

## **DEPARTMENT OF ANTHROPOLOGY**

### **BSc. (Hons.) Anthropology**

#### **Semester-4**

#### **DISCIPLINE SPECIFIC CORE COURSE -10 (DSC-10)**

##### **Human Genetics**

#### **CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		
Human Genetics	04	03	Nil	01	Class XII pass	NIL

(Teaching hours required: Theory, 45 hours; Practical, 30 hours)

#### **Course Objectives**

1. To introduce the students the basic principles of human genetics.
2. To familiarize the students with the methods/technologies used in genetic research.
3. Aims to provide knowledge about the pattern of inheritance of genetic disorders, genetic abnormalities and the importance of genetic testing and counseling.

#### **Learning Outcomes**

Student will be able to:

1. describe the structure and function of DNA; concept of gene, transcription and translation.
2. grasps the inheritance pattern of human traits/diseases and types of chromosomal abnormalities and their implications.
3. handle the methods and techniques used in human genetics.
4. comprehend the importance of genetic counselling.

#### **Unit 1: Human Genome, Chromosomes and Abnormalities (09 Hours)**

History of Human genetics; Concept of gene; Chromosomal structure and abnormalities, Cytogenetics, and Human Genome Project

#### **Unit 2: DNA Structure and Function (09 Hours)**

DNA Structure and Function, DNA Replication, repair and recombination, gene expression, coding and non-coding regions. Expression of genetic information: from Transcription to Translation - the relationship between genes and protein.

#### **Unit 3: Patterns of Inheritance (09 Hours)**

Mendelian inheritance (Autosomal and X linked); Co-dominance; Sex-linked inheritance; Multiple allelism; Dosage compensation, Single factor and multifactorial inheritance and Non-Mendelian inheritance

#### **Unit 4: Methods in Human Genetics (09 Hours)**

Pedigree analysis, methods of assessing chromosomal abnormalities (Banding techniques; Karyotyping; FISH); Sib-pair and Twin studies; Genotyping and Sequencing methods

#### **Unit 5: Genetic Diagnosis and Counselling (09 Hours)**

Prenatal diagnosis; Newborn screening; Genetic counseling

#### **Practical (30 hours)**

Project report based on data collection related to one mendelian disorder on the basis of brief field visits, in nearby areas.

#### **References**

1. Brown TA. (2007). *Genomes*. Garland Science.
2. Cummings MR (2011). *Human Heredity: Principles and Issues*. Brooks/Cole, Cengage Learning
3. Klug WS (2012). *Concepts of Genetics*. Pearson.
4. Lewis R. (2009). *Human Genetics: Concepts and Application*. The McGraw–Hill Companies, Inc.
5. Vogel F. and Motulsky A.G. (1996). *Human Genetics: Problems and Approaches*. Springer, 3rd revised edition.

#### **Teaching Learning Process**

The process of learning will involve acquisition of domain knowledge and understanding of skills required for conducting human genetic research. Process will involve lectures and presentations and report submission.

#### **Assessment Methods**

Examination schemes and mode shall be as prescribed by the Examination Branch, University of Delhi from time to time.

#### **Keywords**

Human genetics, DNA, chromosomal abnormalities, anthropology, sequencing

**DISCIPLINE SPECIFIC CORE COURSE -11 (DSC-11)**  
**Kinship and Polity**

**CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		
Kinship and Polity	04	03	Nil	01	Class XII pass	NIL

(Teaching hours required: Theory, 45 hours; Practical, 30 hours)

**Course objective**

This course seeks to impart basic anthropological knowledge on themes in the studies of kinship, Family and Marriage, and various political systems.

**Learning Outcomes**

The students will be able to:

- demonstrate understanding of key anthropological debates and approaches to kinship studies.
- differentiate between different kinds of marriage rules and family types.
- elucidate analysis of power in different forms of political systems.

**Syllabus:**

**Unit 1 (10 Hours)**

Approaches to the study of Kinship; Descent, Alliance and cultural Theories; Kinship Usages, Terminologies; Redefining Kinship

**Unit 2 (11 Hours)**

Marriage and Family : Problems of definition; Approaches to the study of Family; Domestic Group and Household

**Unit 3 (12 Hours)**

Descent and Political Systems; Approaches to the study of Political Anthropology; Power, Authority and Legitimacy; State and stateless societies

**Unit 4 (12 Hours)**

Nation, Nation State and Citizenship; Customary Laws; Social Movements

### **Practical (30 hours)**

1. Collect and analyse genealogies of a person and find out the inter-generational changes in terms of age at marriage, education qualification, household, occupation and migration pattern.
2. Conduct an in-depth interview to find out the changing marriage practices and family types.
3. Case study of any current political instance/event in social media to understand how people imagine the state, and are involved in power relations

### **References**

1. Fortes, Meyer, and Evans-Pritchard. (1950) (4<sup>th</sup> edition). *African Political Systems*. London: Oxford University Press
2. Harris, C. C. (1990). *Kinship. Concepts in social thought*. Minneapolis: University of Minnesota Press.
3. Karve, Irawati. (1968). *Kinship organization in India*. London: Asia Publ. House.
4. Lévi-Strauss, Claude. (1969). *The elementary structures of kinship*. Boston: Beacon Press
5. Shah, A.M (1998). *The Family in India: Critical Essays*. New Delhi : Orient Longman
6. Spencer, Jonathan (2007). *Anthropology, Politics, and the State: Democracy and Violence in South Asia*. University of Edinburgh: Cambridge University Press.
7. Stone, Linda and Diane E King. (2019). *Kinship and Gender: An Introduction* (6<sup>th</sup> edition). New York: Routledge.
8. Uberoi, Patricia (1994) *Family, Kinship and Marriage in India*. New Delhi: Oxford University Press.
9. Vincent, Joan (ed.) (2002). *The anthropology of Politics: A reader in ethnography, theory and critique*. Blackwell publisher

### **Teaching Learning Process**

Lectures and Discussions, Seminars and Presentations, Practical Classes

### **Assessment Methods**

Examination schemes and mode shall be as prescribed by the Examination Branch, University of Delhi from time to time.

### **Keywords:**

Kinship, Marriage, Family, Politics, Customary Law

**DISCIPLINE SPECIFIC CORE COURSE -12 (DSC-12)**  
**Archaeological Fieldwork (4-7 days)**

**CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		
Archaeological Fieldwork	04	02	Nil	02	Class XII pass	NIL

(Teaching hours required: Theory, 45 hours; Practical, 30 hours)

**Course objectives:**

To expose students to different prehistoric sites of India.

**Learning Outcomes:** The students will be able to:

1. demonstrate the understanding of the lithic industry.
2. identify prehistoric tools in situ.
3. describe the stratigraphic context of the tools.

**Syllabus:**

**Unit 1 Methods in Archaeological Anthropology: (07 Hours)**

Distinction between exploration, expedition, field Survey and ethnoarchaeology

**Unit 2: Geological Background of the Region (07 Hours)**

Geomorphology, Geochronology, Topography, Flora and Fauna, Sedimentology

**Unit 3: Understanding Culture (08 Hours)**

Artifacts and tools, Tool Types, and technology of different cultural periods of prehistoric times

**Unit 4: Interpretation of Culture (08 Hours)**

Analysis of material, Drawing, Dating of artifacts and logic of inference

**Practical (60 Hours)**

**1. Analysis of Prehistoric Tools:** Identification, Interpretation and Drawings of the tool types with special reference to the technology and chronology:

Core Tool Types

Flake Tool Types

Blade Tool Types

**2.** The students are required to conduct an archaeological fieldwork in a selected region of India for a period nearly 7 days and submit a field report.

## References

1. Bhattacharya, D.K (2006). *An outline of Indian Prehistory*. Palaka Prakashan Delhi.
2. Bhattacharya, D.K. (1979). *Old Stone Age Tools: A Manual of Laboratory Techniques of Analysis*. Calcutta: K. P. Bagchi and Company
3. Inizan, M.L.; M. R. Ballinger; H. Roche and J. Tixier. (1999). *Technology and terminology of Knapped Stone*. Nanterre: CREP.
4. Oakley, K.P. (1972). *Man the Tool Maker*. London. Trustees of the British Museum of Natural History.
5. Renfrew Colin and Bahn Paul. (2012). *Archaeology: Theories, Methods and Practice*. New York: Thames & Hudson, 6th Edition.
6. Sankalia, H.D. (1982). *Stone Age Tools: Their Techniques, Names and Probable Functions*. Poona: Deccan College.
7. Whittaker, J.C. (2009). *Flintknapping: Making and Understanding Stone Tools*. Austin: University of Texas Press.

## Teaching Learning Process

Classroom Presentations using digital methods

Practical classes

Seminars and presentations by students

Field visit to an archaeologically important site

## Assessment Methods

Examination schemes and mode shall be as prescribed by the Examination Branch, University of Delhi from time to time.

## Keywords

Prehistoric, Archaeological, stone tools, material culture and evolution