PANJAB UNIVERSITY
CHANDIGARH

CHOICE BASED CREDIT SYSTEM
(CBCS as per UGC guidelines)
For B.Sc (Honours) 2017-18
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/lab 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 candidate’s 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. Core Course (6 Credits) (14 Papers)**
   Core Course Practical (14 Papers)
   14×4= 56
   14×2= 28

   **II. Elective Course (6 Credits) (8 Papers)**
   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)  
\[6 \times 4 = 24\]

B.2. Generic Elective Practical (6 Papers)  
\[6 \times 2 = 12\]

III. Ability Enhancement Courses

1. Ability Enhancement Compulsory Courses (AECC) (2 Papers of 2 credit each)  
\[2 \times 2 = 4\]
   Environmental Science English/Hindi/MIL Communication

2. Skill Enhancement Courses (SEC) (Minimum 2)  
\[2 \times 2 = 4\]
(2 Papers of 2 credit 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>Sem</th>
<th>CORE COURSE (14)</th>
<th>Ability Enhancement</th>
<th>Skill Enhancement</th>
<th>Elective: Discipline</th>
<th>Elective: Generic</th>
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<tr>
<td></td>
<td></td>
<td>Compulsory Course (AECC) (2)</td>
<td>Course (SEC) (2)</td>
<td>Specific DSE (4)</td>
<td>(GE) (6)</td>
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<tr>
<td>I</td>
<td>C 1</td>
<td>(English/Hindi/MIL Communication)/ Environmental Science</td>
<td></td>
<td>GE-1 OPTIONAL</td>
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<td></td>
<td>C 2</td>
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<td>GE-2 OPTIONAL</td>
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<tr>
<td>II</td>
<td>C 3</td>
<td>Environmental Science/(English/Hindi/MIL Communication)</td>
<td></td>
<td>GE-3 OPTIONAL</td>
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<td></td>
<td>C 4</td>
<td></td>
<td></td>
<td>GE-4 OPTIONAL</td>
<td></td>
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<tr>
<td>III</td>
<td>C 5</td>
<td>SEC -1</td>
<td></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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<td>IV</td>
<td>C 8</td>
<td>SEC -2</td>
<td></td>
<td>GE-6 OPTIONAL</td>
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<td>C 9</td>
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<td>C 10</td>
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<tr>
<td>V</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>
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<tr>
<td>VI</td>
<td>C 13</td>
<td></td>
<td></td>
<td>DSE -3 OPTIONAL</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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B.Sc. (Honors) Anthropology
Under the Framework of Honors School System
OUTLINES OF TESTS

OBJECTIVE OF THE COURSE

To teach the basic & fundamental concepts of Anthropology and their applications. The syllabus pertaining to B.Sc. (Honors) Anthropology (3 Year course & 6 Semesters) in the subject of Anthropology under Honors 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 (GE-1) 100 Marks (4 credits)
Generic Elective -2 (GE-2) 100 Marks (4 credits)

Practicals:
Generic Elective -1 Practical (GE-1 Lab) 50 Marks (2 credits)
Generic Elective -2 Practical (GE-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

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>SEMESTER II</th>
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</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-GE1: Introduction to Anthopology</td>
<td>GE3* ANTH-GE3: Introduction to Social-Cultural Anthropology</td>
</tr>
<tr>
<td>GE2* ANTH-GE2: Biological Anthropology</td>
<td>GE4* ANTH-GE4: Archaeological Anthropology</td>
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<tr>
<th>SEMESTER III</th>
<th>SEMESTER IV</th>
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<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>
</tr>
<tr>
<td>SEC1</td>
<td>SEC2</td>
</tr>
<tr>
<td>GE5* ANTH-GE-5 Fundamental of Palaeoanthropology</td>
<td>GE6* 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 ANTH-DSE-1: Human Genetics</td>
<td>DSE3 ANTH-DSE-3: Paleoanthropology</td>
</tr>
<tr>
<td>DSE2 ANTH-DSE-2: Physiological Anthropology</td>
<td>DSE4 ANTH-DSE-4: Tribal Cultures of India</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

**ABILITY ENHANCEMENT COURSES (any one per semester in semesters 3-4)**
1. ANTH- AECC1: Environmental Science
2. ANTH- AECC2: English/MIL Communication
3. ANTH- AECC3: Public Health and Epidemiology
4. ANTH- AECC4: Business and Corporate Anthropology

**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**

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Paper No.</th>
<th>Title of Paper</th>
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</thead>
<tbody>
<tr>
<td>First</td>
<td>I</td>
<td>GE-1</td>
<td>Introduction to Anthropology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GE-2</td>
<td>Biological Anthropology</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>GE-3</td>
<td>Introduction to Social-Cultural Anthropology</td>
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<tr>
<td></td>
<td></td>
<td>GE-4</td>
<td>Archaeological Anthropology</td>
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<td>GE-5</td>
<td>Fundamental of Palaeoanthropology</td>
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<td>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.

