)

Credits: 4

Total Lectures: 60

Theory

Objective: (The course is designed to teach basics and fundamentals of biological anthropology and its scope. The course will introduce to the students the various branches of biological anthropology such as Palaeoanthropology, Human Growth and Development, human genetics, etc. The course aims to sharpen the skills of the students so that they can explain biological diversity observed in human species. Seminars, hands on training, practicals and Workshops form an integral part of this course)

Unit I

Definition, aims, scope, branches of physical anthropology and relationship of Physical (biological) Anthropology of with other disciplines that study humans. Characteristic features and distribution of living primates. Hominid characteristics.

Unit II

Palaeoanthropology: Definition, scope, aims, objectives and relationship with other disciplines. Fossils and their preservation. Siwalik Group: Classification, age and fauna. Siwalik fossil primates (*Sivapithecus*, *Gigantopithecus*, *Krishnapithecus*, *Sivaladapis*)

Unit III

Concept and basic principles of human growth. Importance and applications of growth studies. Methods of studying human growth – longitudinal, cross-sectional and mixed longitudinal.

Unit IV

Human Genetics: Physical basis of Inheritance, general principles of heredity, Mendelian Principles of inheritance and their relevance to human populations. Genetics and its applications in Man. ABO blood groups. Dermatoglyphics: Definition, history and applications. Dermatoglyphic patterns of finger balls.

ANTH- C-GE2 -Lab: Practical

Marks: 50(40+10)

Total Lectures: 60

Credits-2

Classification and Identification of finger prints patterns (ten subjects), ABO blood grouping of five subjects. Methods of collecting fossils, field diary and field catalogue register. Preparation of fossils (mechanical and chemical methods).

ESSENTIAL READINGS

Buettner-Janusch, John. (1969) : *Origins of Man* Wiley Eastern Private Limited: New Delhi

Comas, J., 1960. : *Manual of Physical Anthropology*.

Montagu, M.F.A., 1964.: *An Introduction to Physical Anthropology*

Szalay, F.S. & Delson Eric (1979).: *Evolutionary History of the Primates*.

Kummel, Bernhard (1970).: *History of the Earth: An Introduction to Historical Geology*.
 Vashisht, R.N. (1985).: *Antecedents of Early Man in Northwestern India*.
 Gaur, R. (1987).: *Environment & Ecology of Early Man in Northwest India*.
 Stern, C.: *Principles of Human Genetics*.
 Strickberger, M.W.: *Genetics*.
 Giblett, E.R. : *Human Biology*.
 Tanner, J.M.(1978): *Foetus into Man: Physical Growth from Conception to Maturity*.
 Sinclair, D. (1989): *Human Growth after Birth*. 5th ed. Oxford University Press
 Oxford

SEMESTER III

ANTH-GE 5: Fundamental of Palaeoanthropology

Marks: 100(80+20)

Credits: 4

Total Lectures: 60

Theory

Unit I:

Dating methods, geological time scale, taphonomy and interpretation of the paleontological and archaeological records.

Taxonomic and chronological problems of fossils records.

Unit II:

Evolutionary biology: Origins and evolution of stone age technology (Human origins: Development, distribution and fossilized evidence of Australopithecines,

Paranthropus (Zinjanthropus), Homo habilis, Homo erectus, Archaic H. sapiens, prehistoric hunter-gatherers, modern pastoral communities, emergence of prehistoric people in Africa).

Unit III:

Primate and Non-Primate Models for Early Hominid Behaviour; hominization process- Evolution of hominid-human bipedalism

Unit IV:

Palaeodemography- reconstruction of population patterns from skeletal analysis, determination of demographic variables in prehistoric populations and post-neolithic population growth.

Palaeopathology- bioarchaeological approach of disease; effects of agriculture, urbanization and slavery on health and disease; colonization and disease with special emphasis on the New World; dispersion of modern humans - molecular and morphological patterns of relationship

ANTH-GE:5 -Lab: Practical

Marks: 50(40+10)

Total Lectures: 60

Credits-2

1. Comparative primate osteology
2. Description and identification of the disarticulated skeleton of non-human primates
3. Identification and description of fossil casts
4. Excursion to a site for collection of fossil material and its report

Suggested readings

1. Napier JR and Napier PH. (1985). *The Natural History of the Primates*. Cambridge, MA: The MIT Press
2. Boyd R and Silk JB. (2009). *How Humans Evolved*. London: WW Norton.
3. Tattersall I. (2009). *The Fossil Trail: How We Know What We Think We Know about Human Evolution*. New York: Oxford University Press.
4. Waldron T. (2008): *Palaeopathology*. Cambridge University Press.
5. Cela-conde CJ and Frisancho J. (2007). *Human Evolution: Trails from the past*. Ayala Oxford University Press.
6. Barnes E. *Diseases and Human Evolution*. (2005). University of New Mexico Press.
7. Pinhasi R and Mays S (2008). *Advances in Human Palaeopathology*. Chichester: John Wiley & Sons, Inc. (PM).
8. Hoppa RD and Vaupel JW. (2002). *Paleodemography: Age Distributions from Skeletal Samples*. Cambridge University Press.
9. Lansen CS, Matter RM and Gebo DL. (1998). *Human Origin: The fossil Record*. Waveland Press.
10. Cameron DW and Colin P. Groves CP. (2004). *Bone, Stones and Molecules: “Out of Africa” and Human Origins*. Elsevier Inc.
11. Stringer C. (2011). *The Origin of Our Species*. London: Allen Lane.
12. Conroy GC. (2005). *Reconstructing Human Origins*. WW Norton and Company.

SEMESTER IV

ANTH-GE 6: Human Growth & Human Genetics

Marks: 100(80+20)

Credits: 4

Total Lectures: 60

Theory

Unit I:

Structure, Function and Inheritance of the human genome- gene, DNA structure and Replication, DNA repair and recombination, gene expression, coding and non-coding region

Unit II:

Expression of genetic information: from Transcription to Translation – the relationship between genes and protein, transcriptions; transcription and RNA processing, encoding genetic information, decoding the codons: the role of transfer RNAs

Unit III:

Genomic Variation: Genomic Polymorphisms (SNPs, VNTR, CNVs, etc); haplotypes and haplogroups; genotype-phenotype correlations, epigenetics
Methods of Genetic Study in Human: Pedigree analysis and expressivity;
Chromosomal Basis of Genetic Disorders (Karyotypes and identification of chromosome variation; Nucleic Acid Hybridization Assays, cytogenetic mapping), Genetic mapping (Microsatellite and other DNA polymorphisms), LOD score; sequencing strategies (PCR based Sanger sequencing to Exome sequencing), concept of non-mendelian inheritance and complex diseases

Unit IV:

Genomic Diversity & Human Evolution, People of the Indian Subcontinent: Evidence from mtDNA and Y-chromosome; evolutionary genetics; Molecular evolution; DNA sequence variation and human origins

ANTH- GE:6 -Lab: Practical

Marks: 50(40+10)

Total Lectures: 60

Credits-2

1. Blood Collection, transportation and storage in field
2. DNA Extraction from whole blood
3. DNA Quantification, Aliquoting and sample preparation
4. PCR and electrophoresis
5. Gel Documentation

Suggested Readings:

1. Strachan T and Read AP. (2004). Human Molecular Genetics. Garland Science
2. Brown TA. (2007). Genomes. Garland Science.
3. Griffiths AJF. (2002). Modern Genetic Analysis: Integrating Genes and Genomes. WH Freeman Press.
4. Griffiths AJF, Wessler SR, Carroll SB, Doebley J. (2011). An Introduction to Genetic Analysis. Macmillan Higher Education.
5. Cavalli-sforza LL, Menozzi P, Piazza A (1994). History and Geography of Human Genes. Princeton University.
6. Giblett, ER. (1969). Genetic Markers in Human Blood. Blackwell Scientific, Oxford.

7. Cummings MR (2011). Human Heredity: Principles and Issues. Brooks/Cole, Cengage Learning
8. Jobling M, Hurler M and Tyler-Smith C. (2004). Human Evolutionary Genetics: Origins, Peoples & Disease. New York: Garland Science.
9. Lewis R. (2009). Human Genetics: Concepts and Application. The McGraw–Hill Companies, Inc.
10. Patch C. (2005). Applied Genetics in Healthcare. Taylor & Francis Group
11. Vogel F. and Motulsky A.G. (1996). Human Genetics. Springer, 3rd revised edition.
12. Snustad .D.P. and Simmons M.J. (2006). Principles of Genetics, Fourth Edition, John Wiley & Sons USA

SEMESTER V

CORE PAPERS

ANTH-C11: Human Population Genetics

Theory

Credit- 4

Unit I. Essentials of Genetics

Landmarks in the history of genetics, principles in human genetics, single locus (Mendelian) versus multilocus (quantitative/complex) inheritance, chromosome theory of inheritance (segregation and independent assortment) Mendelian inheritance (single factor and multifactorial inheritance, polygenic inheritance), Non-Mendelian inheritance (multiple allelism, Co-dominance; sex linked, epistasis; penetrance and expressivity; Cytoplasmic inheritance).

Unit II. Ecological Genetics and Polymorphism

phenotypic & genotypic polymorphisms, transient polymorphism, balanced polymorphisms, models explaining the maintenance of genetic polymorphism (Relationship between sickle cell and malaria, X-linked polymorphism, selection due to infectious diseases and its association with blood groups and other)

Unit III: Hardy-Weinberg principle

Genotypic and allelic frequencies, assumptions of Hardy-Weinberg equilibrium, its applications and exceptions

Mechanism for dynamics in Gene Frequency

Mutation, selection (pattern and mechanism), Genetic drift (bottle neck and founder effect), Gene flow/migration, inbreeding (inbreeding co-efficient and its genetic consequences)

Unit V: Population structure and admixture in human populations

Random & non-random mating (positive and negative assortative mating), heritability, linkage disequilibrium, genetic markers utility of genetic markers in forensic, population and disease association studies.

Human evolutionary genetics

From Mendel to molecules: A brief history of evolutionary genetics, Epistasis and the conversion of genetic variances, Human-Ape comparisons.

Practical

Credit- 2

1. Blood group typing-A1, A2, B, O, MN and Rh (D) blood groups
2. Color Blindness
3. Glucose-6-phosphate dehydrogenase deficiency(G6PD)
4. PTC tasting ability
5. Biochemical markers-DNA isolation and polymerase chain reaction (PCR)

Suggested Readings

1. Brooker R.J. (2012). *Genetics: analysis & principles*. The McGraw-Hill Companies, Inc 4th ed.
2. Cavalli-Sforza, L.L. and Bodmer, W.F (1971). *The Genetics of Human Population*. San Francisco: Freeman
3. Cooper DN and Kehrer-Sawatzki H. (2008). *Handbook of Human Molecular Evolution*. John Wiley & Sons, volume-2.
4. Crawford MH (2007). *Anthropological Genetics Theory, Methods and Applications*. Cambridge University Press
5. Cummings M.R. (2011). *Human Heredity: Principles and Issues*. Ninth Edition. Brooks/Cole, Cengage Learning
6. Jobling, M.A. Hurlis M. and Tyler-Smith C. (2004). *Human Evolutionary Genetics: Origins, Peoples & Disease*. GS. NY
7. Lewis R. (2009). *Human Genetics: Concepts and Applications* 9th Edition. The McGraw–Hill Companies, Inc.
8. Patch C. (2005). *Applied Genetics in Healthcare*. Taylor & Francis Group
9. Relethford J.H. (2012). *Human Population Genetics*. Wiley-Blackwell, USA
10. Snustad .D.P. and Simmons M.J. (2006). *Principles of Genetics*, Fourth Edition, John Wiley & Sons USA, Hoboken NJ
11. Strachan T, Read A.P. (2004). *Human Molecular Genetics*. Garland Science/Taylor & Francis Group.
12. Vogel F. and Motulsky A.G. (1996). *Human Genetics*. Springer, 3rd revised edition.

**ANTH-C12 Anthropology in Practice
Theory**

Credit- 4

Unit I: Academic Anthropology

Academics and Practitioners: Differences, Structure, Activities, Controversies and Issues: Applied Anthropology, Action Anthropology and Development Anthropology.

Unit II: Role of Anthropology in Development Anthropology and Public Policy, Need Assessment and Community Development, Anthropology of NGO's, Management Anthropology, Environment and Community Health, Social and economic sustainability, Cultural resource management

Unit III: Future Dynamics in Anthropology

Trends in Anthropology: Anthropology of Tourism, Anthropology In Census; Designing And Fashion, Visual Anthropology

Unit IV: Constitutional Perspective and Human Rights

Constitutional Provisions, Evaluation, Planning and Development of Indian Populations; Human Rights, Interrelationships of rights and duties: Harmony and Conflict, Protection and enforcement of human rights and duties, National and State Human Rights Commission and other grievance redressal mechanism, Human rights of special category and marginal groups, Emerging trends of human rights respective to terrorism, environment and globalization

Unit V: Biosocial anthropology in practice

Bio-social elements of human development at national and international level, application of conceptual framework of Forensic Anthropology in judicial settings both criminal and civil, Population Dynamics and relationship between population growth and various aspects of culture such as means of subsistence, kinship, social complexity, social stratification and political organization, Bio-social counselling of an individual or population

Practical

Credit- 2

1. The students will visit an NGO or corporate office or census office in Delhi and its adjoining areas and write principal observations on the same.
2. Write a project on constitutional provisions or evaluation of any development project/report.
3. Draw a scene of crime and identify the various evidences in a portrayed crime scene.
4. Write a project on Religious Tourism / Tribal Tourism / Health Tourism / Fashion / Human Rights / Ecotourism.
5. Write a project on the demographic profile from secondary data.
6. Collect data on bio-social problem and design counselling and give the analysis and interpretation.

Suggested Readings

1. Arya A and Kapoor AK. (2012). Gender and Health Management in Afro-Indians. Global Vision Publishing House, New Delhi.
2. Kertzer DI and Fricke T. (1997). Anthropological Demography. University of Chicago Press.
3. Basu, A. and P. Aaby (1998). The Methods and the Uses of Anthropological Demography. 329 pp. Oxford, Clarendon Press

4. Carter A. (1998). Cultural Models and Demographic Behavior. In *The Methods and the Uses of Anthropological Demography* edited by Basu A and Aaby P. Oxford: Clarendon Press. pp 246-268.
5. Census of India (2001, 2011) and National Family Health Survey (2006,2010).
6. Ervic, Alexander M., (2000). *Applied Anthropology: Tools and Perspectives for Contemporary Practise*, Boston, MA: Allyn and Bacon.
7. Erwin A. (2004). *Applied Anthropology Tools and Practice*, Allyn and Bacon.
8. Gupta S and Kapoor AK. (2009). *Human Rights among Indian Populations: Knowledge, Awareness and Practice*. Gyan Publishing House, New Delhi.
9. Willen SS. (2012). Anthropology and Human Rights: Theoretical Reconsiderations and Phenomenological Explorations. *Journal of Human Rights*. 11:150–159.
10. Goodale M. (2009). *Human Rights: An Anthropological Reader*. Wiley Blackwell.
11. Gupta S and Kapoor AK. (2007). Human Rights, Development and Tribe. In : *Genes, Environment and Health – Anthropological Perspectives*. K. Sharma, R.K. Pathak, S. Mehra and Talwar I (eds.). Serials Publications, New Delhi.
12. Margaret AG. (2003). *Applied Anthropology: A Career-Oriented Approach*, Boston, MA: Allyn and Bacon.
13. Halbar BG and Khan CGH. (1991). *Relevance of Anthropology – The Indian Scenario*. Rawat Publications, Jaipur.
14. Kapoor AK (1998). Role of NGO's in Human Development : A Domain of Anthropology. *J Ind Anthropol Soc*; 33:283-300.
15. Kapoor AK and Singh D. (1997). *Rural Development through NGO's*. Rawat Publications, Jaipur.
16. Klepinger LL (2006). *Fundamentals of Forensic Anthropology*. Wiley-Liss Publications
17. Kumar RK and Kapoor AK. (2009). *Management of a Primitive Tribe: Role of Development Dynamics*. Academic Excellence, Delhi.
18. Mehrotra N and Patnaik SM. (2008). Culture versus Coercion: The Other Side of Nirmal Gram Yojna, *Economic and Political weekly*. pp 25-27.
19. Mishra RC (2005). *Human Rights in a Developing Society*, Mittal Publications, Delhi.
20. Noaln RW. (2002). *Anthropology in Practice: Building a Career outside the Academy*. Publishing Lynne Reinner.
21. Patnaik SM (1996). *Displacement, Rehabilitation & Social Change*. Inter India Publications, New Delhi.
22. Patnaik SM (2007). Anthropology of Tourism: Insights from Nagaland. *The Eastern Anthropologist*. 60(3&4):455-470
23. Srivastav OS (1996). *Demographic and Population Studies*. Vikas Publishing House, India
24. Vidyarthi LP and BN Sahay (2001). *Applied Anthropology and Development in India*, National Publishing House, New Delhi.
25. Vidyarthi LP. (1990). *Applied Anthropology in India – Principles, Problems and Case Studies*. Kitab Mahal, U.P.
26. Vidyarthi V (1981). *Tribal Development and its Administration*. Concept Publishing Company, New Delhi.

