



VISVA-BHARATI
DEPARTMENT OF ANTHROPOLOGY
M.A. /M.Sc. COURSE IN ANTHROPOLOGY
Revised Syllabus in Semester Format
2020

Total no. of Semester: 4, Total no. of Paper: 24, Total Marks: 1200

Semester	Paper	Title of the Paper	Marks
First	I	Biological Anthropology	50
	II	Genetics and Population Biology	50
	III	Fundamentals of Social/Cultural Anthropology	50
	IV	Theories of Culture	50
	V	Paleoanthropology	50
	VI	Archaeological Anthropology	50
Total			300
Second	VII	Research Methods in Anthropology	50
	VIII	Statistics and Computer Application in Anthropology	50
	IX	Indian Prehistory	50
	X	Fieldwork and Field Report Writing	50
	XI	Practical: Social/Cultural and Archaeological/Prehistory	50
	XII	Practical: Biological Anthropology	50
Total			300
Third	XIII	Indian Anthropology	50
	XIV	Ethnicity, Nation Building and Policy Planning	50
	XV	Physiological Anthropology & Ergonomics	50
	XVI	Anthropological Demography	50
	XVII	Medical Anthropology	50
	XVIII	Project/Placement	50
(Based on Zoological Park visit/ Museum visit/Fieldwork/Secondary Resources etc.)			
Total			300
Fourth	XIX-XXXVII	Special Papers: (Choice Based)	
Group A (Biological Anthropology) (Any four papers from XIX to XXVI)			
	XIX	Human Genetics	50
	XX	Biochemical Genetics	50
	XXI	Human Biology	50
	XXII	Biostatistics & Applications	50
	XXIII	Forensic Anthropology	50
	XXIV	Molecular & Evolutionary Anthropology	50
	XXV	Nutritional & Sports Anthropology	50
	XXVI	Primatology	50
	(Compulsory Papers)		
	XXVII	Laboratory work	50
	XXVIII	Dissertation work	50

Group B (Social-Cultural Anthropology)
(Any five papers from XXIX to XXVI)

XXIX	Theory and Methods in Social-Cultural Anthropology	50
XXX	Anthropological Theory and Method for Policy Planning & Applications	50
XXXI	Developmental Anthropology	50
XXXII	Tribal and Minorities Studies in India	50
XXXIII	Communication Anthropology	50
XXXIV	Ecological Anthropology	50
XXXV	Anthropology of Gender	50
XXXVI	Psychological Anthropology	50
	(Compulsory Paper)	
XXXVII	Dissertation work	50

Total	300
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GRAND TOTAL: 1200

SEMESTER - I

Paper I: Biological Anthropology

FFM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Man's place in the animal kingdom. Comparative anatomy of man and Apes. Hominid Evolution: erect posture and bipedalism, phylogeny and taxonomy of primates, distribution of living primates and speciation.

UNIT-2 Meaning, Scope and Relations with other branches of Anthropology and with biological, social and medical sciences, relevance of physical anthropology in India. Applied physical anthropology.

UNIT-3 Human Genetics: history, development and scope, Structure and function of an animal cell, cell division.

UNIT-4 Human chromosome, karyotyping, structural and numerical chromosomal abnormalities.

Recommended Readings

1. Willermet C, Lee SH. Evaluating Evidence in Biological Anthropology: The Strange and the Familiar. 2019. Cambridge University Press.
2. Trevathan W. The International Encyclopedia of Biological Anthropology. 2018. John Wiley & Sons.
3. Larsen CS, Repcheck J, Lesser P, Musich L, Wildermuth K. Essentials of Physical Anthropology. 2009. W W Norton & Co Inc.
4. Fuentes A. Biological Anthropology: Concepts and Connections. 2011. McGraw-Hill Education.
5. Gangane. Human Genetics. 2017. Elsevier India.

Paper II: Genetics and Population Biology

FFM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Mendelian genetics in man, twin and family study, heritability, qualitative and quantitative genetics

UNIT-2 lethal and sub lethal gene, modifying gene, inborn errors of metabolism in man, biochemical pathways, phenylketonuria, G6PD, polygenic inheritance, multiple allelism and ABO blood group inheritance, over view of DNA technology.

UNIT-3 Human growth, stages of growth, nutrition and development, factors affecting growth, methodologies for growth studies, growth centiles, world wide variations of human growth.

UNIT-4 Race, ethnicity and population: concepts, classification of races, causes of human variation-morphological, serological and genetic. Biological concept of race, racial criteria, principles of racial classification, important racial groups of the world and their distribution.

Recommended Readings

1. Sall T, Bengtsson BO. Understanding Population Genetics. 2017. Wiley-Blackwell
2. Turnpenny PD, Ellard S. Emery's Elements of Medical Genetics. 2017. Elsevier.
3. Carlson BM. Human Embryology and Developmental Biology. 2019. Elsevier.
4. Muehlenbein MP. Human Evolutionary Biology. 2010. Cambridge University press.
5. Falconer DS. Introduction to Quantitative genetics. 2009. Pearson Education.

Paper III: Fundamentals of Social/Cultural Anthropology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Meaning, Aim and Scope of Anthropology and its relationship with other Sciences; Major subfields of Anthropology: Economic Anthropology, Political Anthropology, Linguistic Anthropology, Psychological Anthropology, Nutritional Anthropology, Medical Anthropology, Ecological Anthropology, Cognitive Anthropology, Visual Anthropology, Anthropology of Demography, Developmental Anthropology, Applied Anthropology

UNIT-2 Social Structure and Social Organization: Basic Concept; Family: Definition and Features, Type, Structure, Function, Approaches to the study of family, Universality of Family, Rules of Residence, Trends of Change: Urbanization, Globalization, Industrialization; Marriage: Definition and Features, Type, Functions, Universality of Marriage, Marital Transaction, Divorce; Kinship - Definition and Features, Structure, Function, Kinship Terminology, Kinship Behavior, Kinship System, Descent, Moiety, Phratry, Clan, Lineage.