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<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Paper No.</th>
<th>Title of Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>I</td>
<td>ANTH-C1</td>
<td>Introduction to Biological Anthropology</td>
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<tr>
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<td>ANTH-C2</td>
<td>Introduction to Socio-cultural Anthropology</td>
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<td>II</td>
<td>ANTH-C3</td>
<td>Archaeological Anthropology</td>
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<tr>
<td></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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<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>Research Methods</td>
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<td>Human Population Genetics</td>
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<td>ANTH-C12</td>
<td>Anthropology in Practice</td>
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<td>ANTH-C13</td>
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<td>ANTH-C14</td>
<td>Anthropology of India</td>
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</table>
ANTH-C1: Introduction to Biological Anthropology

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
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 frontal 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

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

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

Marks: 100(80+20)
Credits-4

Marks: 50(40+10)
Credits-2
ANTH-C3: Archaeological Anthropology

Total Lectures: 60

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, Olorgesalile, Olduvai Gorge
- Pirro Nord, Dmanisi
- Attirampakkam, Isampur

C3-Lab: Practical

Total Lectures: 60

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

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
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

Marks: 100(80+20)
Credits- 4

Total Lectures: 60 Theory

Unit I:
Anthropological Concept of Tribe
1. Problems of nomenclature, definition and classification.
2. Features of tribes in India.

Unit II:
Tribes and Wider world.
1. The history of tribal administration; Constitutional safeguards

Unit III:
Anthropological Concept of Village
1. The concept of peasantry.
2. Approaches to the study of peasants – economic, political and cultural.
3. Characteristics of Indian village: social organization; economy and changes.
4. 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:
- 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.

Cultural Dimensions

Unit III:
Culture as a tool of adaptation; Various modes of human adaptation in pre-state societies.
   i. Hunting and food gathering
   ii. Pastoralism
   iii. 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
1. Stature
2. Sitting Height
3. Body Weight
4. Total Upper Extremity Length
5. Total Lower Extremity Length
6. Nasal Breadth
7. Nasal Height

Size and Shape Indices
1. Body Mass Index
2. Ponderal Index
3. Relative Sitting Height
4. Relative Upper Extremity Length
5. Relative Total Lower Extremity Length
6. Nasal Index

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

Total Lectures: 60

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

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

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 Benedect and Margaret Mohd.

C 8 -Lab: Practical

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

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
Total Lectures: 60
Marks: 50(40+10)
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
ANTH-C 10: Research Methods

Marks: 100(80+20)
Credits-4

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
1. Identify, define, and analyze ethical issues in the context of human subject research.
2. 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.
3. Ethical importance of consent, privacy and confidentiality in research
4. Issues of academic fraud and plagiarism, conflicts of interest, authorship and publication

Unit IV:
Analysis and Writing Up
1. 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.
2. Similarities and differences between qualitative and quantitative data analysis; introduction of software for data analysis.

Bio-Statistics
1. Types of variables, presentation and summarization of data (tabulation and illustration).
2. Descriptive statistics- Measurers of Central Tendency, Measure of Variation.
3. Tests of Inference- Variance ratio test, Student’s ‘t’ tests, Chi-square test.
4. Pedigree Analysis- Importance and implication.
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.
ANTH-GE-1

B.Sc (Hons.) 1st year (Choice Based Credit System)  SEMESTER I

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

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

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

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, 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*.
ANTH-GE-2

B.Sc (Hons.) 1st year (Choice Based Credit System)

ANTH-GE-2 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 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

GE2 -Lab: Practical

Marks: 50(40+10)
Credits-2

Total Lectures: 60

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.
Strickberger, M.W.: Genetics.
SEMESTER II

ANTH-GE-3

ANTH-GE-3 Introduction to Social-Cultural Anthropology

Marks: 100(80+20)

Credits: 4

Total Lectures: 60

Theory

Objectives: (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)

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

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

UNIT III
Schools of thought: Evolutionary Schools.

UNIT IV

GE3 -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

Note:
1. For the semester examination a total of nine questions will be set, two each from each of the Units I, II, III, IV. There will be one compulsory question of 8 to 10 short answer type questions covering the whole syllabus. There will be no choice in the compulsory question.
2. Students will be required to attempt five questions, choosing one question from each of the Units I, II, III, IV and the compulsory question.
3. All questions will carry equal marks.
## ESSENTIAL READINGS

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<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Edition/Impression</th>
<th>Publisher/Location</th>
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<td>Beattie, J. (1999)</td>
<td>Other Cultures</td>
<td></td>
<td>Routledge</td>
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<tr>
<td>Mair, Lucy (1993)</td>
<td>An Introduction to Social Anthropology</td>
<td>Eighth Impression</td>
<td>Delhi: Oxford University Press</td>
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ANTH-GE-4

ANTH-GE-4 Archaeological Anthropology

Marks: 100(80+20)
Credits: 4

Total Lectures: 60
Theory

Objective: (The paper gives an idea about the importance of the 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 work are integral part of this course).

Unit I:
Introduction: Definition and scope of archaeological anthropology, Relation with other disciplines, Principles of Archaeological Anthropology. Methods of studying archaeological anthropology.

Unit II:
Geochronology: Relative and Absolute dating methods: Stratigraphy, Dendrochronology, Palynology, Obsidian hydration dating; Radioactive carbon method.

Unit III:

Unit IV:

GE4 -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 Type; 3. Blade Tool Types; 4. Microlithic Tool Type; 5. Neolithic Tool Type

Suggested Readings:
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:

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

GE:5 -Lab: Practical

Total Lectures: 60 Credits: 2

Marks: 50(40+10)

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

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

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: