CHOICE BASED CREDIT SYSTEM
(CBCS as per UGC Guidelines)
For B.Sc. (Honours) 2018-19,
Anthropology (1\textsuperscript{st}-6\textsuperscript{th} 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

<table>
<thead>
<tr>
<th>I. Core Course (6 Credits) (14 Papers)</th>
<th>14×4= 56</th>
</tr>
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<tbody>
<tr>
<td>Core Course Practical (14 Papers)</td>
<td>14×2= 28</td>
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<table>
<thead>
<tr>
<th>II. Elective Course (6 Credits) (8 Papers)</th>
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<tbody>
<tr>
<td>A.1. Discipline Specific Elective (4 Papers)</td>
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</tbody>
</table>
A.2. Discipline Specific Elective Practical 4 ×2=8
(4 Papers)

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

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

<table>
<thead>
<tr>
<th>Semester</th>
<th>CORE COURSE (14)</th>
<th>Ability Enhancement Compulsory Course (AECC) (2)</th>
<th>Skill Enhancement Course (SEC) (2)</th>
<th>Elective: Discipline Specific DSE (4)</th>
<th>Elective: Generic (GE) (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>C 1</td>
<td>(English/Hindi/MIL Communication)/ Environmental Science</td>
<td></td>
<td>GE-1 OPTIONAL</td>
<td>GE-2 OPTIONAL</td>
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<td></td>
<td>C 2</td>
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<td>III</td>
<td>C 3</td>
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<td>GE-3 OPTIONAL</td>
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<tr>
<td></td>
<td>C 4</td>
<td>Environmental Science/(English/ Hindi/MIL Communication)</td>
<td></td>
<td>GE-4 OPTIONAL</td>
<td></td>
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<tr>
<td>I</td>
<td>C 5</td>
<td></td>
<td>SEC -1</td>
<td>GE-5 OPTIONAL</td>
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<td>C 6</td>
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<td>C 7</td>
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<tr>
<td>II</td>
<td>C 8</td>
<td></td>
<td>SEC -2</td>
<td>GE-6 OPTIONAL</td>
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<tr>
<td></td>
<td>C 9</td>
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<td>C 10</td>
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<tr>
<td>III</td>
<td>C 11</td>
<td></td>
<td></td>
<td>DSE-1 OPTIONAL</td>
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<td></td>
<td>C 12</td>
<td></td>
<td></td>
<td>DSE-2 OPTIONAL</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>C 13</td>
<td></td>
<td></td>
<td>DSE-3 OPTIONAL</td>
<td></td>
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<tr>
<td></td>
<td>C 14</td>
<td></td>
<td></td>
<td>DSE-4 OPTIONAL</td>
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</tbody>
</table>
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.
### Session 2018-19

#### COURSE STRUCTURE

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>SEMESTER II</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 ANTH-C1: Introduction to Biological Anthropology</td>
<td>C3 ANTH-C3: Archaeological Anthropology</td>
</tr>
<tr>
<td>AECC1 ANTH-AECC1: English</td>
<td>AECC2 ANTH-AECC2: Environmental Science</td>
</tr>
<tr>
<td>GE1* ANTH-C-GE1: Introduction to Anthropology</td>
<td>GE2* ANTH-C-GE2: Biological Anthropology</td>
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</tbody>
</table>

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<thead>
<tr>
<th>SEMESTER III</th>
<th>SEMESTER IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5 ANTH-C5: Tribes and Peasants in India</td>
<td>C8 ANTH-C8: Theories of Culture and Society</td>
</tr>
<tr>
<td>C7 ANTH-C7: Biological Diversity in Human Populations</td>
<td>C10 ANTH-C10: Research Methods</td>
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<table>
<thead>
<tr>
<th>SEC</th>
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</thead>
<tbody>
<tr>
<td>SEC1</td>
<td>Environmental Science</td>
</tr>
<tr>
<td>GE5*</td>
<td>ANTH-GE-5 Fundamental of Palaeoanthropology</td>
</tr>
<tr>
<td>GE6*</td>
<td>ANTH-GE-6 Human Growth &amp; Human Genetics</td>
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<tr>
<th>SEMESTER V</th>
<th>SEMESTER VI</th>
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<tbody>
<tr>
<td>C12 ANTH-C12: Anthropology in Practice</td>
<td>C14 ANTH-C14: Anthropology of India</td>
</tr>
<tr>
<td>DSE1 or DSE 2 ANTH-DSE-1: Human Genetics</td>
<td>DSE5 or DSE 6 ANTH-DSE-5: Physiological Anthropology</td>
</tr>
<tr>
<td>DSE3 or DSE 4 ANTH-DSE-3: Paleonanthropology</td>
<td>DSE7 or DSE 8 ANTH-DSE-7: Anthropology of Health</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Paper No.</th>
<th>Title of Paper</th>
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<tbody>
<tr>
<td>I</td>
<td>ANTH- C-GE-1</td>
<td>Introduction to Anthropology</td>
</tr>
<tr>
<td>II</td>
<td>ANTH- C-GE-2</td>
<td>Biological Anthropology</td>
</tr>
<tr>
<td>III</td>
<td>ANTH-GE-5</td>
<td>Fundamental of Palaeoanthropology</td>
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<tr>
<td>IV</td>
<td>ANTH-GE-6</td>
<td>Human Growth &amp; Human Genetics</td>
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</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Paper No.</th>
<th>Title of Paper</th>
</tr>
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<tbody>
<tr>
<td>First</td>
<td>I</td>
<td>ANTH-C1</td>
<td>Introduction to Biological Anthropology</td>
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<tr>
<td></td>
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<td>ANTH-C2</td>
<td>Introduction to Socio-cultural Anthropology</td>
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<tr>
<td></td>
<td>II</td>
<td>ANTH-C3</td>
<td>Archaeological Anthropology</td>
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<td>ANTH-C4</td>
<td>Fundamentals of Human Origin &amp; Evolution</td>
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<tr>
<td>Second</td>
<td>III</td>
<td>ANTH-C5</td>
<td>Tribes and Peasants in India</td>
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<td>ANTH- C6</td>
<td>Human Ecology: Biological &amp; Cultural dimensions</td>
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<tr>
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<td>ANTH- C7</td>
<td>Biological Diversity in Human Populations</td>
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<td>IV</td>
<td>ANTH- C8</td>
<td>Theories of Culture and Society</td>
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<td>ANTH- C9</td>
<td>Human Growth and Development</td>
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<td>ANTH- C10</td>
<td>Research Methods</td>
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<tr>
<td>Third</td>
<td>V</td>
<td>ANTH- C11</td>
<td>Human Population Genetics</td>
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<td></td>
<td>ANTH- C12</td>
<td>Anthropology in Practice</td>
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<td></td>
<td>VI</td>
<td>ANTH- C13</td>
<td>Forensic Anthropology</td>
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<td>ANTH- C14</td>
<td>Anthropology of India</td>
</tr>
</tbody>
</table>
ANTH-C1: Introduction to Biological Anthropology  
Marks: 100(80+20)  
Credits- 4  
Total Lectures: 60  

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

Somatoscopy

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

Suggested Readings

ANTH-C2: Introduction to Socio-Cultural Anthropology

Marks: 100(80+20)
Credits-4

Total Lectures: 60

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)
Credits-2

Total Lectures: 60

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
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
Marks: 50(40+10)
Total Lectures: 60
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

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, dolorite, 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
ANTH-C 5: Tribes and Peasants in India

Total Lectures: 60

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

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:
• Malinowski M. (1922). Argonauts of the Western Pacific. London: Routledge and
  Kegan Paul Ltd.
• Evans-Pritchard E.E. (1940). The Nuer: A Description of the Modes of Livelihood and
  Press.
• Nature-Man-Spirit complex LPV
Suggested Readings
ANTH-C6: Human Ecology: Biological & Cultural Dimensions