UNIT-3 Economic Organization: Basic Concept, Production and Its Resources, Division of Labor by Age and Sex, Distribution and Exchange: Reciprocity, Barter and Trade, Kula Ring, Redistribution, Market Exchange, Culture and Economic Globalization

UNIT-4 Political Organization: Basic Concept, Kinds of Political System: Band, Tribe, Chiefdom, State, Political System and Legitimacy, Political Organization and Maintenance of Order, Law, Crime, Violence Conflict and warfare; Religious organization: Basic Concept, Animism, Animatism, Totemism, Taboo, Religious Specialists: Witch, Shaman, Priest, Medicine-man, Sorcerer, Magic: Definitions, Types, Approaches, Rituals.

Recommended Readings

1. Haviland WA. Cultural Anthropology. 2002. Nelson Thomson Learning
2. Smith S, Young PD. Cultural Anthropology. 1997. Pearson.
3. Scupin R. Cultural Anthropology: A Global Perspective. 2020. Sage Publishers.
4. Doshi SL. Social Anthropology. 2001. Rawat Publishers, New Delhi.
5. Parkin R, Stone L. Kinship and Family: An Anthropological Reader. 2004. Oxford Blackwell.

Paper IV: Theories of Culture

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Theory of Culture: Definition, Types of Culture, Culture Trait, Culture complex, Culture Area, Paradoxes of culture, Aspects of Culture

UNIT-2 Transmission of Culture: Enculturation, Acculturation, Transculturation, Diffusion of Culture

UNIT-3 Culture and Civilization: Folk and Peasant society, Folk-Urban continuum, Great Tradition and Little Tradition, Sacred Complex, Cultural Specialists

UNIT-4 Culture and Language, Social and Cultural Change: Sanskritization, Urbanization, Westernization, Secularization, Parochialization

Recommended Readings

1. Barbara M. Cultural Anthropology. 2012. Pearson.
2. Kottak C. Cultural Anthropology. 2012. McGraw-Hill Education.
3. Upadhaya VS, Pandey G. Social-Cultural Anthropology. 2017. Concept Publishing Company.
4. Singer M. Traditional India: Structure and Change. 2018. Rawat Publications.
5. Cohn BS. Structure and Change in Indian Society. 2007. Routledge.

Paper V: Paleoanthropology

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Geological time scale, division of times, major events and characteristics of the period.

UNIT-2 Organic evolution: introduction, theories of organic evolution, process of hominization.

UNIT-3 Overview of skeletal anatomy and associated changes towards hominization

UNIT-4 Emergence of modern man: Fossil evidence-Pongid and Hominid, Oreopithecus, Ageyptopithecus, Propliopithecus, Sivapithecus, Dryopithecus, Gigantopithecus, Proconsul, Australopithecines, Homo erectus, Neanderthal, Homo sapiens, Siwalik fossil primates, theories of origin of modern *Homo sapiens sapiens*

Recommended Readings

1. Norton CJ, Braun DR. Asian Paleoanthropology: From Africa to China and Beyond (Vertebrate Paleobiology and Paleoanthropology). Springer. 2011.
2. Roberts A. Evolution: The Human Story. 2018. DK.
3. Langdon JH: The Science of Human Evolution: Getting it Right. 2016. Springer.
4. Begun DR. A Companion to Paleoanthropology. 2013. Wiley-Blackwell.
5. Ayala FJ, Cela-Conde CJ. Processes in Human Evolution: The Journey from Early Hominins to Neanderthals and Modern Humans. 2017. OUP Oxford.

Paper VI: Archaeological Anthropology

FM: 50
Written: 40
Continual Assessment: 10

UNIT- 1 Definition, Aims and Objectives: Relationship to other branches of Anthropology, earth sciences, physical sciences and social sciences, environmental archaeology, ethnoarchaeology.

UNIT-2 Tools and Technology: Raw materials and sources, Temporal dimension of tool-making techniques and tool types, Function of tool types, Exploration techniques, Excavation methods and techniques, Surface collections, Classification and Field documentation.

UNIT-3 Dating Methods: Absolute and Relative Dating, River Terraces, Raised Sea beaches, Dunes, Dendrochronology, Thermoluminescence dating, Pollen dating, Potassium-Argon method, C¹⁴ dating.

UNIT-4 A brief outline of the origin of earth and life and geological time scale, Prehistoric culture: A general outline of World Prehistory with special reference to Africa, Europe and India, Material cultures of *Homo erectus* to *Homo sapiens sapiens*, Rock Art.

Recommended Readings

1. Cela-Conde CJ, Ayala FJ. Human Evolution: Trials from the Past. 2007. OUP Oxford.
2. Cameron DW, Groves CP. Bones, Stones and Molecules: Out of Africa and Human Origins. 2004. Academic Press.
3. Schwartz JH, Delisle RG. Rethinking Human Evolution. 2018. MIT Press.
4. Jurmain R, Kilgore L, Ciochon R, Barterlink E, Trevathan W. Introduction to Physical Anthropology. 2017. CENGAGE Learning Custom Publishing.
5. Schiffer MB. The Archaeology of Science: Studying the Creation of Useful Knowledge (Manuals in Archaeological Method, Theory and Technique). 2014. Springer

SEMESTER-II

Paper VII: Research Methods in Anthropology

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Fieldwork in Anthropology: History, Development, Importance of Fieldwork in Anthropology; Approaches in Anthropological Fieldwork: Synchronic and Diachronic, Inductive and Deductive, Emic and Etic, Textual and Contextual

UNIT-2 Social Research: Basic Concepts – Meaning, Objective, Types; Identification of Research Problem, Research Ethics, Hypothesis, Sampling,

UNIT-3 Methods and Techniques: Ethnography, Observation – Participant, Non-participant, Systematic, Unsystematic, Structured, Unstructured; Interview – Personal and Group, Structured, Unstructured, Focused, Telephone; Questionnaire and Schedule, Case Study, Genealogy.

UNIT-4 Field Report Writing: Data Analysis, Interpretation, Different Steps in Field Report Writing, Presentation.

Recommended Readings

1. Young, P.V. Scientific Social Surveys and Research. 2012. Prentice Hall India Learning Private Limited.
2. Goode WJ, Hatt PK. Methods in Social Research. 2017. Asia Law House.
3. Bernad HR, Gravlee CC. Handbook of Methods in Cultural Anthropology. 2014. Rowman & Littlefield Publishers.
4. Dresch P, James W. Anthropologists in a Wider World: Essays on Field Research (Methodology & History in Anthropology). 2000. Berghahn Books, Incorporated
5. Srinivas MN, Shah AM, Ramaswamy EA. The Fieldworker and the Field. 2004. Oxford University Press.

Paper VIII: Statistics and Computer Application in Anthropology

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Concept of normal distribution, skewness and kurtosis

UNIT-2 Measure of central tendency: mean, median, mode, variance, standard deviation, Percentiles.

UNIT-3 Parametric and Non parametric tests: Chi-square Test, Student's *t* test, F test, Correlation, Simple linear regression.

UNIT-4 Family and twin study methods, Population Genetics Methods, Population comparison.

UNIT-4 Computer application in Anthropology: MS Office, MS Excel, Power Point, Networking.

Recommended Readings

1. Rao PSSS. Introduction to Biostatistics and Research Methods. 2012. PHI Learning Pvt. Ltd.

2. Levin JA, Fox JA, Forde DR. Elementary Statistics in Social Research. 2013. Pearson.
3. Wardlaw AC. Practical Statistics for Experimental Biologists. 2000. Wiley-Blackwell.
4. Zar JH. Biostatistical Analysis. 2013. Pearson International.
5. Madrigal L. Statistics for Anthropology. 1998. Cambridge University Press.

Paper IX: Indian Prehistory

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Origin and Development of Food Production: Emergence of agriculture and domestication of animals, village communities, tool types, pottery, wheels and plough. Diffusion of agriculture in South East Asia and West Asia with special reference to India.

UNIT-2 Prehistoric culture of India: Paleolithic, Mesolithic and Neolithic with regional variations, Special salient features of environment, sites and areas, typo-technology, distribution, artifacts and physical forms.

UNIT-3 Indus Valley Civilization: Origin, distribution, features and decline, Megalithic culture in India.

UNIT-4 Use of metals and development of technology: Copper, Bronze and Iron Age cultures in India.

Recommended Readings

1. Jain VK, Jha DN. Prehistory and Protohistory of India: An Appraisal - Palaeolithic, Non-Harappan, Chalcolithic Cultures (Perspectives in Indian Art & Archaeology S.). 2006. D.K. Print World Ltd.
2. Chakrabarati DK. India - An Archaeological History: Paleolithic Beginnings to Early History Foundation. 2009. Oxford University Press.
3. Settar S, Korisetar R. Indian Archaeology in Retrospect: Prehistory - The Early Archaeology of South Asia. 2004. Manohor Publishers and Distributers.
4. Coningham R, Young R. The Archaeology of South Asia: From the Indus to Asoka, c.6500 BCE–200 CE (Cambridge World Archaeology). 2015. Cambridge University Press.
5. Agarwal DP, Karakwal JS, Kharakwal JS. South Asia Prehistory. 2002. Aryan Books International.

Paper X: Fieldwork and Field Report Writing

FM: 50
Report Writing: 30
Presentation: 10
Viva-Voce: 10

Comprehensive anthropological study on community (s)/tribe (s)/caste(s) etc. of not less than three (03) weeks within and outside of West Bengal.

Recommended Readings

1. Robben Antonius CGM, Sluka JA. Ethnographic Fieldwork: An Anthropological Reader. 2011. John Wiley & Sons.

2. Fife W. Doing Fieldwork: Ethnographic Methods for Research in Developing Countries and Beyond. 2005. Palgrave MacMillan.
3. Konopinski N. Doing Anthropological Research: A Practical Guide. 2013. Routledge.
4. Madison DS. Critical Ethnography: Method, Ethics, and Performance. 2011. SAGE Publications Inc.
5. Lunn J. Fieldwork in the Global South: Ethical Challenges and Dilemmas. 2014. Routledge

Paper – XI: Practical: Social/Cultural and Archaeological/Prehistory

FM: 50

Laboratory work: 30

Laboratory Notebook: 10

Viva-Voce: 10

UNIT-1 Social/Cultural Anthropology

UNIT- 2 Archaeological / Prehistoric Anthropology

Recommended Readings:

1. Hewlett BL. The Secret Lives of Anthropologists: Lessons from the Field. 2019. Routledge.
2. Dutton LS. Anthropological Resources: A Guide to Archival, Library, and Museum Collections (Sociology/Psychology/Reference). 1999. Routledge.
3. Omohundro J. Thinking Like an Anthropologist: A Practical Introduction to Cultural Anthropology. 2006. McGraw Hill Education.
4. Steiner M. Approaches to Archaeological Illustration: A Handbook (Practical handbooks in archaeology). 2005. Council for British Archaeology.
5. Catling C. Practical Handbook of Archaeology. 2013. Hermes House.

Paper – XII: Practical: Biological Anthropology

FM: 50

Laboratory work: 30

Laboratory Notebook: 10

Viva-Voce: 10

UNIT-1 Anthropometry: measurements on head, face, trunk and extremities of humans

UNIT-2 Craniometry: linear and angular measures of human skulls

UNIT 3 Osteology and Osteometry: anatomy and metric measures of human bones

UNIT-4 Color blindness test using Ishihara's chart and PTC test for Mendelian inheritance

Recommended Readings

1. Lohman, TG; Roche, AF and Martorell, R. Anthropometric Standardization Reference Manual. Human Kinetics, 1988
2. Weiner, JS & Lourie, JA. Human Biology- a guide to field methods. Academic Press, 1981
3. Marieb EN, Smith LA. Human Anatomy and Physiology Laboratory Manual. 2018. Pearson.

4. Christensen AM, Passalacqua NV. *A Laboratory Manual for Forensic Anthropology*. 2018. Academic Press.
5. Diogo R, Wood BA. *Comparative anatomy and Phylogeny of Primate Muscles and Human Evolution*. 2012. CRC Press.

SEMESTER-III

Paper-XIII: Indian Anthropology

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Growth of Anthropology in India

UNIT-2 Approaches to the study of Indian Society and Culture

UNIT-3 Basis of Traditional Indian Social Structure and Life Cycle

UNIT-4 Indian Village and Social Stratifications, Religious Minorities and different issues of Indian Society and Culture

Recommended Readings

1. Vidhyarthi LP. Rise of Anthropology in India. 2019.
2. Madan V. The Village in India. 2002. OUP India
3. Patricia U. Family, Kinship and Marriage in India. 1997. OUP India.
4. Ghurye GS. Caste and Race in India. 2016. Sage Publications India Private India.
5. Nadeem Hasnain. Indian Society and Culture. 2011.

Paper XIV: Ethnicity, Nation Building and Policy Planning

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Tribal Societies and Culture: Continuity and Change.

UNIT-2 Studies of Cities: Role of Cities in Society and Culture, Pre- & Post-Industrial Cities, Urbanization

UNIT-3 Ethnicity, Ethnic Crisis and Ethnic Movements

UNIT-4 Advocacy and Pluralism in National Character, Nation Building Process and National Integration, Policy Planning Issues: Economy, Education, Health, Gender, Human Rights, Right to Information Act (RTI), Disaster Management, World Peace

Recommended Readings

1. Vidhyarthi LP. The Tribal Culture of India. 2018.
2. Chandavarkar R. History, Culture and the Indian City. Cambridge University press. 2015.
3. Bhadra R, Mukhopadhyay R, Sarkar S. Ethnicity in India: Issues in Community Culture and Conflict. Sarat Book House. 2014.
4. Narayan J. Nation Building in India. 2015. Palala Press.
5. Baxi U, Parekh BC. Crisis and Change in Contemporary India. 1994. SAGE Publications Pvt. Ltd.

Paper XV: Physiological Anthropology & Ergonomics

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Introduction and brief history of ergonomics. Anthropometry and its uses in ergonomics.

UNIT-2 Anatomy, posture and body mechanics. Human machine interaction, human error and safety, Heat, cold and design of physical environment. Work capacity, stress and fatigue.

UNIT-3 Fundamentals of physiological anthropology. Energy expenditure and physical activity.

UNIT-4 Cardiovascular, respiratory and gastrointestinal system with special emphasis on heart, liver, lungs and pancreas.

Recommended Readings

1. Sherwood L. Human Physiology: From Cells to Systems. 2008. Brooks/Cole.
2. Nageswari KS. Practical Workbook of Human Physiology. 2018. Jaypee Brothers Medical Publishers.
3. Hale T. Exercise Physiology: A Thematic Approach. 2003. Wiley-Blackwell.
4. McLester J, Pierre P. Applied Biomechanics: Concepts and Connections. 2019. Jones and Bartlett Publishers.
5. Bridger R. Introduction to Ergonomics. 2003. CRC Press.

Paper XVI: Anthropological Demography

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Population Study: Vital statistics, Fertility and Fertility Rates, Mortality and Mortality Rates, Morbidity and Morbidity Rates, Migration and Migration rates.

UNIT-2 Demography: Basic concepts, Multidisciplinary nature, Anthropological Demography, Population: Concept and Theory

UNIT-3 Applied Health Demography, Demography of Health and Health Care, Child and Women Health, Longevity and Aging, National Health Policy, Management, Strategies and Challenges, Human Development Index

UNIT-4 Sources of Demographic Data: Census, Civil Registration System (CRS), Sample Registration System (SRS), National Samples Survey Organizations (NSSO), Model Registration System (MRS)

Recommended Readings

1. Handwerker WP. Culture and Reproduction: An Anthropological Critique of Demographic Transition Theory. 2019. Routledge.
2. Siegel JS, Olshansky SJ. The Demography and Epidemiology of Human Health and Aging. 2016. Springer.
3. Hoque MN, Pecotte B, McGehee MA. Applied Demography and Public Health in the 21st Century. 2018. Springer.
4. Saenz R, Embrick DG, Rodriguez NP. The International Handbook of the Demography of the Race and Ethnicity. 2015. Springer Nature.

5. Swanson DA. The Frontiers of Applied Demography. 2017. Springer.

Paper XVII: Medical Anthropology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Medical Anthropology: Introduction, scope, historical development, concepts of health, disease, illness, healing, socio-cultural and environmental dimensions of health, occupational and life-style ailments.

UNIT-2 Ethno-medicine meaning and scope, ethno-medical practices in India, traditional healers and their predicaments, cultural-bound psychological disorder and healing, social disorders and healing, social stigma towards diseases and ailments.

UNIT-3 Medical pluralism in India Ayurveda, Siddha, Unani, Naturopathy, Homeopathy and Allopathic medical practices.

Unit-4: Variation in health care systems: Health promotions and health care delivery system, family welfare programmes, child health and nutrition programmes, reproductive health awareness.

Recommended Readings

1. Wiley AS, Allen JS. Medical Anthropology: A Biocultural Approach. 2012. Oxford University Press.
2. Winkelman M. Culture and Health: Applying Medical Anthropology. 2008. John Wiley & Sons.
3. Ahmad BT. Ethnomedicine. 2012. LAP Lambert Academic Publishing
4. Torri MC, Herrmann TM. Bridges between Tradition and Innovation in Ethnomedicine: Fostering Local Development Through Community-Based Enterprises in India. 2014. Springer.
5. Ramesh BM, Halli SS, Jayanna K, Mohan HL. Maternal, Newborn, and Child Health Programmes in India: A Programme Science Approach. 2018. SAGE Publications Pvt. Ltd.

Paper XVIII: Project/Placement

FM: 50

Report Writing: 30

Presentation: 10

Viva-Voce: 10

Based on Zoological Park Visit/ Museum Visit/Fieldwork/Secondary Resources/Placement (not less than 3 weeks) etc.

SEMESTER-IV

Group A (Biological Anthropology)

Special Papers (any four from Paper XIX to XXVI with Compulsory papers XXVII & XXVIII)

Paper XIX: Human Genetics

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Cytogenetics in relation to human genetics, human chromosomal techniques, karyotyping, normal human chromosome, chromosome nomenclature, various banding techniques, significance and applications of banding techniques, General theories of population Genetics, linkage and recombination, linkage disequilibrium, Hardy-Weinberg principle, estimation of gene flow, mutation rate, genetic drift, selection, migration, matrix, measures of genetic diversity

UNIT-2 Human sex determination, numerical and structural chromosomal aberration and cause, cytogenetics to human pregnancy wastage, chromosomal syndromes: Down's, Patau's, Edwards, Cri-du-chat, Fragile X, Klinefelter, Turner syndrome, genetic counseling.

UNIT-3 Double helical structure of DNA, denaturation and renaturation of DNA, types and structures of RNA, structures of protein, DNA replication, transcription factors of and RNA polymerases, general eukaryotic transcription, Genetic code, degeneracy and universality of genetic code, post transcriptional processing

UNIT-4 Tools of molecular techniques: electrophoresis, restriction endonuclease and digestion of DNA, nucleases, enzymes, isolation of DNA and RNA, polymerase chain reaction (PCR).

Recommended Readings

1. Goodenough U. Genetics. 2016. Holt, Rinehart and Winstone.
2. Nielson R, Slatkin M. An Introduction to Population Genetics: Theory and Applications. 2013. OUP USA.
3. Lewis R. Human Genetics: The Basics. 2019. Taylor & Francis.
4. Jorde LB, Carey JC, Bamshad MJ. Medical Genetics. 2020. Elsevier
5. Strachan T, Read A. Human Molecular Genetics. 2018. Garland Science.

Paper XX: Biochemical Genetics

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Methods of studying heredity: pedigree method, twin method, population, family, linkage studies, karyotyping, cytogenetics, DNA techniques, methods of inheritance.

UNIT-2 Multiple alleles and blood group, compatible and incompatible mating, multifactorial inheritance, family history and chronic diseases, mutations-causes and consequences, inborn errors of metabolism, one gene-one enzyme hypothesis.

UNIT-3 Qualitative variation of serological variants: ABO, Rh, MNSs; Electrophoretic variants: G6PD, PGM, Hp, Tf, Thalassemia and Hemoglobin; DNA variants: VNTR loci, RFLP and Mitochondrial DNA (mt DNA); Human immune system, immunoglobins, human leucocytes antigen (HLA) system.

UNIT-4 Demography and measurements of fitness, homozygosis, heterozygosis, inbreeding coefficient.

Recommended Readings

1. Ignacimuthu S, Vincent S, Emmanuel C. Applied Genetics: Recent Trends and Techniques. 2006. Mjp Publishers.
2. Strachan T, Read A. Human Molecular Genetics. 2018. Garland Science.
3. Cummings M. Human Heredity: Principles and Issues. 2013. Brooks/Cole.
4. Scandalios JG. Physiological Genetics. 2014. Academic Press.
5. Crew FAE, Dodd JM, Knowles F. The Foundations of Genetics. 2014. Pergamon.

Paper XXI: Human Biology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Meaning scope and development of human biology, major problems of human biology and the IBP approach, Cells and growth of tissues, stages of prenatal growth, foetal growth, basic principle of human growth, purpose of growth study, definition and concept of growth, development and maturation, physical activity and performance, methods of growth study: cross sectional-longitudinal-mixed longitudinal and linked longitudinal, the curves of growth, world wide variation of prenatal growth, growth norms: distance velocity and centiles.

UNIT-2 Postnatal growth: infancy-childhood-juvenile-adolescents and post adolescent, dental maturation, endocrinology of pre and postnatal growth, general pattern influencing and worldwide variation of post-natal growth, heredity-environment interaction, aging and senescence, age and sex variation, theories of aging.

UNIT-3 Body composition and physique, body density, lean body mass, body fat and topography, human energetics, physical activity, disease(s) association, cardiorespiratory fitness, current status of body composition;

UNIT-4 Reproductive biology: male and female reproductive system, gametogenesis, endocrinology of reproduction, fecundity, fertility, menarche and menopause, factors affecting menarche and menopause.

Recommended Readings

1. Bilder GE. Human biological Aging: From Macromolecule to Organ Systems. 2016. Wiley-Blackwell.

2. Hauspie RC, Cameron N, Molinari L. *Methods in Human Growth Research*. 2011. Cambridge University Press.
3. Forbes GB. *Human body Composition: Growth, Nutrition, Aging and Activity*. 2011. Springer.
4. Kleine B, Rossmannith WG. *Hormone and Endocrine System: Textbook of Endocrinology*. 2019. Springer.
5. Jones RE, Lopez KH. *Human Reproductive Biology*. 2013. Academic Press.

Paper XXII: Biostatistics & Applications

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 The aim and scope of statistical analysis- descriptive and inferential statistics, parametric and non-parametric approach.

UNIT-2 Methods of sampling: random, stratified and multistage, Nature and types of statistical distribution; central tendency, elementary probability theory: rule of summation and rule of multiplication.

UNIT-3 Test of significance: one and two samples problems, goodness of fit test, Student's *t* test, F-ratio, analysis of variance (ANOVA), analysis of covariance (ANCOVA), Multivariate analysis of variance (MANOVA), Pearson's correlation, Spearman's ranked correlation, simple regression, stepwise regression, logistic regression, principal component factor analysis (PCFA).

UNIT-4 Application of available software (s) in analyses of data.

Recommended Readings

1. Jekel's *Epidemiology, Biostatistics, Preventive Medicine and Public Health*. 2020. Elsevier.
2. Williams B. *Biostatistics: Concepts and Applications for Biologists*. 2017. CRC Press.
3. Elliott AC, Woodward WA. *Quick Guide to IBM SPSS: Statistical Analysis with Step by Step Examples*. 2019. SAGE Publications.
4. Bruhl RH. *Understanding Statistical Analysis and Modeling*. 2017. SAGE Publications.
5. Stangl D, Berry DA. *Meta-Analysis in Medicine and Health Policy*. 2019. CRC Press.

Paper XXIII: Forensic Anthropology

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Definition, aim and scope of forensic anthropology, study of human skeleton remains, age changes and their relation to sex and ethnic group, gross anatomy of human bones, aging and sexing based on post cranial bones, Human skull- determination of age and sex, skull suture pattern, individualization based on suture pattern, fusion sutures and determination of age.

UNIT-2 Human dentition: determination of age, sex and importance of records in forensic odontology.

UNIT-3 Dermatoglyphics in forensic anthropology, finger printing, classifications of finger printing, palm prints, detail of ridge; Personal identification through hair, determination of animal and human hair.

UNIT-4 Body fluids in personal identification: blood, semen, saliva, urine and sweat, disputed paternity, DNA finger printing, VNTR, STR, mini-satellite, single and multi-locus approach.

Recommended Readings

1. Klales AR. Sex Estimation of the Human Skeleton: History, Methods, and Emerging Techniques. 2020. Academic Press Inc.
2. Fineschi V. Forensic Autopsy: A Handbook and Atlas. 2010. CRC Press.
3. Boyd CC, Boyd DC. Forensic Anthropology: Theoretical Framework and Scientific Basis. 2018. Wiley-Blackwell.
4. Christensen AM, Passalacqua NV, Barterlink EJ. Forensic Anthropology: Current Methods and Practice. 2014. Academic Press.
5. Fineschi V. Forensic Autopsy: A Handbook and Atlas. 2010. CRC Press.

Paper XXIV: Molecular and Evolutionary Anthropology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Meaning and scope of evolutionary biology with special reference to human and non-human primates, early primates' radiation, dentition, masticatory apparatus. Sociobiology and population dynamics of non-human primates: display, signals and habitat pattern.

UNIT-2 Evolution and evolutionary modification in brain, pelvic girdle, limbs, hand and feet due to bipedalism, origin and evolution of man, recent theories of human origin and molecular approaches to human evolution study.

UNIT-3 Primate molecular phylogenies based on DNA-DNA hybridization, restriction enzyme sites, nucleotide sequence (s) comparison and homologies, use of non-human primates in biomedical research.

UNIT-4 mt DNA, Y chromosome, migrations of modern humans, method for reconstructing phylogenetic trees.

Recommended Readings

6. Richards G. Human Evolution: An Introduction for Behavioral Science. 2019. Routledge.
7. Tobias MC, Morrison JG. The Hypothetical Species: Variables of Human Evolution. 2019. Springer.
8. Colter R. Understanding Human Evolution: And the Nine Endeavors. 2019. Universal Paradigms.

9. Tomlinson G. Culture and the Course of Human Evolution. 2018. University of Chicago Press.
10. Wall R. Human Evolution and Prehistory. 2019. Kendall/Hunt Publishing Co, US.

Paper XXV: Nutritional & Sports Anthropology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Introduction to human nutrition, essential nutrients: carbohydrates, proteins, fats, Vitamins, minerals, classification of foods, anthropology of food and nutrition: historical overview through current practice, famine, food systems and food crises.

UNIT-2 Macro vs. micro nutrient deficiencies, trace elements and diseases, bio-cultural analyses of anti-nutritional factors in foods, foods as medicines, socioeconomic and cultural change, food adaptation and contemporary human diets, nutritive and caloric value of food, roles of nutrients human nutrition, malnutrition and physiological adaptation in man.

UNIT-3 Biological anthropology and sports, definition of sports, games and play, theory of sports

UNIT-4 Childhood development and sports, sports and socialization, gender and sports, ethnicity and sports.

Recommended Readings

1. McArdle WD. Exercise Physiology Nutrition Energy and Human Performance. 2015. LWW IE.
2. Wells H. Nutritional Biochemistry. 2019. Oxford Book Company.
3. Kanosue K, Oshima S. Physical Activity, Exercise, Sedentary Behavior and Health. 2015. Springer Nature.
4. Hardman A, Stensel D, Gill J. Physical Activity and Health: The Evidence Explained. 2020. Routledge.
5. Buttriss JL, Welch AA, Kearney JM, Lanham-New SA. Public Health Nutrition. 2017. Wiley-Blackwell.

Paper XXVI: Primatology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Introduction, definition and classification of living primates and their distribution worldwide

UNIT-2 Patterns of social behavior of living primates: life histories, communication, cognition, and interactions.

UNIT-3 Anatomy and behaviour of extinct primates, primate locomotion and evolutionary significance.

UNIT-4 Primate adaptation, survival threats to primates and strategies for their conservation.

Recommended Readings

1. Setchell JM. Studying Primates: How to Design, Conduct, and Report Primatological Research. 2019. Cambridge University Press.
2. Riley RP. The Promise of Contemporary Primatology. 2019. Routledge.
3. Fuentes A. The International Encyclopedia of Primatology. 2017. John Wiley & Sons.
4. Dolins FL, Shaffer CA, Porter LM, Hickey JR, Nibbelink NP. Spatial Analysis of Field Primatology: Applying GIS at Varying Sites. 2020. Cambridge University Press.
5. Fridman EP, Nadler RD. Medical Primatology: History, Biological Foundations and Applications. 2002. CRC Press.

Paper XXVII Laboratory work (Compulsory)

FM: 50
Laboratory work: 30
Laboratory Notebook: 10
Viva-Voce: 10

Laboratory based practical works:

1. Blood grouping: ABO and Rh
2. Blood pressure
3. Spirometry and measures of lung functions
4. Microscopic examination of human scalp hair
5. Anthropometric measures and body composition
6. Dermatoglyphics: Techniques of taking print, main line formula, pattern formula, main line index
7. Biochemical tests: hemoglobin, blood glucose, cholesterol, triglycerides
8. Gel electrophoresis
9. Polymerase Chain Reaction (PCR)
10. Karyotyping

Recommended Readings

1. Lohman, TG; Roche, AF and Martorell, R. Anthropometric Standardization Reference Manual. Human Kinetics, 1988.
2. Weiner, JS & Lourie, JA. Human Biology- a guide to field methods. Academic Press, 1981.
3. Guyton AC and Hall. Text Book of Medical Physiology. 2016. Elsevier India.
4. Almirall J. Spirometry. 2017. Createspace Independent Pub.
5. Kviz FJ. Conducting Health Research: Principles, Process and Methods. 2019. SAGE Publication.

Paper XXVIII Dissertation work (compulsory)

FM: 50
Report Writing: 30
Presentation: 10
Viva-Voce: 10

Recommended Journals for Further Readings (as per UGC-CARE)

1. American Journal of Clinical Nutrition
2. American Journal of Human Biology
3. American Journal of Human Genetics
4. American Journal of Physical Anthropology
5. Annals of Human Biology
6. Annals of Human Genetics
7. Annual Reviews in Anthropology
8. Anthropologischer Anzeiger
9. Asia Pacific Journal of Public Health
10. European Journal of Clinical Nutrition
11. HOMO: Journal of Comparative Human Biology
12. Human Biology
13. Human Genetics
14. Journal of Human Evolution
15. Public Health Nutrition

Group B (Social-Cultural Anthropology)

Special Papers (Any five from paper XXIX to XXXVI and Paper XXXVII is Compulsory)

Paper – XXIX: Theory and Methods in Social-Cultural Anthropology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 History of Anthropological Thought: Evolutionism, Neo-evolutionism and Diffusionism,

UNIT 2 Structuralism and Functionalism, Culture and Personality school of thoughts

UNIT 3 Semiotic anthropology: Concept of Value, Cultural Relativism, Value and Human Rights.
Herskovits

UNIT 4 Cognitive Anthropology, Symbolic and interpretative Anthropology: Turner, Schneider, Geertz.

Recommended Readings

1. Sahlin MD. Evolution and Culture. 2018. Trieste Publishing.
2. Redfield R. Peasant Society and Culture. 2017. Andesite Press.
3. Harris M. The Rise of Anthropological Theory. 2000. Altamira Press.
4. Barnard A. History and Theory in Anthropology. 2000. Cambridge University press.
5. Rapport N. Social and Cultural Anthropology: The Key Concepts. 2014. Routledge.

Paper – XXX: Anthropological theory and method for policy planning and applications

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Concept of Primitive and Native in Anthropology; Dilemma of We and “They” in research. 'Primitive' as a conceptual model. Anthropological research. Ethnographic method for policy planning and intervention.

UNIT-2 Efficacy of quantitative Method and its application as an additive Tool to quantification.

UNIT-3 Synthesis micro and macro paradigms of development. Using anthropological sensitivity for designing development/ disaster management project. Policy Planning issues: education, health, gender, ethnicity-identity, marginal people, rehabilitation, environment, human rights, world peace.

UNIT-4 Autonomous nature of Anthropology: Integration of scientific and humanistic approaches. Anthropologist as scientist, citizen and humanist.

Recommended Readings

1. Carnea MM. Anthropological Approaches to Resettlement: Policy, Practice and Theory. 2020. Routledge.
2. Rodriguez H, Donner W. Handbook of Disaster Research. 2017. Springer.
3. Armstrong-Mensah EA. Global Health: Issues, Challenges and Global Action. 2017. Wiley-Blackwell.

4. Dave RK. Disaster Management in India: Challenges and Strategies. 2018. Prowess Publishing.
5. Cohen WI. Profiles in Humanity: The Battle for Peace, Freedom, Equality, and Human Rights. 2009. Rowman & Littlefield Publishers.

Paper – XXXI: Developmental Anthropology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Development meaning and evolution of the concepts, indices and measurement of development, Development theories and models. Applied action and development anthropology: meaning, scope, and emerging trends. Policy and planning: concept of planning, formulation of policy and plan, strategy-phases, targets, regions resources and people. Micro and macro level planning. Participatory approach in development. Plans, programs and allocation of money.

UNIT-2 Rural development in India: historical background. Gandhian approach to development, Tagore's idea and experiment of rural reconstruction. New approaches to development, particularly to need based development. Appropriate technology, indigenous technology special programmes and poverty alleviation programs. Land reforms, Panchayati Raj, community-based organizations.

UNIT-3 Voluntary initiatives/ development and welfare movements in 19th and 20th century: anti caste, anti-touch ability, women's emancipation, education and health. Role of social reform leaders, Mahatma Gandhi's constructive programs. Contributions of religious and spiritual leaders/ reformers.

UNIT-4 Community developmental programs, Govt. programs and their impacts, emergence of NGOs and their agenda, and impact on tribal, rural, urban-health and education marginalizes sectors of people and women groups, role of action anthropology in voluntary and Govt. Sectors. Panchayati Raj and 73rd constitutional amendment. Role of development anthropology in voluntary and groom sectors.

Recommended Readings

1. Bennett JW. Human Ecology as Human Behavior: Essays in Environmental and Developmental Anthropology. 2017. Routledge.
2. Singh K, Shishodia A. Rural Development: Principles, Policies and Management. 2016. SAGE Publications India Pvt. Ltd.
3. Brennan M, Birdger J, Alter TR. Theory, Practice and Community Development. 2013. Routledge.
4. Murphy F. Community Engagement, Organization, and Development for Public Health Practice. 2012. Springer Publishing Co Inc.
5. Banks S, Westoby P. Ethics, Equity and Community Development. 2019. Policy Press.

Paper – XXXII: Tribal and Minorities Studies in India

FM: 50
Written: 40
Continual Assessment: 10

UNIT 1 Tribal development, Tribal policy, regulatory and development measures during British India. Indian Constitution- safeguards and provisions for Scheduled tribes socio-cultural, economic, educational, political, services etc.

UNIT 2 History of regulatory and developmental measures in pre-independence period. Administration of Scheduled Areas (Sixth Schedule to the Constitution), Tribal Areas Sixth Schedule to the Constitution and majority states Important Regulations promulgated by Governors in Schedule Areas. Tribal movements. National commissions and committees on development and welfare of SC/ST.

UNIT 3 Development of SC, OBCs, minority communities and other backward and weaker section of population groups in India: policies and programs. Constitution and SC/ST: constitutional provisions for SC/ST: tribal policy and governance in British India. Constitutional and STs pseudo tribes. Evolution of tribal development policy and programs.

UNIT 4 Sustainable development environment, natural resources, people concern and need.

Recommended Readings

1. Saravanan V. Environmental History and Tribals in Modern India. 2018. Palgrave Macmillan.
2. Radhakrishna M. First Citizens: Studies on Adivasis, Tribals and Indigenous Peoples in India. 2016. Oxford University Press.
3. Nathan D, Xaxa V. Social Exclusion and Adverse Inclusion: Development and Deprivation of Adivasis in India. 2012. Oxford University Press.
4. Goud EA. Social Justice and Socio Economic Development of Other Backward Classes (OBCs) in India. 2017. Raj publications.
5. Thaware K. Development of Scheduled Caste and Tribes in Modern India: Struggle for Rights and Socio-economic Status. 2017. LAP Lambert Academic Publishing.

Paper XXXIII: Communication Anthropology
50

FM:
Written: 40
Continual Assessment: 10

UNIT-1 Meaning and scope of Communication Anthropology, Ethnography of communication: Ethnicity, Ethnic Identity and Social/cultural boundary

UNIT-2 Different types of communication process: Vertical and Horizontal, Interpersonal and Intrapersonal, Mass Communication, Participatory Communication

UNIT-3 Channels of communication: Traditional and Modern Media, Oral and Written, Electronic and Satellite Communication, Communication Agents

UNIT-4 Culture and Communication: Relationships and Nature of transmission, Norms, Values and Language

Recommended Readings

1. Alia V. The New Media Nation: Indigenous Peoples and Global Communication. 2012. Berghahn Books.
2. Lennie J. Evaluating Communication for Development: A Framework for Social Change. 2012. Routledge.
3. Peterson MA. Anthropology and Mass Communication: Media and Myth in the New Millennium. 2003. Berghahn Books.
4. Stevenson N. Understanding Media Cultures: Social Theory and Mass Communication. 2002. SLE Pound.
5. Lull J. Media, Communication and Culture: A Global Approach. 2000. Polity Press.

Paper XXXIV: Ecological Anthropology

FM: 50

Written: 40

Continual Assessment: 10

UNIT-1 Ecological Anthropology: Definition, Scope, Historical Development of ecological anthropology. Ecology in anthropological studies, Environmental determinism

UNIT-2 Cultural ecology, Theories of Cultural ecology, Human Ecology: Terms and concepts, Natural eco-system and man-made eco-systems, approaches to the study of human ecology

UNIT-3 Adaptation: Human adaptation to heat, cold and high altitude, population variation in physiological responses to climatic adaptation, infectious diseases

UNIT-4 Environmental degradation: causes, effects, concerns and movements, dams, displacement, emerging ecological issues.

Recommended Readings

1. Bennett JW. The Ecological Transition: Cultural Anthropology and Human Adaptation. 2017. Routledge.
2. Schutkowski H. Human Ecology: Biocultural Adaptations in Human Communities. 2010. Springer.
3. Chagnon N. Adaptation and Human Behavior: An Anthropological Perspective. 2000. Routledge.
4. Sutton MQ, Anderson EN. Introduction to Cultural Ecology. 2013. AltaMira Press.
5. Dove MR, Carpenter CC. Environmental Archaeology: A Historical Reader. 2007. Wiley-Blackwell.

Paper XXXV: Anthropology of Gender

FM: 50
Written: 40
Continual Assessment: 10

Unit-1 Anthropology of gender: concept of gender, theorizing gender, social and biological theories of gender, psychoanalytical theories.

Unit-2 Anthropological approaches to gender studies, agents of socialization-family, school and peers, gender and religion.

Unit-3 Recent changes in gender studies Masculinities, feminities, perspectives- gay and transsexuality. Gender and human rights of reproduction, gender discrimination, gender and violence, gender and development.

Unit-4 Gender and globalization. Rethinking of categories of gender and gender roles, influence of mass media, communication and new productive technologies.

Recommended Readings

1. Launius C, Hassel H. Threshold Concepts in Women's and Gender Studies: Ways of Seeing, Thinking, and Knowing. 2018. Routledge.
2. Geller PL, Stockett MK, Lamphere L. Feminins Anthropology: Past, Present and Future. 2007. University of Pennsylvania Press.
3. Shrivastava J. Gender Discrimination and Inequality in Contemporary India: Dimensions and Voices of Protests. Kalpaz Publications. 2018.
4. Najafizadeh M, Lindsey L. Women of Asia: Globalization, Development and Gender Equity. 2018. Routledge.
5. Beneria L. Gender Development & Globalization. 2019. Routledge.

Paper XXXVI: Psychological Anthropology

FM: 50
Written: 40
Continual Assessment: 10

UNIT-1 Meaning, scope, psychology of primitive people, perception, motivation.

UNIT-2 Attachment, Parenting and Child development, Social learning, Personality development.

UNIT-3 Psychoanalytic anthropology: elements of psychoanalysis, origins of psychoanalytic anthropology, totemism and exogamy.

UNIT-4 Emotion and selfhood: role, self and identity, psychology and cultural change, mental illness and society, suicide.

Recommended Readings

1. Eller JD. Psychological Anthropology for the 21st century. 2018. Routledge.
2. Gruman GA, Schneider FW, Coutts LM. Applied Social Psychology: Understanding and Addressing Social Problems. 2016. SAGE Publications.

3. Lawler EJ, Thye SR, Yoon J. Order on the Edge of Chaos: Social Psychology and the Problem of Social Order. 2015. Cambridge University Press.
4. Freud S. A General Introduction to Psychoanalysis. 2017. Andesite Press.
5. Casey C, Edgerton RB. A Companion to Psychological Anthropology: Modernity and Psychocultural Change. 2004. Wiley-Blackwell.

Paper XXXVII: Dissertation Work (Compulsory)

FM: 50
Report Writing: 30
Presentation: 10
Viva-Voce: 10

Recommended Journals for Further Readings (as per UGC-CARE)

1. American Anthropologist
2. Annual Reviews in Anthropology
3. British Journal of Sociology
4. Current Anthropology
5. Journal of the Indian Anthropological Society