ANTH-C13 Forensic Anthropology

Theory

Credit- 4

Unit-I

Introduction to Forensic Anthropology: Definition, Brief History, Scope, Applications and Integration of Forensic Anthropology.

Unit-II

Basic Human Skeletal Biology, Identification of Human and Non-Human Skeletal Remains,

Ancestry, age, sex and stature estimation from bones, Discovery and Techniques for recovering skeletonized Human Remains.

Unit-III

Personal Identification, Complete and Partial Identification, Methods of Identification in Living Persons: Somatometry, Somatoscopy, Occupational Marks, Scars, Bite Marks, Tattoo Marks,

Fingerprints, Footprints, Lip Prints, Nails, Handwriting, Deformities and Others.

Unit-IV

Serology: Identification and Individualization of bloodstain, urine, semen and saliva. Patterns of Bloodstains.

Individualization: Forensic Odontology-Tooth Structure and Growth, Bite Marks, Facial Reconstruction, DNA Profiling.

Practical

Credit- 2

1. Study of Human Long Bones. Estimation of age, sex and stature from bones.
2. Somatometric and Somatoscopic Observation on living persons.
3. Identification of bloodstain, urine, semen and saliva.
4. Examination of Fingerprints and Handwriting.

Suggested Readings:

1. Bass W.M. (1971). *Human Osteology: A Laboratory and Field manual of the Human Skeleton*. Columbia: Special Publications Missouri Archaeological Society.
2. Black S. and Ferguson E. (2011). *Forensic Anthropology 2000 to 2010*. CRC Press, London.
3. Byers, S. N. (2008). *Forensic Anthropology*. Boston: Pearson Education LTD.
4. Gunn A. (2009) *Essential Forensic Biology* (2nd ed). Chichester: Wiley-Blackwell
5. Modi, R. B. J. P. (2013). *A Textbook of Medical Jurisprudence and Toxicology*. Elsevier.
6. Reddy V. R. (1985). *Dental Anthropology*, Inter-India Publication, New Delhi.
7. Spencer, C. (2004). *Genetic Testimony: A Guide to Forensic DNA Profiling*, Pearson, New Delhi.
8. Krishan K, Kanchan T (2016). **Identification: Prints - Footprints** in *Encyclopedia of Forensic and Legal Medicine* (Second Edition), Editors-in-Chief: Jason Payne-James and Roger Byard, Academic Press, Oxford, U.K. Elsevier B.V. Pages: 81-91.
9. Krishan K, Kanchan T (2016). **Identification: Prints - Earprints** in *Encyclopedia of Forensic and Legal Medicine* (Second Edition), Editors-in-Chief: Jason Payne-James and Roger Byard, Academic Press, Oxford, U.K. Elsevier B.V. Pages: 74-80

10. Kanchan T, *Krishan K* (2016). **Blood grouping** in *Encyclopedia of Forensic and Legal Medicine* (Second Edition), Editors-in-Chief: Jason Payne-James and Roger Byard, Academic Press, Oxford, U.K. Elsevier B.V. Pages: 425-432
11. Wilkinson, C. (2004). *Forensic facial reconstruction*. Cambridge University Press.

ANTH-C14 Anthropology of India

Theory

Credit- 4

Unit I:

Origin, history and development of Anthropology in India, approaches to study Indian society and culture- traditional and contemporary
 Racial and linguistic elements in Indian population
 Understanding the diversity of Indian social structure - concept of Varna, Jati, Caste, Ashram or purusharatha, gender hierarchies - their economic and cultural impact, origin and evolution of social structures and their underlying philosophies.

Unit II:

Critical appraisal of contribution of Risley, Guha, Rickstett and Sarkar towards understanding ethnic distinctness in the Indian populations
 Contribution of conetemporary biological, social and archaeological anthropologists in India.

Unit III:

Aspects of Indian Village –social organisation, agriculture and impact of market economy on villages
 Tribal situation in India- biogenetic variability, linguistic and socio-economic characteristics; Problems of tribal peoples, land-alienation, indebtedness, lack of educational facilities, shifting-cultivation, migration, forests and tribal unemployment, health and nutrition, tribal movement and quest for identity
 Developmental projects- tribal displacements and rehabilitation problem
 Impact of culture-contact, urbanization and industrialization on tribal and rural population
 Basic concepts -Great tradition and little tradition, sacred complex, Universalization and parochialization, Sanskritization and Westernization, Dominant caste, Tribe-caste continuum, Nature-Man-Spirit complex, pseudotribalism,

Unit IV:

Problems of exploitation and deprivation of scheduled caste/ tribe and Other Backward Classes.
 Constitutional safeguards for the Scheduled caste and scheduled tribes.

Practical

Credit- 2

1. Identify various traits/variables which can be used in racial classification and comment on its relevance.
3. Review a book/edited volume on Indian social structure such as caste, religion, tribe or rural population and give its salient features.
2. Explore the biological diversity of any population group considering a minimum of five genetic traits.
3. Highlight the contributions of any two contemporary Indian anthropologists.