Total Lectures: 60

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

Biological Dimensions
Size and Shape
Measurements

<table>
<thead>
<tr>
<th>Stature</th>
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<tr>
<td>Sitting Height</td>
<td>Nasal Breadth</td>
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<tr>
<td>Body Weight</td>
<td>Nasal Height</td>
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<td>Total Upper Extremity Length</td>
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Size and Shape Indices

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<th>Relative Upper Extremity Length</th>
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<tr>
<td>Ponderal Index</td>
<td>Relative Total Lower Extremity</td>
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<tr>
<td>Relative Sitting Height</td>
<td>Nasal Index</td>
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</table>

Cultural Dimensions
1. Make a research design pertaining to any environmental problem and do a project based on it.
**Suggested Reading**

ANTH-C7: Biological Diversity in Human Populations

Mark: 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

Marks: 50(40+10)
Credits-2

Total Lectures: 60

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)

Suggested readings:
ANTH-C8: Theories of Culture and Society

Marks: 100(80+20)
Credits-4

Total Lectures: 60

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)
Credits-2

Total Lectures: 60

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
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)  
Credits-2  
Total Lectures: 60  

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  
   Human Kinetics.
    and Human Performance.
    status of the Western Himalayan population. In Basu and Gupta (eds.). Human
    Biology of Asian Highland Populations in the global context.
ANTH-C 10: Research Methods

Total Lectures: 60

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- Measures 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

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.
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.
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
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).
Anthropometry; Somatometry and Somatoscopy; Anthropometric instruments. Somatoscopic observations (Eye, nose, hair, lips). Somatometric landmarks (vertex, glabella, opisthocranion, 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
Coon, C.S. Garn, S.M.I. &: Races –A Study of the Problems of Race Formation
Montagu, M.F.A.: Concept of Race.
Comas, Juan. (1960): Manual of Physical Anthropology (Spring-Fields: C. C.Thomas USA
OBJECTIVE: (The course is designed to teach basics and fundamentals of biological anthropology and its scope. The course will introduce the students to 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

ANTH- C-GE2 -Lab: Practical
Marks: 50(40+10)
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
Montagu, M.F.A., 1964.: An Introduction to Physical Anthropology
Kummel, Bernhard (1970).: *History of the Earth: An Introduction to Historical Geology*.
Vashisht, R.N. (1985).: *Antecedents of Early Man in Northwestern India*.
Strickberger, M.W.: *Genetics*.

**SEMMESTER III**

**ANTH-GE 5: Fundamental of Palaeoanthropology**

_Theory_

**Marks: 100 (80+20)  
Credits: 4**

**Total Lectures: 60**

**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:**

**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**

_Theory_

**Marks: 50 (40+10)  
Credits-2**

**Total Lectures: 60**

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
SEMMESTER IV

ANTH-GE 6: Human Growth & Human Genetics

Marks: 100(80+20)
Credits: 4

Total Lectures: 60

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)
Credits-2

Total Lectures: 60

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:


SEMESTER V

CORE PAPERS

ANTH-C11: Human Population Genetics

Theory

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

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
ANTH-C12  Anthropology in Practice

Theory  Credit- 4

Unit I: Academic 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

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
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

2. Somatometric and Somatoscopic Observation on living persons.
3. Identification of bloodstain, urine, semen and saliva.
4. Examination of Fingerprints and Handwriting.

Suggested Readings:


**ANTH-C14 Anthropology of India**

**Theory**

**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 contemporary 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.
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
5. Gupta D. Social Stratification. Delhi: Oxford University Press.
12. Majumdar DN. (1901). Races and Culture of India. Asia Publishing House, Bombay
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:
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
17. http://biography.yourdictionary.com/john-graunt
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.

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 palaeodemography, 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
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:
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 IV: Impact of smoking, alcohol, drug, pollution and occupation on cardio-respiratory functions; physical performance and environmental stress, chronic diseases, malnutrition, lifestyle disease

Unit V: 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:

DSE-6. Visual Anthropology

Theory
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'.
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
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,

   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 anemia. Adaptations to Health Threats: Genetic Vulnerability and Resistance & Environment, Developmental and Cultural Adaptations to adverse Conditions.


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

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.

**Suggested Readings**

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.