Suggested Reading

1. Nicholas D. (2001). *Castes of Mind: Colonialism and the Making of Modern India*. Princeton University Press.
2. Bernard CS. (2000). *India: The Social Anthropology of Civilization*. Delhi: Oxford University Press.
3. Bhasin MK, Watter H and Danker-Hopfe H. (1994). *People of India – An Investigation of Biological variability in Ecological, Ethno-economic and Linguistic Groups*. Kamla Raj Enterprises, Delhi
4. Lopez DS. (1995). *Religions of India in Practice*. Princeton University Press
5. Gupta D. *Social Stratification*. Delhi: Oxford University Press.
6. Karve I. (1961). *Hindu Society: An Interpretation*. Poona : Deccan College
7. Guha BS. (1931). The racial attributes of people of India. In: *Census of India, 1931, vol I, Part III (BPO, Simla)*
8. Trautmann TR (2011). *India: Brief history of Civilization*. Oxford University Press : Delhi
9. Vidyarthi LP and Rai BK. (1976). *The tribal culture of India*. Concept Publishing Co, Delhi.
10. Haddon AC. (1929). *Races of man*. Cambridge University, London.
11. Kapoor A.K. (1992). *Genetic Diversity among Himalayan Human Populations*. M/S Vinod Publishers, Jammu
12. Majumdar DN. (1901). *Races and Culture of India*. Asia Publishing House, Bombay
13. Dube SC. (1992). *Indian Society*. National Book Trust, India : New Delhi.
14. Dumont L. (1980). *Homo Hierachicus*. University of Chicagon Press.
15. Guha B.S. (1931). The racial attributes of people of India. In : *Census of India, 1931, vol I, Part III (BPO, Simla)*
16. Malhotra K.C. (1978). *Morphological Composition of people of India*. J. Human Evolution.

ELECTIVE COURSES

Credits: Any four papers = Theory +Practical = (4+2)*4 = 24

DSE-1. Human Genetics

Theory

Unit I

Structure, Function and Inheritance of the human genome- gene, DNA structure and replication, DNA repair and recombination, gene expression, coding and non-coding region.

Unit II

Expression of genetic information: from Transcription to Translation – the relationship between genes and protein, transcriptions; transcription and RNA processing, encoding genetic information, decoding the codons: the role of transfer RNAs.

Genomic Variation: Genomic Polymorphisms (SNPs, VNTR, CNVs, etc); haplotypes and haplogroups; genotype-phenotype correlations, epigenetics

Unit III

Methods of Genetic Study in Human: Pedigree analysis and expressivity; Chromosomal Basis of Genetic Disorders (Karyotypes and identification of chromosome variation; Nucleic Acid Hybridization Assays, cytogenetic mapping), Genetic mapping (Microsatellite and other DNA polymorphisms), LOD score; sequencing strategies (PCR based Sanger sequencing to Exome sequencing), concept of non-mendelian inheritance and complex diseases.

Unit IV

Genomic Diversity & Human Evolution

Peopling of the Indian Subcontinent: Evidence from mtDNA and Y-chromosome; evolutionary genetics; Molecular evolution; DNA sequence variation and human origins

Practical

1. Blood Collection, transportation and storage in field
2. DNA Extraction from whole blood
3. DNA Quantification, Aliquoting and sample preparation
4. PCR and electrophoresis
5. Gel Documentation

Suggested Readings:

1. Strachan T and Read AP. (2004). Human Molecular Genetics. Garland Science
2. Brown TA. (2007). Genomes. Garland Science.
3. Griffiths AJF. (2002). Modern Genetic Analysis: Integrating Genes and Genomes. WH Freeman Press.
4. Griffiths AJF, Wessler SR, Carroll SB, Doebley J. (2011). An Introduction to Genetic Analysis. Macmillan Higher Education.
5. Cavalli-sforza LL, Menozzi P, Piazza A (1994). History and Geography of Human Genes. Princeton University.
6. Giblett, ER. (1969). Genetic Markers in Human Blood. Blackwell Scietific, Oxford.
7. Cummings MR (2011). Human Heredity: Principles and Issues. Brooks/Cole, Cengage Learning
8. Jobling M, Hurls M and Tyler-Smith C. (2004). Human Evolutionary Genetics: Origins, Peoples & Disease. New York: Garland Science.

9. Lewis R. (2009). Human Genetics: Concepts and Application. The McGraw–Hill Companies, Inc.
10. Patch C. (2005). Applied Genetics in Healthcare. Taylor & Francis Group
11. Vogel F. and Motulsky A.G. (1996). Human Genetics. Springer, 3rd revised edition.
12. Snustad .D.P. and Simmons M.J. (2006). Principles of Genetics, Fourth Edition, John Wiley & Sons USA .

DSE-2. Demographic Anthropology

Theory

Unit I: Demographic Anthropology

Introduction, definition and basic concepts

Relationship between demography, population studies and anthropology

Importance of population studies in Anthropology

Unit II: Population Theories

John Graunt

Thomas R. Malthus

Biological theory of population

Theory of demographic transition

Unit III: Tools of Demographic Data

Measures of population composition, distribution and growth

Measures of fertility

Measures of mortality

Measures of migration

Unit IV: Population of India and Policies

Sources of demographic data in India

Growth of Indian population

Demography of Indian tribal and non-tribal groups

Anthropological determinants of population growth

Impact of urbanization on the migration of tribal groups

National Population Policy

National Health Policy

National Policy on Reproductive Health Care

Practical

A student will collect and compile demographic data from different secondary sources on any given topic by the concerned teacher and a project report will be submitted for its evaluation.

Suggested Readings

1. Bhende A. and Kaniikar, T. (2006) *Principles of Population Studies*. Himalaya Publishing House. Mumbai (All Units, It covers most topics)
2. Caldwell J.C. (2006). *Demographic Transition Theory*. Springer.
3. Census of India (2001,2011), SRS bulletin (2013), NFHS (2006), CRS, NSSO (Can be seen from browsing net)
4. Gautam R.K., Kshatriya, G.K. and Kapoor A.K. (2010) *Population Ecology and Family Planning*. Serials publications. New Delhi.
5. Howell N. (1986) Demographic Anthropology. *Ann. Rev. Anthropol.* 15: 219-246
6. Kshatriya G.K. (2000). Ecology and health with special reference to Indian tribes. *Human Ecology special volume 9:229-245*.
7. Kshatriya G.K., Rajesh,G. and Kapoor , A.K. (2010) Population Characteristics of Desert Ecology.VDM Verlag Dr. Muller Gmbh and Co., Germany.
8. Misra BD (1982). *An introduction to the study of population*. South Asia publ. ltd. New Delhi.

9. National Population Policy <http://populationcommission.nic.in/npp.htm>
10. Park K. (2000) *Text book of Preventive and Social Medicine*. Banarsidas Bhanot, Jabalpur.
11. Patra P.K. and Kapoor, A.K. (2009) *Demography And Development Dynamics in a Primitive Tribe of Himalayas*. International Book Distributors, Dehradun
12. Riley N.E. and Mc Carthy, J. (2003) *Demography in the Age of the Postmodern*. Cambridge University press. UK. Pages 1-13 and 32-98
13. Sharma A.K. (1979) Demographic transition: A Determinant of Urbanization. *Social Change* 9: 13-17.
14. Srivastava O.S. (1996) *Demographic and Population Studies*. Vikas Publishing House, India
15. Zubrow E.B.W. (1976) *Demographic anthropology. Quantitative approaches*. University of New Mexico Press, Albuquerque.
16. <http://human-nature.com/dm/chap3.html>
17. <http://biography.yourdictionary.com/john-graunt>
18. <http://www.marathon.uwc.edu/geography/demotrans/demtran.htm>

DSE-3. Paleoanthropology

Unit I

Dating methods, geological time scale, taphonomy and interpretation of the paleontological and archaeological records, taxonomic and chronological problems of fossils records.

Unit II

Primate speciation and extinctions: a geological perspective, adaptive primate radiation, differential rate of somatic evolution.

Evolutionary biology: Origins and evolution of stone age technology (Human origins: Development, distribution and fossilized evidence of Australopithecines, Paranthropus (Zinjanthropus), Homo habilis, Homo erectus, Archaic H. sapiens, prehistoric hunter-gatherers, modern pastoral communities, emergence of prehistoric people in Africa).

Unit III: Primate and Non-Primate Models for Early Hominid Behaviour; hominization process- Evolution of hominid-human bipedalism

Unit IV

Palaeodemography- reconstruction of population patterns from skeletal analysis, determination of demographic variables in prehistoric populations and post-neolithic population growth, theory and techniques in paleodemography, methodological issues for reconstructing demographic structure, demographic models of mortality and their interpretation

Palaeopathology- bioarchaeological approach of disease; effects of agriculture, urbanization and slavery on health and disease; colonization and disease with special emphasis on the New World; dispersion of modern humans - molecular and morphological patterns of relationship

Practical

1. Comparative primate osteology
2. Description and identification of the disarticulated skeleton of non-human primates
3. Identification and description of fossil casts
4. Excursion to a site for seven days for collection of fossil material and its report

Suggested readings

1. Napier JR and Napier PH. (1985). The Natural History of the Primates. Cambridge, MA: The MIT Press
2. Boyd R and Silk JB. (2009). How Humans Evolved. London: WW Norton.
3. Tattersall I. (2009). The Fossil Trail: How We Know What We Think We Know about Human Evolution. New York: Oxford University Press.
4. Waldron T. (2008): Palaeopathology. Cambridge University Press.
5. Cela-conde CJ and Frisancho J. (2007). Human Evolution: Trails from the past. Ayala Oxford University Press.
6. Barnes E. Diseases and Human Evolution. (2005). University of New Mexico Press.

7. Pinhasi R and Mays S (2008). *Advances in Human Palaeopathology*. Chichester: John Wiley & Sons, Inc. (PM).
8. Hoppa RD and Vaupel JW. (2002). *Paleodemography: Age Distributions from Skeletal Samples*. Cambridge University Press.
9. Lansen CS, Matter RM and Gebo DL. (1998). *Human Origin: The fossil Record*. Waveland Press.

DSE-4. Tribal culture of India

Unit I

Concept of tribes and its problematic nature, General and specific characteristics of tribes, Tribes in India: Antiquity, historical, academic, administrative and anthropological importance, Denotified tribes.

Unit II

Tribe- caste continuum, Constitutional safeguard/provisions, Gender and Tribe, Distribution of tribes in India

Unit III

Tribes: Nomenclature- emic and etic differences, Classification of tribes based on their economy, occupation and religion, Racial elements among the tribes, Scheduled and non-scheduled categories of tribes

Unit IV

Tribal movements, Tribal monographs, Problems of tribal development
Displacement, rehabilitation and social change Globalization among Indian tribes.
Forest policies and tribes, Migration and occupational shift, Tribal arts and aesthetics

Practical

Distribution of Indian Tribes: PTG, ST
Location of different tribes on the map of India
Write an annotated bibliography on any one tribe
Write the social structure of any one tribe of India

Suggested Readings:

1. Behera, D.K and Georg pfeffer. Contemporary Society Tribal Studies, Volume I to VII. New Delhi: Concept Publishing Company
2. Georg Pfeffer. Hunters, Tribes and Peasant: Cultural Crisis and Comparison. Bhubaneswar: Niswas.
3. Vidarthy, L.P. and Rai. Applied Anthropology in India.
4. Vidarrthy.L.P. and B.N. Sahay . Applied Anthropology and Development in India. New Delhi: National Publishing House
10. Cameron DW and Colin P. Groves CP. (2004). Bone, Stones and Molecules: “Out of Africa” and Human Origins. Elsevier Inc.
11. Stringer C. (2011). The Origin of Our Species. London: Allen Lane.
12. Conroy GC. (2005). Reconstructing Human Origins. WW Norton and Company.

DSE-5: Physiological Anthropology

Theory

- Unit I:** Fundamentals of work physiology- homeostasis; metabolism and energy and systems; exercise, respiratory system and haemodynamics (blood pressure, pulse rate, heart rate and oxygen- transporting system, blood flow ,Hb, heamatocrit etc)
- Unit II:** Acute physiological adjustments during transition from resting homeostasis to sub-maximal and maximal exercise; chronic physiological adaptations to exercise training; age, sex and population variation in the physiological characteristics
- Unit III:** Cardio-vascular and respiratory endurance, physical working capacity and physical fitness- evaluation of response and assessment; relationship of body measurements with cardio-vascular and respiratory functions, aerobic and anaerobic exercise training, health related fitness in gender and ethnic group. Principles of effective physical conditioning techniques
- Unit III:** Impact of smoking, alcohol, drug, pollution and occupation on cardio-respiratory functions; physical performance and environmental stress, chronic diseases, malnutrition, lifestyle disease
- Unit IV:** Factors affecting physical performance and capacity, relation between physique, body composition, nutrition and performance.
Ageing and health related aspects of exercise

Practical

1. Cardiovascular function (Blood pressure, heart rate, pulse rate)
2. Respiratory function (Tidal volume, vital capacity, forced vital capacity, minute ventilation etc.)
3. Haemoglobin estimation
4. Step-test
5. Treadmill test

Suggested Readings:

1. McArdle WD, Katch FI and Katch VL. (2010). Exercise Physiology: Nutrition, Energy, and Human Performance. Lippincott Williams & Wilkins.
2. Powers SK and Howley ET. (2007). Exercise Physiology: Theory and Application to Fitness and Performance. McGraw-Hill.
3. Sherwood L. (2008). Human Physiology: From Cells to Systems. Brooks Cole.
4. Case RM. (1985). Variations in Human Physiology. Manchester University Press.
5. Vander AJ, Sherman JH ad Dorothys L. (1978). Human Physiology: The Mechanisms of Body Functions. Mc Graw-Hill Education.
6. Nageswari KS and Sharma S. (2006). Practical workbook of Human Physiology. Jaypee Brothers, Medical Publisher.
7. Wildmaier EP, Raff H, Strang KT. (2014). Vander's Human Physiology: The Mechanisms of Body. Mc Graw Hill Education.
8. Hale T. (2003). Exercise Physiology. England :John Wiley & Sons Inc.

DSE-6. Visual Anthropology

Theory

UNIT I: Introduction to Visual Anthropology. Visual Culture. Photographic and Digital Media: Still, Interactive and Moving.

UNIT II: Theory and Representation. Anthropology and Images: Ethnophotography and ethnographic films and mass media. Theories of representation, modern media and political advocacy.

Early Ethnographic Photography: Contexts and Trends. Anthropology of Art and Aesthetics: Critical reflection on the relation of images, objects and persons. Objects and images from other societies valued as 'art'.

UNIT III: Ethnographic Photography: Conventions and Methodologies. Paradigms and Debates.

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

UNIT IV: Cinema Studies with emphasis on key feature, documentary and ethnographic films with a focal theme - the examination of the 'language of film'.

Practical:

This paper deals with analysis of visuals such as photographs and films pertaining to cultural practices dealing with institutions of religion, economy and politics.

Theory and Representation: Anthropology and Images: Ethnophotography and ethnographic films and mass media. Theories of representation, modern media and political advocacy.

Anthropology of Art and Aesthetics: Critical reflection on the relation of images, objects and persons. Objects and images from other societies valued as 'art'.

Ethnographic Film and Cinema Studies: This unit consists of screenings followed by seminars. The emphasis will be on key feature, documentary and ethnographic films with a focal theme- the examination of the 'language of film'.

Practical Implications: Explore traditional and experimental means of using visual and audiovisual media to research, represent and produce anthropological knowledge. Critical engagement with policy and the use of audio-visual and internet based media in advocacy and activism. The students are required to do the following exercises:

1. Basic principles of producing ethnographic films: text and its focus, camera angles, lighting and decision making behind the camera.
2. Analyze the visual data from classical ethnographies signifying how 'otherness' is constituted.
3. A gendered analysis of visuals produced during colonial and postcolonial times.
4. Hypertext and multimedia as analytic end points.
5. Collection, reporting and analysis of photo-ethnographic data.
6. Digital mirror: computer assisted exercises leading to production of ethnographic text.

Suggested Readings

1. Marcus Banks and Howard Morphy, 1998, Rethinking Visual Anthropology
2. David MacDougall Transcultural Cinema, (Princeton, 1999)
3. Ruby, Jay. 1996. "Visual Anthropology." In Encyclopedia of Cultural Anthropology, David Levinson and Melvin Ember, editors. New York: Henry Holt and Company, vol. 4: 1345-1351.
4. Ch. 1, "Reading Pictures," pp. 1-12 [From: Banks, Marcus. 2001. Visual Methods in Social Research. London: Sage.]

5. Ember C.R. et al (2011). Anthropology. New Delhi: Dorling Kinderslay. [Unit II, III, IV (Page: 282-321, 430-438, 464, 469-471)]
6. Banks M. and Ruby J. (2011). Made do Be Seen. Perspectives on the History of Visual Anthropology. University of Chicago Press [Practical]
7. Schneider A. and Wright C. (2010) Between Art and Anthropology: Contemporary Ethnographic Practice. Berg Publishers [Practical]
8. Henley P. (2010). The Adventure of the Real. Jean Rouch and the Craft of ethnographic Cinema. Chiacago University Press [Practical]
9. Pink S. (2010). Doing Sensory Ethnography. Sage Publications [Practical]
10. Grimshaw A. and Ravetz A. (2009). Observational Cinema. Anthropology, Film, and the Exploration of Social Life. Indiana University Press [Practical]

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DSE-7. Anthropology of Health

Unit-1: Introduction and Overview of the Field of Anthropology & Health.

A. Health Anthropology within the Context of Anthropology.

- Anthropology and its subfields
- The unique place of Health anthropology in anthropology
- Competing perspectives on the study of anthropology of health.

B. Defining Health and Illness in Cross-Cultural Perspective.

Looking at “health,” “illness,” and related concepts in Western culture, including sociological “sick role” models, Some important variations in the process of seeking health care.

C: Measuring Health: Morbidity, Mortality, and Epidemiology

Morbidity, Mortality, Epidemiology: Meaning, scope and methods. Epidemiology of common communicable diseases: Malaria, Tuberculosis, Leprosy, Diabetes, Cardiovascular disease and Sexually Transmitted Diseases (STDs), HIV/AIDS,

Unit – II: Women’s Health, Sex, Family Planning, and Maternal-Infant Health.

Reproductive life, child Birth, Family planning adoption, male dominance, Nursing and early nurture, hyper-menstruation and its corollaries. Population variation and its relation to health and disease.

Unit – III: Chronic Disease, Injury, Stress, and Mental Health

Effect of Chronic Disease in Health, Relationship between mental health, chronic disease, and injury, Understanding Stress and Its Effects Cross-Culturally, Mental Disorders and Related Phenomena, diseases associated with specific sociocultural and environmental contexts: Kuru, osteomalacia, sickle cell anaemia. Adaptations to Health Threats: Genetic Vulnerability and Resistance & Environment, Developmental and Cultural Adaptations to adverse Conditions.

Unit – IV: Variations in Health Care Systems: A Comparative Perspective.

Health promotion and health care delivery programmes. Family welfare programmes. Child health and nutrition programmes. Reproductive health awareness.

Healing and Healers in Cross-Cultural Perspectives.

A. Shamanism, Magic, and Healing.

Shaman, Magic, Witchcraft and sorcery,

B. Folk Healers and “Alternative Medicine.”

Types of healers and healing, Problems in evaluating efficacy, Sources of dissatisfaction with mainstream medicine.

Health and Human Rights

Introduction to Human rights, Development of a Human Rights Impact Assessment for the Formulation and Evaluation of Public Health Policies.

Legal Aspects & Future Prospects for Health

Rules and regulations of international health policy, Medico- Legal Problems in relation to health administration, International health organization / NGOs, Medical Ethics, Critical issues in global health.

Practical

1. Make a Schedule on Health and Demography.

2. Calculation of Infant Sex ratio, Fertility rate, Total fertility rate, Mortality rate, Birth rate, crude birth rate, crude death rate, Mortality rate, life expectancy, immigration rate, population growth rate.
3. Identification and Characteristics of Various diseases.
4. Case Studies of Traditional and Modern healers.

Suggested Readings

- Rajesh Khanna and A.K. Kapoor. 2007. Ethnic Groups and Health Dimensions. Discovery Publishing House, New Delhi.
- Chin, James, M.D., M.P.H. (ed.) 2000. Control of Communicable Diseases Manual. 17th Edition. American Public Health Association. *Anyone interested in field work in less developed areas should own this book for reference.*
- Helman, Cecil G. 2001. Culture, Health, and Illness. 4th ed. London: Arnold. *This book is written for health care practitioners and clearly explains the relevance of culture to health.*
- Mann, Jonathon M., et al. (eds.) 1999. Health and Human Rights. New York: Routledge.
- Albrecht, Gary L., Ray Fitzparick, and Susan C. Scrimshaw (eds.) 2000. The Handbook of Social Studies in Health and Medicine, SAGE Publications.
- Bannerman, Robert, J. Burton, and Ch'en Wen-Chieh (eds.) 1983. Traditional Medicine and Health Care Coverage. Geneva: World Health Organization.
- Chen, Lincoln C. Arthur Kleinman, and Norma C. Ware 1994. Health and Social Change in International Perspective. Harvard University Press.
- Coreil, Jeannine and J. Dennis Mull (eds.) 1990. Anthropology and Primary Health Care, Boulder: Westview Press.
- Hahn, Robert A. 1999. Anthropology in Public Health. Bridging Differences in Culture and Society. New York: Oxford University Press.
- Helman, Cecil G. 1994. Culture, Health, and Illness. 3rd ed. Oxford: Butterworth-Heinemann.
- Inhorn, Marcia C. and Peter J. Brown 1997. The Anthropology of Infectious Disease. International health Perspectives. Gordon and Breach Publishers.
- Koop, C. Everett, Clarence E. Pearson, and M. Roy Schwartz (eds.) 2001. Critical Issues in Global Health. San Francisco: Jossey-Bass. A Wiley Company.
- Mayer, Kenneth H. and H.F. Pizer (eds.) 2000. The Emergence of AIDS. The Impact on Immunology, Microbiology, and Public Health. Washington, D.C.: American Public Health Association.
- Nichter, Mark and Mimi Nichter 1996. Anthropology and International Health. Asian Case Studies. Gordon and Breach Publishers.
- Paul, Benjamin D. (ed.) 1955. Health, Culture, and Community. Case Studies of Public Reactions to Health Programs.
- Williams, Cicely D., Naomi Baumslag, and Derrick B. Jelliffe 1994. Mother and Child Health. Delivering the Services. 3rd Edition. New York: Oxford University Press
- Basch, Paul F. Textbook of International Health 1999. New York: Oxford University Press.
- Tsui, Amy O., Judith N. Wasserheit, and John G. Haaga (eds.) 1997. Reproductive Health in Developing Countries. Washington, D.C.: National Academy Press.

DSE-8 Dissertation

Student will opt either dissertation or project work or one paper from the elective discipline course in 6th Semester. He/she will be attached with one supervisor or guide.